

REPORT NUMBER TR-P23001-05-NC

**NEW CAR ASSESSMENT PROGRAM
FRONTAL BARRIER IMPACT TEST**

**NISSAN MOTOR COMPANY, LTD
2003 NISSAN 350Z
2 DOOR HATCHBACK**

NHTSA NUMBER: M35202

**PREPARED BY:
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JANUARY 7, 2003

FINAL REPORT

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<p>A 35mph (56.3 km/h) frontal barrier impact was conducted on a 2003 Nissan 350Z 2 Door Hatchback at KARCO Engineering, LLC on 1/7/03. This test was conducted to obtain data indicant of FVMSS 208, 212, 219 (partial), 301, and footwell intrusion performance. The impact velocity is 55.66 km/h. The ambient temperature at the barrier face at the time of impact is 17.8 degrees Celcius. The test vehicle sustained post-impact maximum static crush of 672 mm at the vehicle centerline. The test vehicle is equipped with a 3-point continuous belt system and second generation supplemental airbags in both front outboard seating positions. With respect to FMVSS 208 "Occupant Crash Protection", the occupant injury criteria summary is as follows:</p>					
Measurement Description		Units	Threshold	Driver ATD	Pass. ATD
Head Injury Criteria (HIC)		N/A	1000	360	410.6
Max. Thorax Accel. (3 msec clip)		G's	60	44.9	46.8
Left Femur Force		Newtons	10009	-2783.1	-2550.4
Right Femur Force		Newtons	10009	-3186.3	-2586.1
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SECTION 1

PURPOSE AND SUMMARY OF TEST M35202

1.1 PURPOSE

This 35 mph (56.3 km/h) frontal barrier impact test is part of the Vehicle Barrier Impact Testing Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-01-D-02005. The purpose of this test was to obtain vehicle crashworthiness and occupant restraint system performance data for an impact speed in excess of the current 30 mph (48.3 km/h) requirements.

The 35 mph (56.3 km/h) frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards Laboratory Test procedure.

1.2 SUMMARY

A load cell barrier consisting of 36 load cells was impacted by a 2003 Nissan 350Z 2 Door Hatchback at a velocity of 55.66 km/h. The test was performed at Karco Engineering, LLC on January 7, 2003. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

One real-time and 15 high-speed cameras were used to document the frontal barrier impact event. Camera locations and other pertinent camera information can be found in this report.

Two Part 572E, 50th percentile male anthropomorphic test devices (ATDs), were placed in the driver and right-front passenger seating positions according to dummy placement instructions specified in the Laboratory Indicant Test Procedure.

Both ATDs were fully instrumented with head (primary and redundant), chest (primary and redundant) and pelvis triaxial accelerometers, chest displacement potentiometers, six-axis upper neck transducers, right/left femur load cells, and lower leg instrumentation. Seat belt load cells were also placed on the driver's and passenger's lap and shoulder belts to measure dummy torso and pelvic section loading. The driver (position 1) ATD (Serial No. 34) and the right-front passenger (position 2) ATD (Serial No. 35) were calibrated one test prior to this test.

Ninety Seven (97) channels of data were recorded using an on-board data acquisition system. Appendix A contains Photographs. Appendix B contains the vehicle and dummy response data traces. Appendix C contains Load Cell Barrier information. Appendix D contains the Instrumentation Data Channel assignments. Appendix E contains the Dummy Calibration Data and

There was 100 percent windshield retention and no intrusion into the protected zone of the windshield during the impact event. There was no Stoddard solvent leakage after the event or during any phase of the static rollover.

The maximum static crush of the vehicle was 672 mm and both the driver and the passenger side doors remained closed during the impact event and were operable after the impact.

The driver's visible contact points were as follows: The driver ATD head and chest contacted the airbag, the abdomen had no contact and both knees contacted the steering column/knee bolster.

The passenger's visible contact points were as follows: The passenger ATD head, chest and abdomen contacted the airbag and both knees contacted the glove box.

Occupant injury data is contained in table below.

OCCUPANT DATA SUMMARY

ATD Position	HIC	Clip (g)	Chest Disp (mm)	Left Femur (N)	Right Femur (N)	Belt Spool (mm)
Driver	360.0	44.9	-24.7	-2783.1	-3186.3	43.6
Passenger	410.6	46.8	-31.0	-2550.4	-2586.1	62.0

SECTION 2
OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
 Test Date: 1/7/03

CONVERSION FACTORS USED IN THIS REPORT*

Quantity	Typical Application	Std Units	Metric Unit	Multiply By
Mass	Vehicle Weight	lb	kg	0.4536
Linear Velocity	Impact Velocity	mile/h	km/h	1.609
Length or Distance	Measurements	in	mm	25.4
Volume	Fuel Systems	gal	liter	3.785
Volume	Small Fluids	oz	mL	29.573
Pressure	Tire Pressures	lbf/in ²	kPa	7.0
Volume	Liquid	gal	liter	3.785
Temperature	General Use	°F	°C	=(tf -32)/1.8
Force	Dynamic Forces	lbf	N	4.448
Moment	Torque	lbf/ft	Nm	1.355

* Based on the Recommended Practice in SAE J916, May 85

**DATA SHEET NO. 1
CRASH TEST SUMMARY**

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
 Test Date: 1/7/03

PRIMARY IMPACT DATA

Measured Parameter	Units	Value
Velocity at Impact	km/h	55.66
Test Weight	kg	1723
Impact Angle	degrees	0
Average Rebound	mm	1094
Maximum Static Crush	mm	672

DOOR OPENING AND SEAT TRACK INFORMATION

Description	Driver	Passenger
Front Door Opening	Remained closed, opened w/o tools	Remained closed, opened w/o tools
Rear Door Opening	Remained closed, opened w/o tools	Remained closed, opened w/o tools
Seat Track Shift (mm)	10mm	10mm
Seat Back Failure	None	None

TEST DUMMY INFORMATION

Description	Driver	Passenger
Dummy Type / Serial No.	50% Male Hybrid III / No. 34	50% Male Hybrid III / No. 35
Head Contact	Airbag	0
Chest Contact	Airbag	0
Abdomen Contact	None	0
Left Knee Contact	Steering Column/Knee Bolster	Glovebox
Right Knee Contact	Steering Column/Knee Bolster	Glovebox

16mm MOVIE COVERAGE

High Speed	15
Real Time	1
Total	16

DATA CHANNELS

Driver ATD Sensors	40
Passenger ATD Sensors	40
Belt Assessment Sensors	8
Vehicle Structure Accelerometers	9
Rigid Barrier Load Cells	36
Total	133

**DATA SHEET NO. 2
GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
 Test Date: 1/7/03

TEST VEHICLE INFORMATION

Make	Nissan
Model	350Z
Body Style	2 Door Hatchback
NHTSA No.	M35202
VIN	JN1AZ34E83T008371
Color	Copper
Delivery Date	12/16/2002
Odometer Reading (mi.)	10
Dealer	Empire Nissan
Transmission	6 Speed Manual
Final Drive	Rear
Type/No. Cylinders	V-6
Engine Displacement (L)	3.5
Engine Placement	Longitudinal
Roof Rack	No
Sunroof/T-Top	No
Tinted Glass	Yes
Traction Control	No
Power Brakes	Yes
Front Disc	Yes
Rear Disc	Yes

TEST VEHICLE OPTIONS

Anti-Lock Brakes (ABS)	Yes
All Wheel Drive	No
Power Steering	Yes
Driver Airbag	Yes
Driver Side Bag	Yes
Driver Head Bag	Yes
Pass. Airbag	Yes
Pass. Side Bag	Yes
Pass. Head Bag	Yes
Pre-tensioners	Yes
Load Limiters	Yes
Bucket Seats	Yes
Center Console	Yes
Air Cond.	Yes
AM/Fm Cassette	Yes
Tilt Steering	Yes
Power Door Locks	Yes
Power Windows	Yes
Power Seats	Yes
Other	0
	0

DATA FROM CERTIFICATION LABEL

Manufactured By	Nissan Motor Co. LTD	GWR (kg)	1730
Date of Manufacture	October-02	GAWR Front (kg)	865
		GAWR Rear (kg)	875

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	None	None	
Number of Occupants	2	0	N/A	2
Capacity Wt. (VCW) (kg)				204
Cargo Weight (RCLW) (kg)				68

DATA SHEET NO. 2.....(CONTINUED)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
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NHTSA No.: M35202
 Test Date: 1/7/03

TIRE INFORMATION

Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	240	240
Cold Pressure (kPa)	240	240
Recommend Tire Size	225/45R18 - 245/45R18	225/45R18 - 245/45R18
Tire Size on Vehicle	225/45R18 - 245/45R18	225/45R18 - 245/45R18
Tire Manufacturer	Bridgestone	Bridgestone
Treadwear	140	140
Traction	A	A
Temperature Grades	A	A
Tire Plies Sidewall	2	2
Tire Plies Body	4	4
Load Index/Speed Symbol	111 S	111 S
Tire Material	Steel/Polyester	Steel/Polyester
DOT Safety Code Right	KO202-EO40KZ	TO202-EO40KZ
DOT Safety Code Left	KO202-EO40KZ	TO202-EO40KZ

DATA SHEET NO. 2...(CONTINUED)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
 Test Date: 1/7/03

TEST VEHICLE WEIGHTS

	Units	As Delivered (<i>UVW</i>)			As Tested (<i>ATW</i>)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	396	354		438	414	
Right	kg	412	348		445	426	
Ratio	%	53.5	46.5		51.2	48.8	
Totals	kg	808	702	1510	883	840	1723

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (<i>UVW</i>)	kg	1510
Weight of 2 P572 ATD's	kg	152
Rated Cargo/Luggage Weight (<i>RCLW</i>)	kg	68
Calculated Vehicle Target Weight (<i>TVTW</i>)	kg	1730

TEST VEHICLE ATTITUDE AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	680	679	701	703	1235
As Tested	mm	670	670	683	685	1296

Vehicle Wheel base (mm): 2655

Weight of Ballast secured in cargo area (kg): 0

Vehicle Components Removed: _____

* Ballast weight does not include cameras, instrumentation, and brake abort system.

FUEL SYSTEM DATA

Fuel System Capacity From Owner's Manual (L): 75.7

Usable Capacity Figure Furnished by COTR (L): 75.7

Actual Test Volume with entire fuel System Filled (L): 70.4

Test Fluid Type: Stoddard Solvent ; Specific Gravity: 0.764

Kinematic Viscosity: as per ASTM Standard D484-71 ; Color: Purple

Is Vehicle Fuel Pump Electric or Mechanical?: Electric

If electric, does pump operate with ignition switch "ON" & engine "OFF"? Yes

Fuel System Particulars: Driver side filler door, tank mounted at rear.

**DATA SHEET NO. 3
POST IMPACT DATA**

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
 Test Date: 1/7/03

SPEED TRAP DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	55.51 to 57.12	55.66
Trap No. 1 Entry Distance	mm	< 1524	1524
Trap No. 1 Exit Distance	mm	< 1524	305
Trap No. 2 Velocity (Redundant)	km/h	55.51 to 57.12	55.68
Trap No. 2 Entry Distance	mm	< 1524	1524
Trap No. 2 Exit Distance	mm	< 1524	305

VEHICLE STATIC CRUSH

Measured Parameter	Units	Pre-Test	Post-Test	Difference
Left Side	mm	4118	3781	-337
Center	mm	4285	3613	-672
Right Side	mm	4118	3829	-289

VEHICLE REBOUND FROM BARRIER

Measured Parameter	Units	Value
Left Side	mm	1106
Center	mm	1065
Right Side	mm	1110
Average	mm	1094

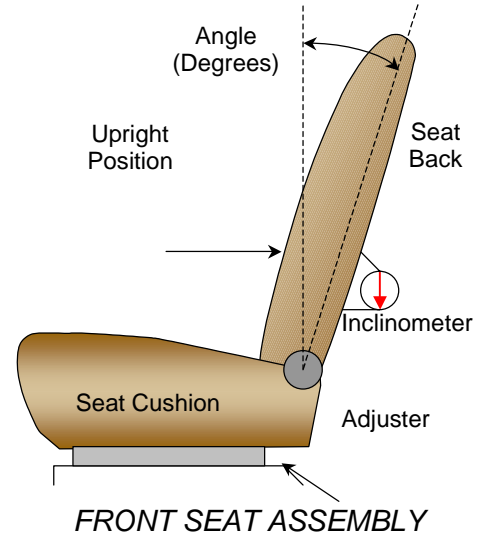
**DATA SHEET NO. 4
TEST VEHICLE INFORMATION**

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
 Test Date: 1/7/03

NOMINAL DESIGN RIDING POSITION

The driver and passenger seat backs are positioned to the manufacturers designated angle. The procedure is as follows: A special application tool with pointed probes is inserted through the fabric to make contact with the rigid portion of the lower seat frame assembly, approximately 13 inches above the pivot point of the seat back. An inclinometer is placed against the flat surface of the tool and the seat back angle is measured directly from the dial face.



SEAT BACK ANGLES

	Deg.
Driver w/seated Dummy	21
Passenger w/seated Dummy	21

SEAT FORE/AFT POSITIONS

The first or forward most position is counted as number one (1). The fore/aft position is set aft of the middle position for both the driver and passenger.

SEAT FORE/AFT POSITIONING

	Total Fore/Aft Travel	Placed in Position #
Driver Seat	223mm	111.5mm
Passenger Seat	223mm	111.5mm

SEAT BELT UPPER ANCHORAGE

Position number one (1) is the uppermost position.

SEAT BELT UPPER ANCHORAGE

	Total # of Positions	Placed in Position #
Driver Seat	Fixed	Fixed
Passenger Seat	Fixed	Fixed

DATA SHEET NO. 4...(CONTINUED)
TEST VEHICLE INFORMATION

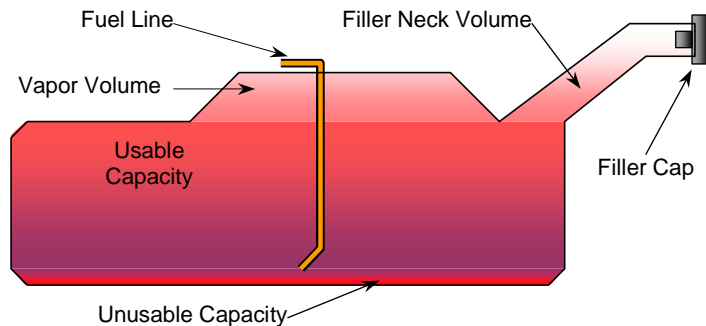
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
 Test Date: 1/7/03

FUEL TANK CAPACITY DATA

	Liters
Usable Capacity of "Standard Tank"	75.7
Usable Capacity of "Optional Tank"	N/A
Usable Capacity used for FMVSS 301	69.65 to 71.17
Actual Amount of Solvent Used	70.4

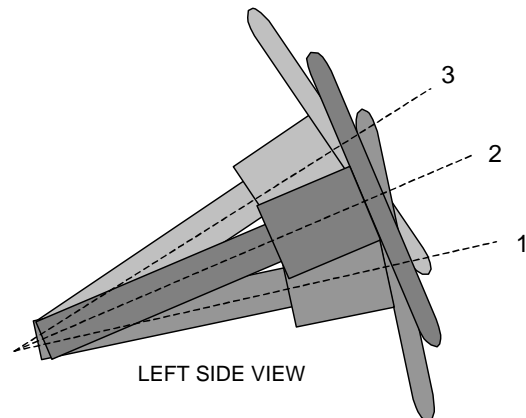
The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the right rear fender. The standard fuel tank occupies the area under the rear seat. Fuel lines run inside the right frame rail to the engine compartment.



VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when moved through its full range of motion. An aluminum plate is placed across the rim of the steering wheel, an inclinometer is placed on the plate and the angle is measured.



STEERING COLUMN ASSEMBLY

STEERING COLUMN POSITIONS

	Degrees
Lowermost; position No. 1	14
Geometric center; position No. 2	16.5
Uppermost; position No. 3	19

DATA SHEET NO. 5
DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
Test Date: 1/7/03

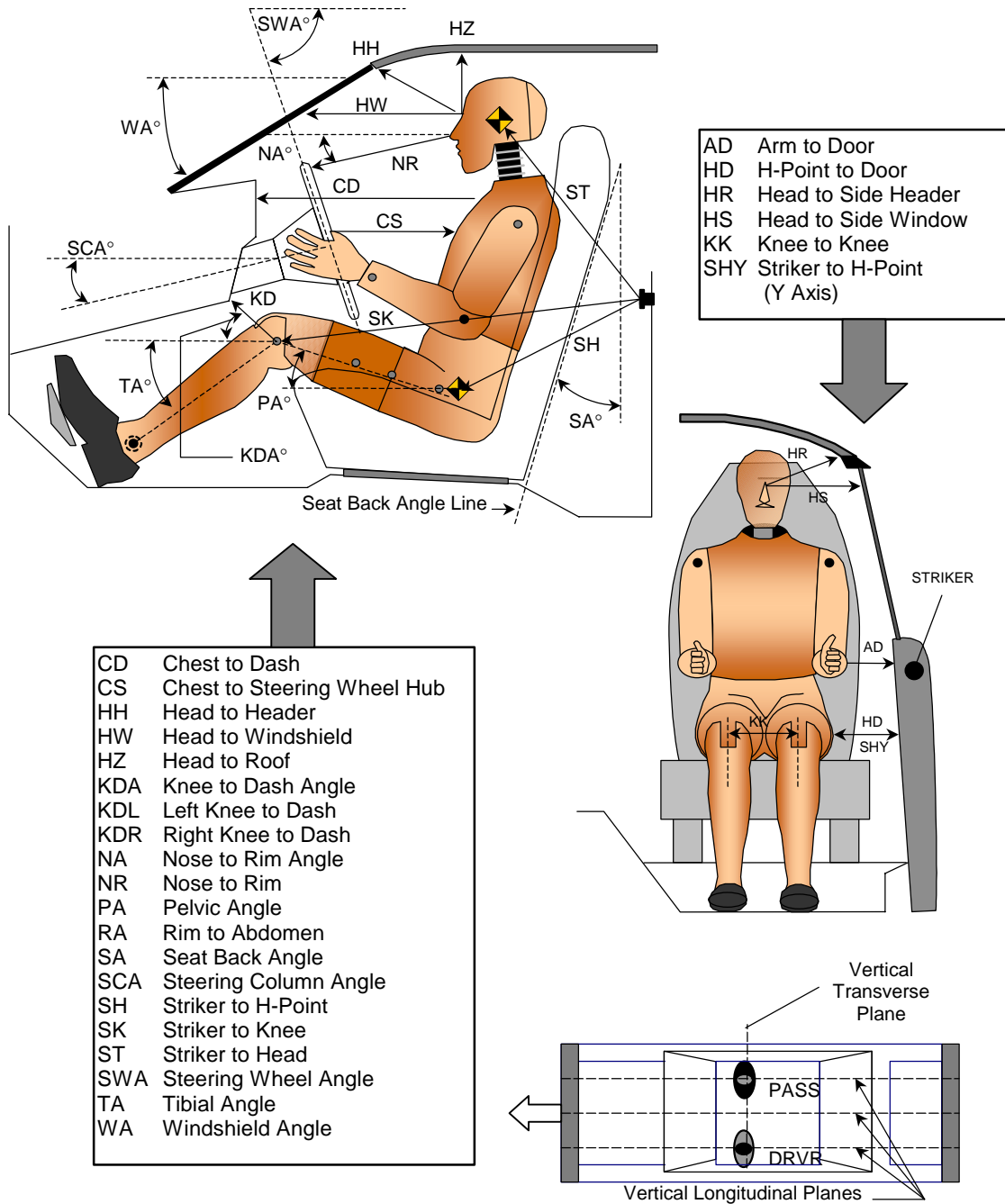
TEST DUMMY POSITION MEASUREMENTS

Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WA	Windshield Angle		30		
SWA	Steering Wheel Angle		73.5		
SCA	Steering Column Angle		16.5		
SA	Seat Back Angle		21		21
HZ	Head to Roof (Z)	185	90	150	90
HH	Head to Header	280		285	
HW	Head to Windshield	530		498	
HR	Head to Side Header (Y)	263		272	
NR	Nose to Rim	318	14		
CD	Chest to Dash	470		477	
CS	Chest to Steering Hub	253			
RA	Rim to Abdomen	160			
KDL	Left Knee to Dash	165	10	173	
KDR	Right Knee to Dash	155		200	30
PA	Pelvic Angle		24		25
TA	Tibia Angle		35		32
KK	Knee to Knee (Y)	290		275	
ST	Striker to Head	853	6	865	6
SK	Striker to Knee	563	50	590	50
SH	Striker to H-Point	462		440	
SHY	Striker to H-Point (Y)	243		240	
HS	Head to Side Window	285		308	
HD	H-Point to Door (Y)	135		140	
AD	Arm to Door (Y)	105		100	

DATA SHEET NO. 5...(CONTINUED)
DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
 Test Date: 1/7/03



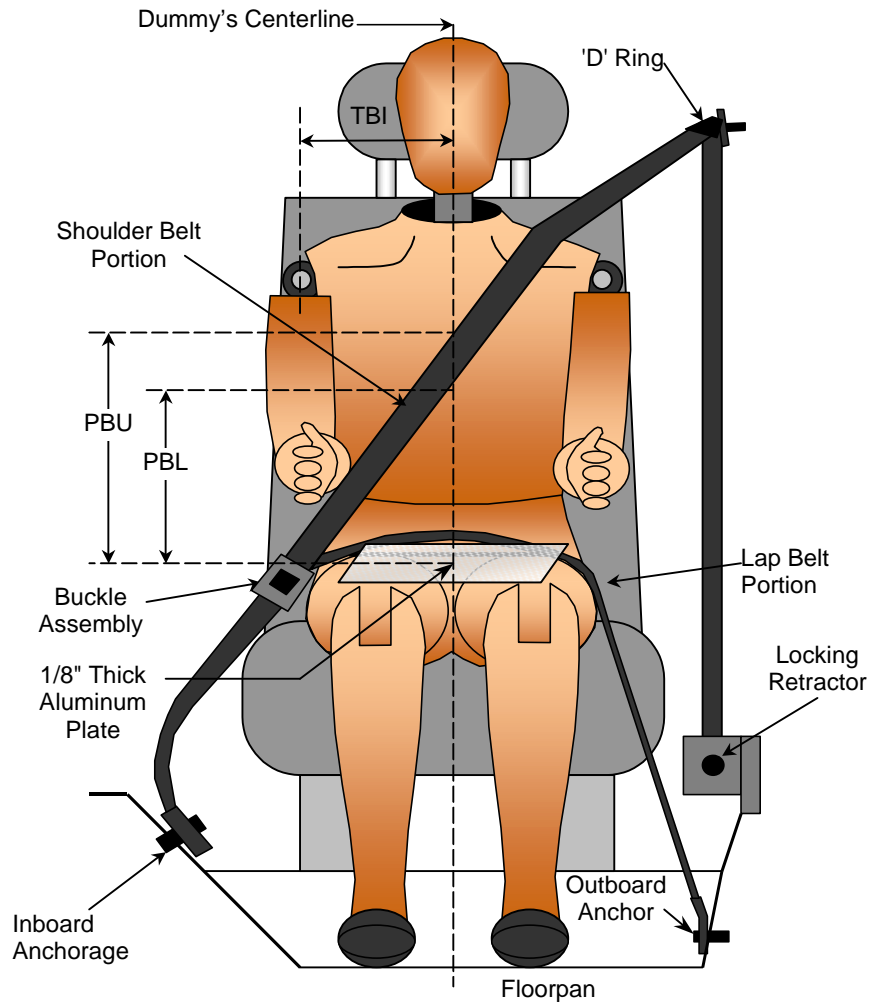
- CD Chest to Dash
- CS Chest to Steering Wheel Hub
- HH Head to Header
- HW Head to Windshield
- HZ Head to Roof
- KDA Knee to Dash Angle
- KDL Left Knee to Dash
- KDR Right Knee to Dash
- NA Nose to Rim Angle
- NR Nose to Rim
- PA Pelvic Angle
- RA Rim to Abdomen
- SA Seat Back Angle
- SCA Steering Column Angle
- SH Striker to H-Point
- SK Striker to Knee
- ST Striker to Head
- SWA Steering Wheel Angle
- TA Tibial Angle
- WA Windshield Angle

DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS

**DATA SHEET NO. 6
SEATBELT POSITIONING DATA**

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
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NHTSA No.: M35202
 Test Date: 1/7/03



SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
TBI - Dummy C/L to Lap/Shoulder Belt Intersect	mm	235	225
PBU - Top surface of reference to belt upper edge	mm	288	290
PBL - Top surface of reference to belt lower edge	mm	228	220
Lap Belt tension	Newton's	10	10
Shoulder Belt tension	N/A	Retractor	Retractor

DATA SHEET NO. 7 - VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

NHTSA No.: M35202

Test Program: 2003 NHTSA 35mph NCAP

Test Date: 1/7/03

VEHICLE ACCELEROMETER PEAK DATA AND PRE-TEST LOCATIONS

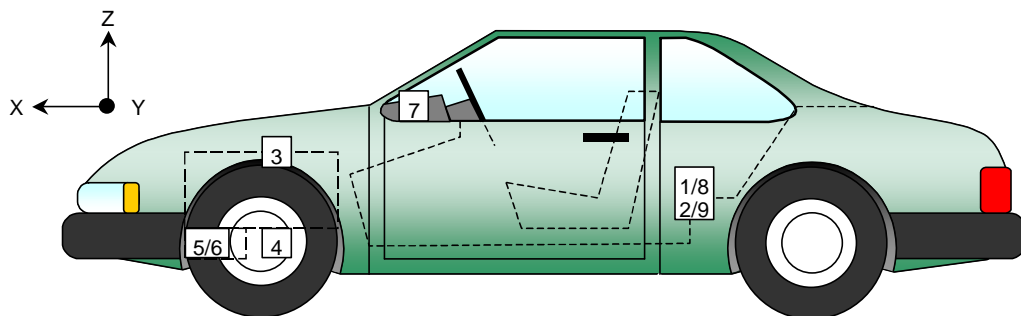
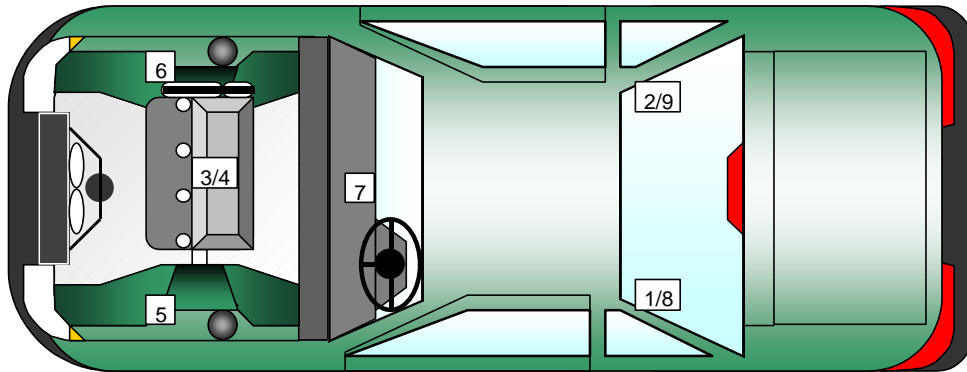
No.	Accelerometer Location	Measurements (mm)			Peak Values				
		X	Y	Z	Units	Max	Time	Min	Time
1	Left Rear X-Member	1860	-375	170	G's	4.2	18.3	-48.3	36.8
2	Right Rear X-Member	1750	360	170	G's	2.4	109.6	-62.5	38.6
3	Engine Top	3560	-35	850	G's	0.0	36.4	-119.1	28.8 ¹
4	Engine Bottom	3550	40	139	G's	9.4	55.0	-99.1	28.8 ²
5	Left Brake Caliper	3635	-700	335	G's	0.0	0.0	0.0	0.0 ³
6	Right Brake Caliper	3635	700	335	G's	74.3	54.4	-129.8	41.8
7	Instrument Panel	2559	0	755	G's	49.0	61.9	-80.5	46.9
8	Left Rear X-Member (Z-Axis)	1820	-310	170	G's	12.8	18.0	-17.0	39.3
9	Right Rear X-Member (Z-Axis)	1805	355	170	G's	12.3	64.0	-20.6	41.7

Reference Planes: X=From Rear Surface of Vehicle, Y=Vehicle Centerline, Z=Ground Plane

1.) Channel failed at 36.4 msec.

3.) Channel failed, no data

2.) Channel failed at 59.2 msec.



DATA SHEET NO. 8 - HYBRID III ATD INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

NHTSA No.: M35202

Test Program: 2003 NHTSA 35mph NCAP

Test Date: 1/7/03

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	16.8	187.1	-44.2	64.8	12.9	190.9	-50.8	73.9
Head CG	Y	G's	5.1	49.6	-10.7	87.6	2.4	200.0	-9.8	79.6
Head CG	Z	G's	28.2	48.5	-3.4	120.2	29.3	48.9	-12.6	93.0
Head CG Resultant	N/A	G's	46.1	64.8			51.3	76.3		

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	4.1	215.5	-43.7	51.6	5.8	217.3	-43.5	79.8
Chest CG	Y	G's	5.1	86.2	-5.8	48.6	4.2	71.0	-10.1	85.9
Chest CG	Z	G's	17.2	47.2	-24.4	83.9	17.6	45.1	-24.8	69.3
Chest CG Resultant	N/A	G's	45.4	50.5			47.7	80.2		

FEMUR PEAK FORCES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Femur	Z	Newtons	1083.6	47.3	-2783.1	69.7	1455.9	51.1	-2550.4	40.6
Right Femur	Z	Newtons	1297.1	46.9	-3186.3	55.8	1379.8	53.9	-2586.1	72.4

SEAT BELT SENSOR PEAK VALUES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Shoulder Belt Pullout	N/A	MM	43.6	78.4	-59.3	41.3	62.0	80.1	-74.3	43.7
Shoulder Belt Stretch	N/A	MM/CM	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0
Lap Belt Force	N/A	Newtons	7572.5	50.6	3.2	0.0	8129.1	55.1	-0.8	0.0
Shoulder Belt Force	N/A	Newtons	5672.8	49.7	-15.3	10.7	6145.7	50.6	-27.4	10.8

1.) Not used with pre-tensioner

Location	Driver				Passenger			
	HIC	T ¹	T ²	Avg G	HIC	T ¹	T ²	Avg G
Head CG Primary	360.0	44.7	80.6	39.8	410.6	56.4	92.3	42.0

PRIMARY CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Primary	44.9	76.3	79.3	46.8	79.1	82.1

DATA SHEET NO. 8...(continued)

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

NHTSA No.: M35202

Test Program: 2003 NHTSA 35mph NCAP

Test Date: 1/7/03

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	16.1	87.2	-50.9	55.9	0.0	0.0	0.0	0.0
Pelvis	Y	G's	13.2	82.0	-11.2	41.7	0.0	0.0	0.0	0.0
Pelvis	Z	G's	4.6	236.3	-45.0	78.9	0.0	0.0	0.0	0.0
Pelvis Resultant	N/A	G's	59.7	68.4			0.0	0.0		

1.) Passenger channels failed, no data

UPPER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	187.4	186.2	-841.1	101.2	123.9	278.3	-535.4	72.7
Neck Force	Y	Newtons	116.7	217.1	-360.8	82.8	116.4	66.2	-169.3	123.6
Neck Force	Z	Newtons	1581.6	47.7	-283.7	218.8	1327.8	56.9	-543.0	229.9
Neck Force Resultant	N/A	Newtons	1602.8	47.7			1388.1	60.3		
Neck Moment	X	N•m	8.5	71.4	-19.5	99.7	11.7	78.7	-10.1	113.5
Neck Moment	Y	N•m	74.7	113.3	-35.4	218.1	32.6	115.0	-41.7	229.6
Neck Moment	Z	N•m	6.5	54.7	-9.0	122.4	8.8	106.7	-3.0	177.2
Neck Moment Resultant	N/A	N•m	76.4	113.3			42.6	229.7		

FOOT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Foot Aft	X	G's	8.3	84.0	-32.9	54.9	40.9	86.9	-86.8	40.3
Left Foot Aft	Z	G's	3.9	256.7	-45.2	41.2	19.6	49.7	-96.5	42.3
Left Foot Fore	Z	G's	5.6	292.5	-46.1	40.9	34.1	45.3	-164.6	42.6
Right Foot Aft	X	G's	19.1	79.5	-94.3	42.0	8.2	94.7	-75.0	41.9
Right Foot Aft	Z	G's	38.4	56.6	-177.0	42.6	5.4	242.2	-56.1	44.2
Right Foot Fore	Z	G's	45.4	57.3	-211.3	37.8	9.4	240.2	-87.5	35.9

UPPER AND LOWER TIBIA PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Upper Moment	X	N•m	65.9	48.4	-62.1	73.0	18.7	110.5	-67.8	44.4
Left Upper Moment	Y	N•m	50.4	70.4	-14.3	106.9	19.6	216.6	-156.2	40.6
Right Upper Moment	X	N•m	222.4	43.0	-19.9	225.0	30.3	49.0	-13.9	81.2
Right Upper Moment	Y	N•m	74.8	44.5	-38.5	60.5	15.7	233.5	-93.4	43.3
Left Lower Moment	X	N•m	42.4	66.6	-7.3	54.3	42.4	84.0	-38.0	43.7
Left Lower Moment	Y	N•m	36.7	82.2	-22.8	49.3	67.9	40.4	-43.3	46.1
Left Lower Force	Z	Newtons	188.0	198.3	-1907.5	40.9	227.7	222.5	-7427.1	40.5
Right Lower Moment	X	N•m	54.5	59.3	-69.6	42.3	59.9	83.9	-14.7	46.4
Right Lower Moment	Y	N•m	36.1	62.6	-57.8	46.2	17.3	84.8	-31.6	56.4
Right Lower Force	Z	Newtons	232.1	184.7	-8260.8	42.5	152.1	182.4	-3914.4	43.4

DATA SHEET NO. 8...(continued)

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

NHTSA No.: M35202

Test Program: 2003 NHTSA 35mph NCAP

Test Date: 1/7/03

CHEST PEAK DISPLACEMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	MM	0.2	1.4	-24.7	66.6	0.1	9.0	-31.0	79.0

HEAD REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	17.3	188.8	-43.9	64.1	14.4	191.5	-50.7	76.2
Head CG	Y	G's	5.1	49.6	-10.1	86.4	2.4	183.2	-10.8	79.8
Head CG	Z	G's	28.9	48.5	-3.2	115.8	29.5	49.3	-12.7	93.8
Head CG Resultant	N/A	G's	45.6	64.3			51.4	76.5		

CHEST REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	4.4	216.0	-43.9	51.8	5.7	218.6	-43.5	79.8
Chest CG	Y	G's	5.0	85.8	-6.2	48.6	3.7	70.9	-10.2	86.9
Chest CG	Z	G's	16.8	47.2	-24.3	81.6	17.5	45.2	-24.7	69.2
Chest CG Resultant	N/A	G's	45.5	50.6			47.9	80.3		

REDUNDANT HEAD INJURY CRITERIA (HIC)

Location	Driver				Passenger			
	HIC	T ¹	T ²	Avg G	HIC	T ¹	T ²	Avg G
Head CG Redundant	352.2	44.9	80.8	39.5	416.3	56.6	92.5	42.2

REDUNDANT CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Redundant	45.0	76.7	79.7	46.9	79.2	82.2

DATA SHEET NO. 9
SEATBELT ASSESSMENT TEST DATA

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
 Test Date: 1/7/03

SEAT BELT PLACEMENT MEASUREMENTS

Measurement Description	Units	Driver	Passenger
TBI - Dummy C/L to Lap/Shoulder Belt Intersect	mm	235	225
PBU - Top surface of reference to belt upper edge	mm	288	290
PBL - Top surface of reference to belt lower edge	mm	228	220
Lap Belt tension	Newton's	10	10
Shoulder Belt tension	N/A	Retractor	Retractor

BELT LENGTH DATA

Measurement Description	Units	Driver	Passenger
Retractor reel to 'D' ring	mm	N/A	N/A
Shoulder belt length as measured on ATD	mm	985	985
Lap belt length as measured on ATD	mm	815	805
Remainder of belt on reel	mm	565	535
Total belt length for continuous webbing systems	mm	2365	2325

SHOULDER BELT SPOOL-OFF DATA

Measurement Description	Units	Driver	Passenger
As determined mechanically	mm	70.0	72.0
As determined electronically	mm	43.6	62.0

BELT STRETCH DATA

Measurement Description	Units	Driver	Passenger
Electronically between shoulder belt load cell and "D" ring	mm/cm	*	*
Mechanically	mm/cm	0.00	0.00

*Not used with shoulder belt pre-tensioner systems.

**DATA SHEET NO. 10
SUMMARY OF FMVSS 212 DATA**

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
 Test Date: 1/7/03

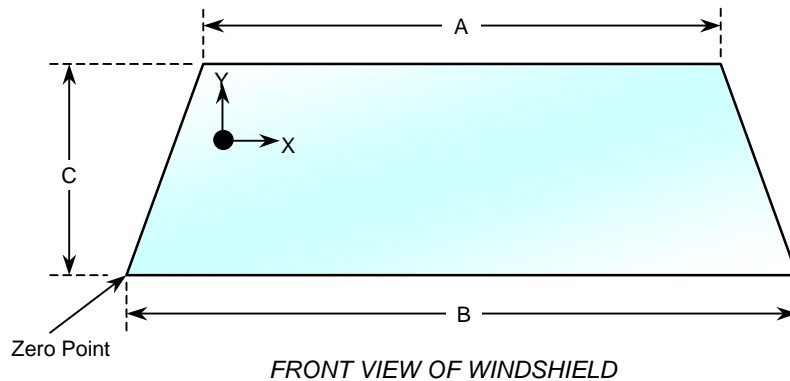
Windshield Mounting Details: Windshield glass is secured to the vehicle frame with a rubber type adhesive. No molding covers the windshield periphery at any point.

The standard requires that the posttest retention measurement be a minimum of 75 percent of the pretest total periphery measurement for vehicles not equipped with occupant passive restraints and 50 percent for each side of the windshield for vehicles that are equipped with occupant passive restraints.

Temperature of windshield molding during test: 21.1 °C

WINDSHIELD PERIPHERY MEASUREMENTS

Measurement	Pre-Test(mm)	Post-Test (mm)	% of Retention
Left Side	2001.5	2001.5	100
Right Side	2001.5	2001.5	100
Total	4003.0	4003.0	100



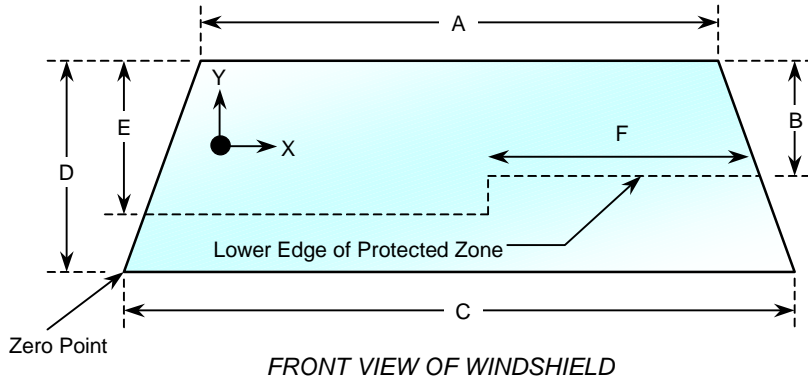
WINDSHIELD DIMENSIONS

Item	Units	Segment Length	Molding Width
A	mm	1226	11
B	mm	1575	8
C-left	mm	666	22
C-right	mm	601	22

DATA SHEET NO. 11
WINDSHIELD ZONE INTRUSION FMVSS 219 DATA (PARTIAL)

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
 Test Date: 1/7/03



**WINDSHIELD AND
 PROTECTED ZONE**

Item	Units	Value
A	mm	1226
B	mm	375
C	mm	1575
D	mm	601
E	mm	390
F	mm	406

AREA OF PROTECTED ZONE FAILURES

- A. Provide coordinates of the area that the protected zone was penetrated more than 0.25 in. by a vehicle component other than one that is normally in contact with the windshield.

X	Y
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

- B. Provide coordinates of the area beneath the protected zone that the inner surface of the windshield was penetrated by a vehicle component.

X	Y
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

DATA SHEET NO. 12
FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
Test Date: 1/7/03

Test Time: 1:45 PM

Temperature at Test Time: 17.8 Deg. C

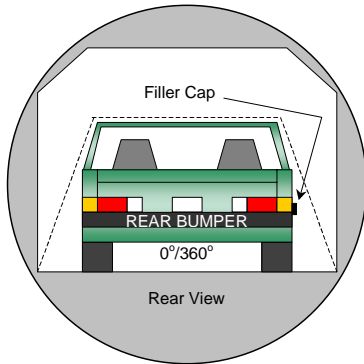
STODDARD SOLVENT SPILLAGE MEASUREMENTS

- A. From impact until vehicle motion ceases: 0.0 oz.
(Maximum Allowable = 1 ounce)
- B. For the 5 minute period after motion ceases: 0.0 oz.
(Maximum Allowable = 5 ounces)
- C. For the following 25 minutes: 0.0 oz.
(Maximum Allowable = 1 oz./minute)
- D. Spillage Location Details: No leakage occurred

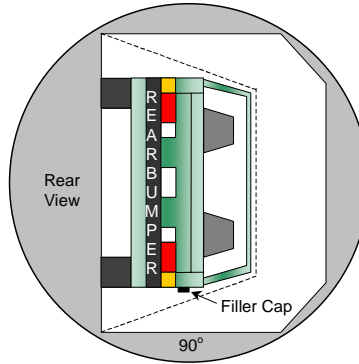
DATA SHEET NO. 13
FMVSS 301 STATIC ROLLOVER DATA

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

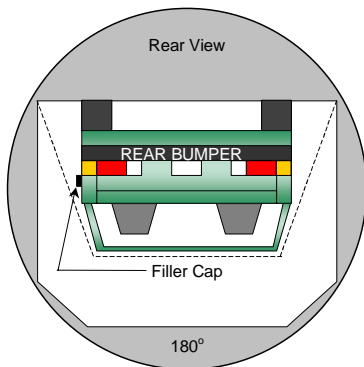
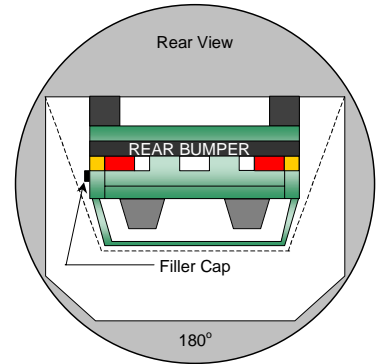
NHTSA No.: M35202
 Test Date: 1/7/03



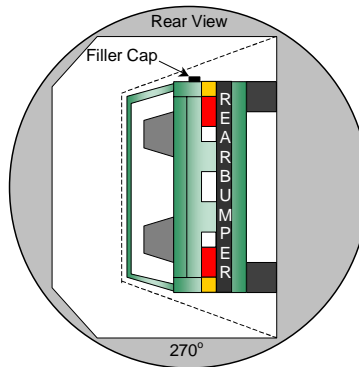
0° to 90°



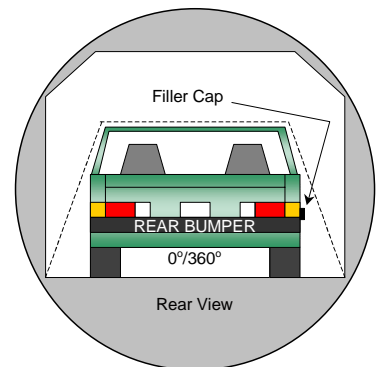
90° to 180°



180° to 270°



270° to 360°



1. The specified fixture rollover rate for each 90° of rotation is 60 to 120 seconds.
2. The position hold time at each position is 300 seconds (minimum).
3. No solvent leakage occurred during rollover.

**DATA SHEET NO. 13....(CONTINUED)
FMVSS 301 STATIC ROLLOVER DATA**

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
 Test Date: 1/7/03

SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° to 90°	81	300	381
90° to 180°	78	300	378
180° to 270°	80	300	380
270° to 360°	79	300	379

FMVSS 301 SPILLAGE REQUIREMENT TABLE (oz.)

First 5 minutes	5.0
Sixth Minute	1.0
Seventh minute	1.0
Eighth Minute	1.0

ACTUAL TEST VEHICLE SOLVENT SPILLAGE (oz.)

Test Phase	First 5 Minutes	Sixth Minute	Seventh Minute	Eighth Minute
0° to 90°	0	0	0	0
90° to 180°	0	0	0	0
180° to 270°	0	0	0	0
270° to 360°	0	0	0	0

SOLVENT SPILLAGE LOCATION TABLE

Test Phase	SPILLAGE LOCATION
0° to 90°	None
90° to 180°	None
180° to 270°	None
270° to 360°	None

VEHICLE MEASUREMENTS

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
 Test Date: 1/7/03

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
1	Total length of vehicle at centerline	mm	4285	3613	-672
2	RSOV to front of engine	mm	3712	3523	-189
3	RSOV to firewall centerline	mm	3110	2980	-130
4	RSOV to leading edge of right door	mm	2667	2675	8
5	RSOV to leading edge of left door	mm	2674	2672	-2
6	RSOV to lower leading edge of right door	mm	2790	2785	-5
7	RSOV to lower leading edge of left door	mm	2795	2785	-10
8	RSOV to upper trailing edge of right door	mm	1466	1471	5
9	RSOV to upper trailing edge of left door	mm	1471	1469	-2
10	RSOV to lower trailing edge of right door	mm	1717	1712	-5
11	RSOV to lower trailing edge of left door	mm	1721	1710	-11
12	RSOV to bottom of right 'A' pillar	mm	2743	2749	6
13	RSOV to bottom of left 'A' pillar	mm	2756	2746	-10
14	RSOV to firewall on right side	mm	3430	3334	-96
15	RSOV to firewall of left side	mm	3430	3334	-96
16	RSOV to steering column	mm	2370	2382	12
17	Center of steering column to left 'A' pillar	mm	390	408	18
18	Center of steering column to headlining	mm	385	345	-40
19	RSOV to right side of front bumper	mm	4118	3829	-289
20	RSOV to left side of front bumper	mm	4118	3781	-337
21	Length of engine block	mm	590	590	0
RD	RSOV to right side of dash panel	mm	2580	2586	6
CD	RSOV to center of dash panel	mm	2483	2425	-58
LD	RSOV to left side of dash panel	mm	2580	2578	-2

DATA SHEET NO. 14.....(CONTINUED)
VEHICLE STRUCTURAL MEASUREMENTS

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
 Test Date: 1/7/03

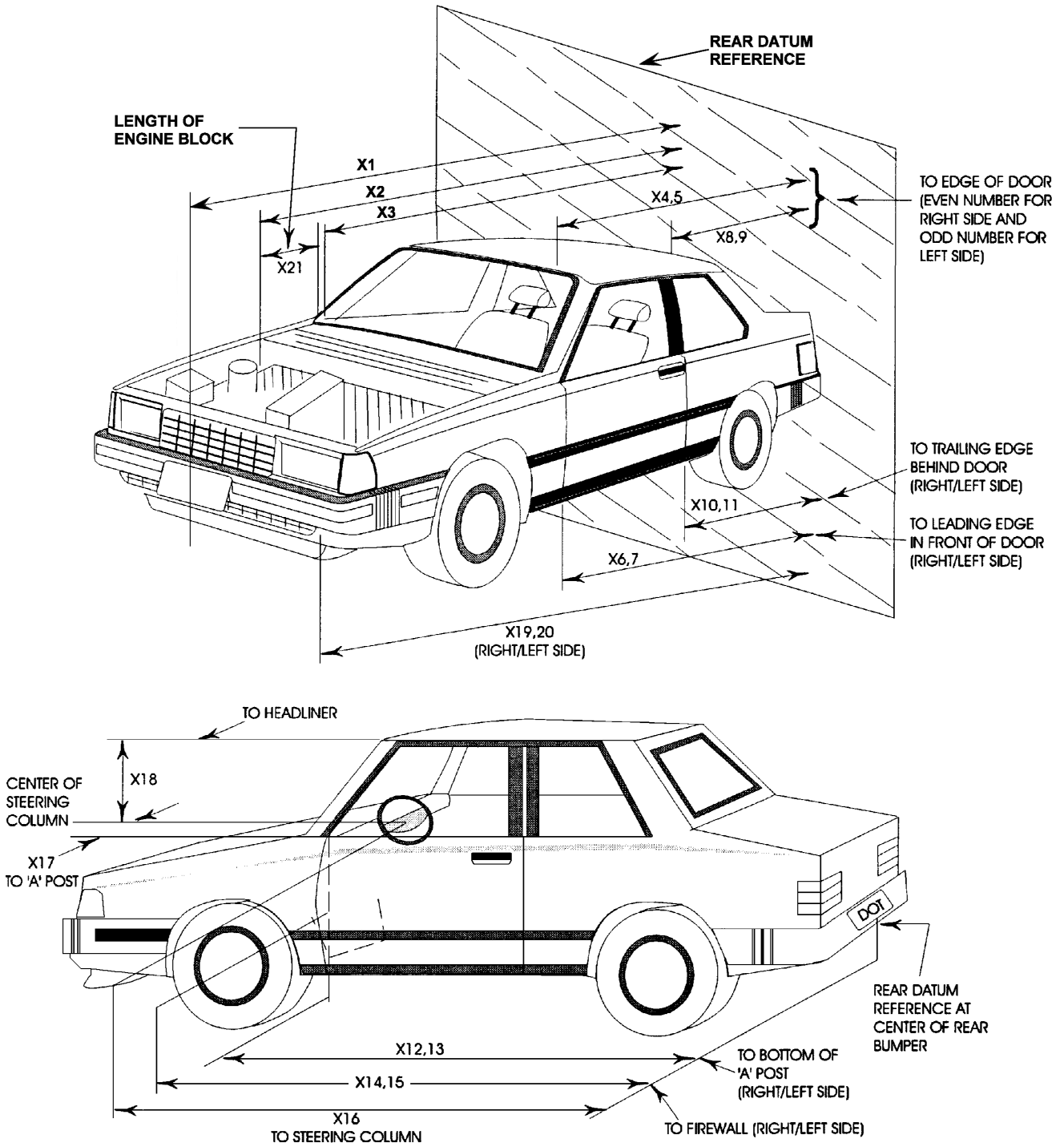
No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
1	Total Length	mm	4285	3613	-672
2	Total Width	mm	1810	1810	0
3	Bumper Top Height	mm	590	599	9
4	Bumper Bottom Height	mm	186	192	6
5	Longitudinal Member Top Height	mm	495	570	75
6	Longitudinal Member Bottom Height	mm	311	302	-9
7	Distance Between Longitudinal Members	mm	871	780	-91
8	Longitudinal Member Width	mm	50	50	0
9	Engine Top Height	mm	834	865	31
10	Engine Bottom Height	mm	141	200	59
11	Engine and Gear Box Width	mm	560	560	0
12	Front Bumper to Engine Distance	mm	580	295	-285
13	Front Shock Absorber Fixing Width	mm	178	183	5
14	Bonnet Leading Edge Height	mm	648	740	92
15	Front Schock Absorber Fixing Width	mm	815	850	35
16	Front Bumper to Front Axle Distance	mm	795	455	-340
17	Front Axle to A-Pillar Distance	mm	784	635	-149
18	A-Pillar to B-Pillar Distance	mm	1150	1144	-6
19	B-Pillar to Rear Axla Distance	mm	652	655	3
20	B-Pillar to C-Pillar Distance	mm	N/A	N/A	N/A
21	Roof Sill Bottom Height	mm	1087	1135	48
22	Roof Sill Top Heigth	mm	1293	1305	12
23	Floor Sill Bottom Height	mm	142	70	-72
24	Floor Sill Top Height	mm	370	350	-20

All Measurements in millimeters

VEHICLE MEASUREMENTS

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
 Test Date: 1/7/03



**DATA SHEET NO. 15
CAMERA LOCATIONS**

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
 Test Date: 1/7/03

No.	Camera View	Location (mm)			Angle (Deg.)	Film Plane to Head	Lens (mm)	Speed (fps)
		X	Y	Z				
1	Right Side, Real Time	18288	-22860	2540	10	N/A	Zoom	24
2	Driver Overall	1930	8357	1321	4	7849	13	1030
2B	Driver Overall	1626	8230	1092	4	7747	17	900
3	Driver Close-up	1727	8230	1600	4	7747	35	DNR
4	3/4 Driver (Shoulder)	6477	10185	4648	13	11074	35	1000
5	Driver Steering Column	1524	8230	3404	20	8077	19	1040
6	Driver Steering Column	1524	8230	2997	16	7976	19	950
7	Passenger Overall	2057	-8306	1600	6	7772	19	1020
8	Passenger Close-up	1676	-8052	1600	4	7544	35	1040
9	3/4 Passenger (Shoulder)	8026	-8941	2997	9	10312	35-80	DNR
10	Passenger Door	2438	-9525	1600	4	8992	35	1000
11	Overhead	610	0	6172	90	N/A	13	1080
12	Driver Front	-610	406	2743	42	N/A	12	1000
13	Passenger Front	-610	406	2743	42	N/A	13	1100
14	Pit Camera, Engine	610	0	-1499	90	N/A	19	1020
15	Pit Camera, Fuel Tank	2540	0	-1499	90	N/A	25	1200

X - Barrier Face Y - Monorail Centerline Z -

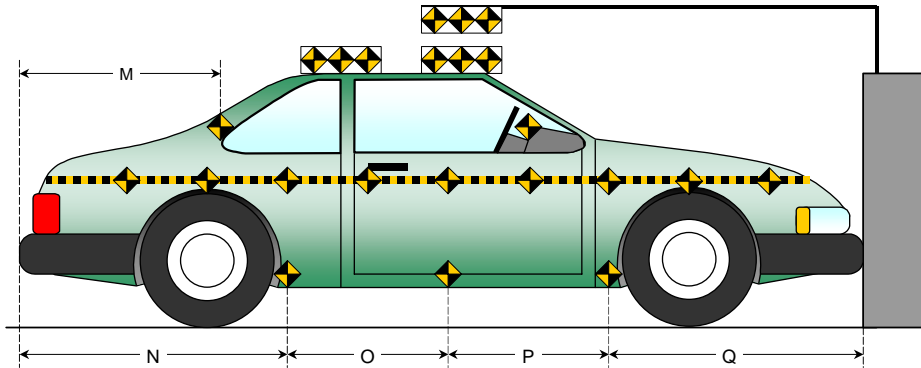
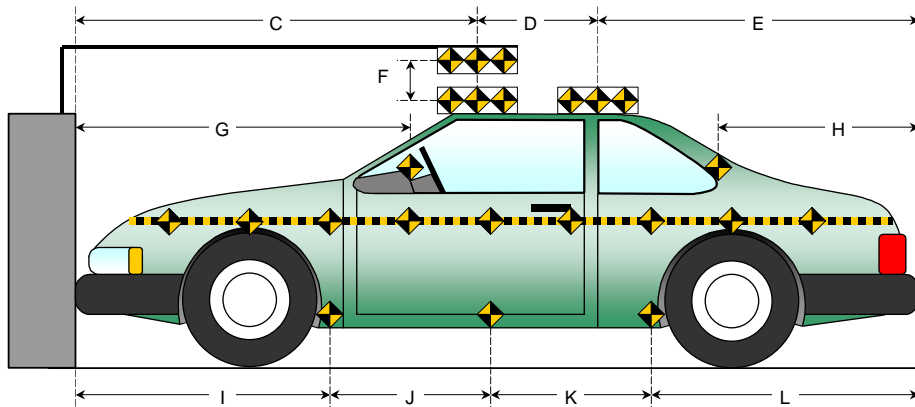
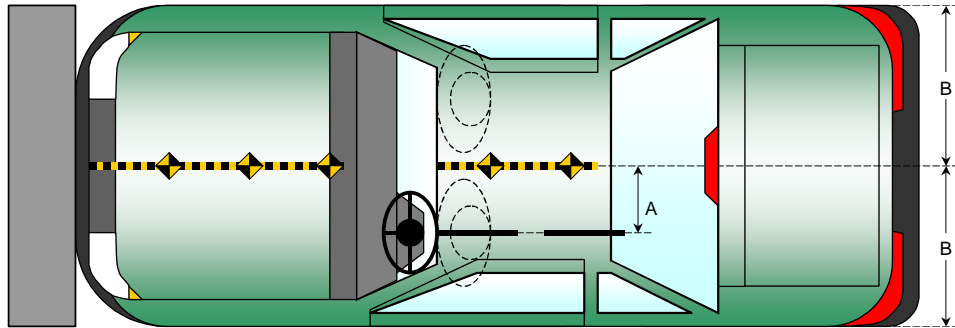
DATA SHEET NO. 16
PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
 Test Date: 1/7/03

All Dimensions
 in mm

Item	Value
A	398
B	905
C	2145
D	605
E	1550
F	155
G	1781
H	1200
I	1239
J	878
K	878
L	1310
M	1180
N	1300
O	878
P	878
Q	1240



DATA SHEET NO. 17
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

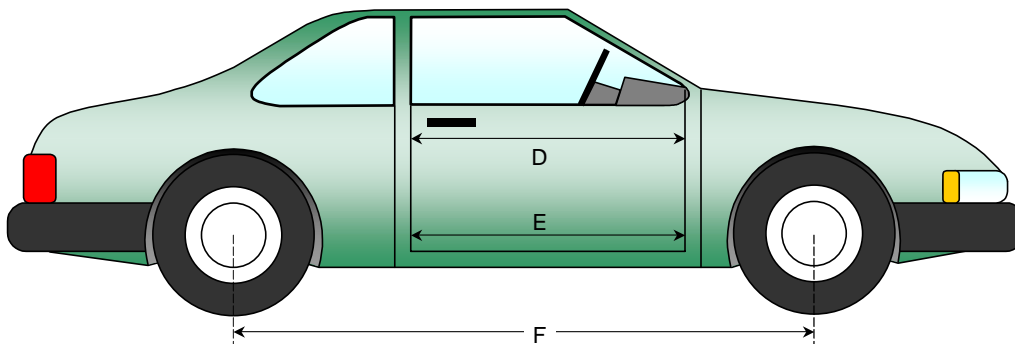
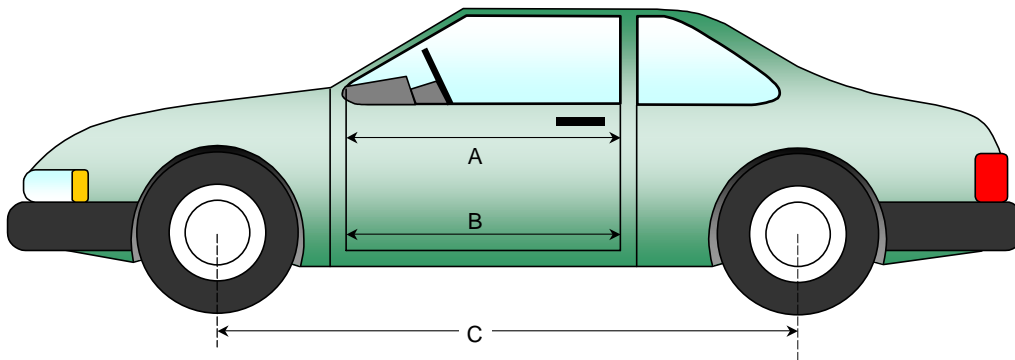
NHTSA No.: M35202
 Test Date: 1/7/03

DOOR OPENING WIDTH

Item	Description	Units	Pre-Test	Post-Test	Difference
A	Left Side Upper	mm	1147	1144	-3
B	Left Side Lower	mm	1037	1036	-1
D	Right Side Upper	mm	1148	1146	-2
E	Right Side Lower	mm	1039	1037	-2

WHEELBASE MEASUREMENTS

Item	Description	Units	Pre-Test	Post-Test	Difference
C	Left Side Wheel base	mm	2655	2584	-71
F	Right Side Wheel base	mm	2655	2537	-118



DATA SHEET NO. 17...(CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

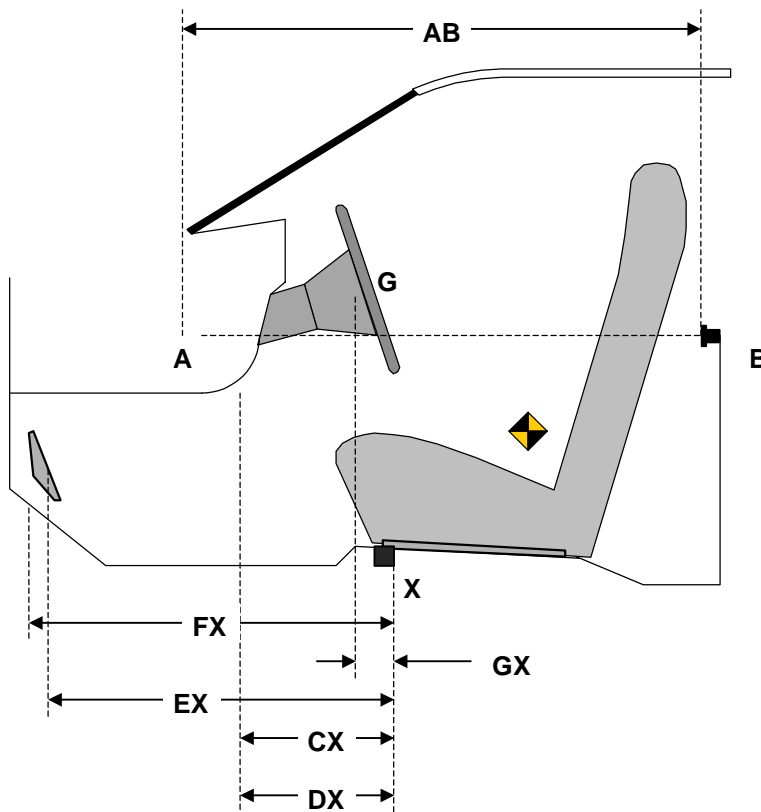
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
 Test Date: 1/7/03

DRIVER COMPARTMENT INTRUSION

Item	Description	Units	Pre-Test	Post-Test	Difference
AB	Door Opening (Inside window jam)	mm	1147	1144	-3
CX	Left Knee Bolster to X	mm	230	293	63
DX	Right Knee Bolster to X	mm	235	286	51
EX	Brake Pedal to X	mm	604	646	42
FX	Foot Rest to X	mm	631	634	3
GX	Center of Steering Wheel Hub to X	mm	1	35	34

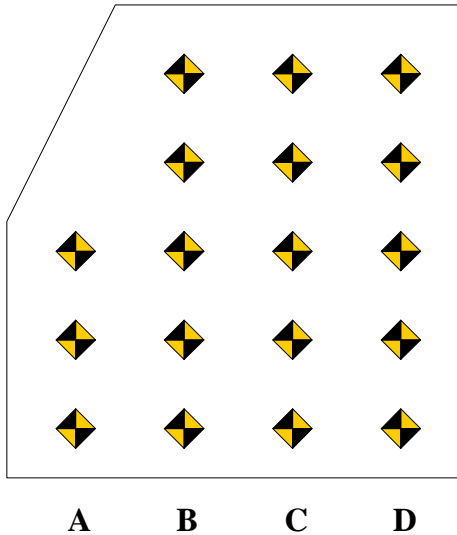
X = Left Front Seat Outboard Anchor Bolt Head



DATA SHEET NO. 17...(CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
 Test Date: 1/7/03



1 Measurement reference point for X and Z-axis is the forward outboard seat mounting bolt.

2 Columns A through D are evenly spaced.

3 Rows 1 and 2 are on the toe kick portion of the floor pan. Rows 3,4 and 5 are located on the most level portion of the floor pan.

Row 3 will be at the intersection of the toe kick and the level sections of the floor pan.

DRIVER FLOOR PAN X-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1		673	559	671		602	585	568		-71	26	-103
2		568	564	571		524	510	513		-44	-54	-58
3	464	463	459	466	335	422	410	418	-129	-41	-49	-48
4	364	368	359	366	235	320	320	318	-129	-48	-39	-48
5	264	268	264	266	240	235	227	218	-24	-33	-37	-48

DRIVER FLOOR PAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1		0	9	-11		29	40	35		29	31	46
2		-71	-55	-69		-38	-45	-40		33	10	29
3	-110	-61	-61	-62	-68	-48	-55	-48	42	13	6	14
4	-145	-60	-60	-61	-125	-60	-55	-55	20	0	5	6
5	-147	-64	-58	-59	-125	-50	-58	-50	22	14	0	9

**DATA SHEET NO. 17...(CONTINUED)
VEHICLE INTRUSION MEASUREMENTS**

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

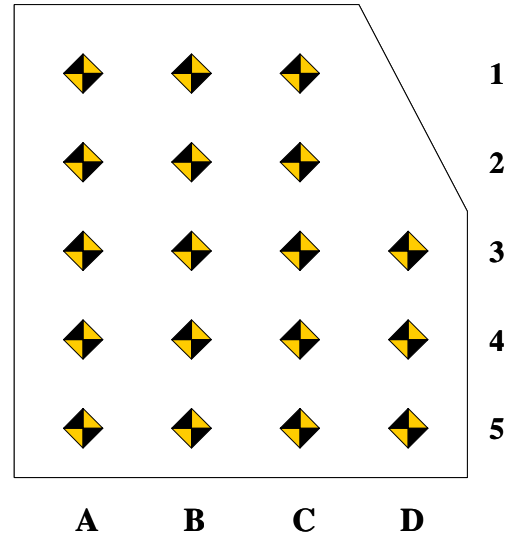
NHTSA No.: M35202
 Test Date: 1/7/03

Measurement reference point for X and Z axis is the forward outboard seat mounting bolt.

Columns A through D are evenly spaced.

Rows 1 and 2 are on the toe kick portion of the floor pan. Rows 3,4, and 5 are located on the most level portion of the floor pan.

Row 3 will be at the intersection of the toe kick and the level sections of the floor pan.



PASSENGER FLOOR PAN X-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	711	698	717		630	584	610		-81	-114	-107	
2	611	599	612		534	488	515		-77	-111	-97	
3	505	499	502	495	444	387	400	438	-61	-112	-102	-57
4	400	395	399	380	347	285	304	326	-53	-110	-95	-54
5	296	295	295	285	252	193	209	231	-44	-102	-86	-54

PASSENGER FLOOR PAN Z-AXIS

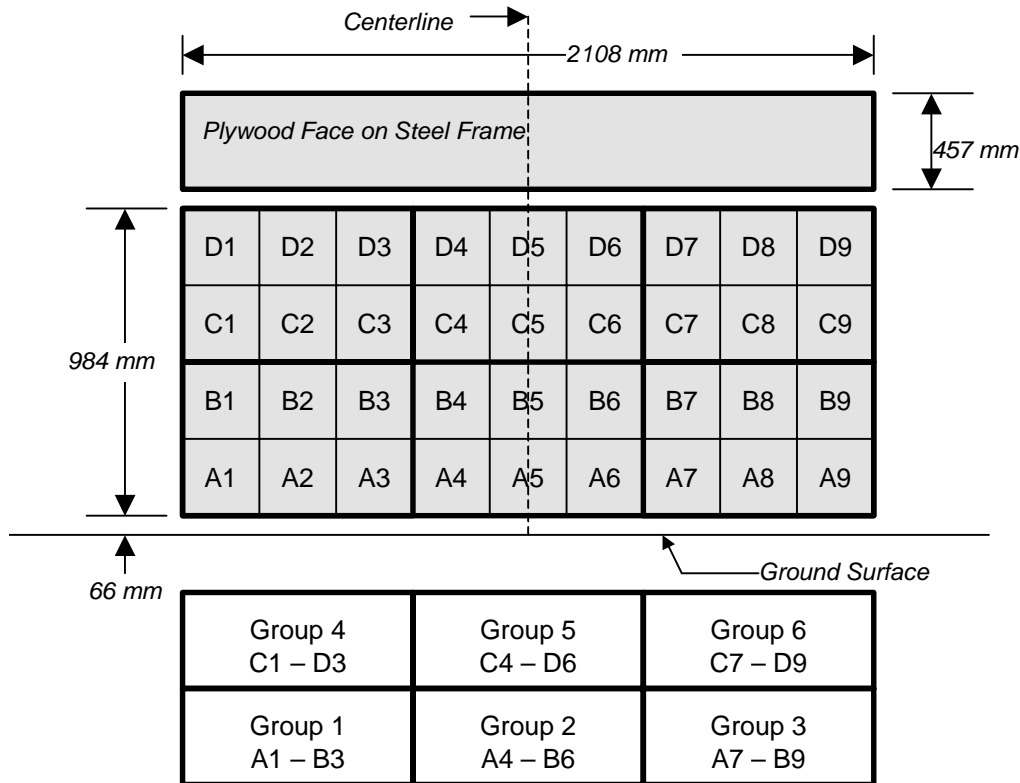
	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	11	22	16		28	35	17		17	13	1	
2	-61	-37	-67		-38	-25	-40		23	12	27	
3	-62	-62	-63	-104	-59	-62	-56	-75	3	0	7	29
4	-62	-62	-61	-140	-58	-61	-55	-125	4	1	6	15
5	-61	-63	-63	-150	-55	-60	-54	-163	6	3	9	-13

DATA SHEET NO. 18
FIXED BARRIER LOAD CELL LOCATIONS

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
 Test Date: 1/7/03

36 Load Cell Rigid Barrier (NHTSA Standard)
Load Cell Locations on Fixed Barrier



6 Groups of 6 Load Cells Each

The Data is presented in Appendix C with the following requirements:

- 1.) Data from 36 individual load cells
- 2.) Sum data from 6 groupings shown above (6 cells/group)
- 3.) Total or sum of all 36 individual load cells
- 4.) Sum of all 36 individual load cells vs. vehicle dynamic crush

DATA SHEET NO. 19
ACCIDENT INVESTIGATION DIVISION DATA

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
Test Date: 1/7/03

VEHICLE INFORMATION

VIN: JN1AZ34E83TD08371 Wheel base (mm): 2655
Vehicle Size Category: 2 Door Hatchback Test Weight (kg): 1723

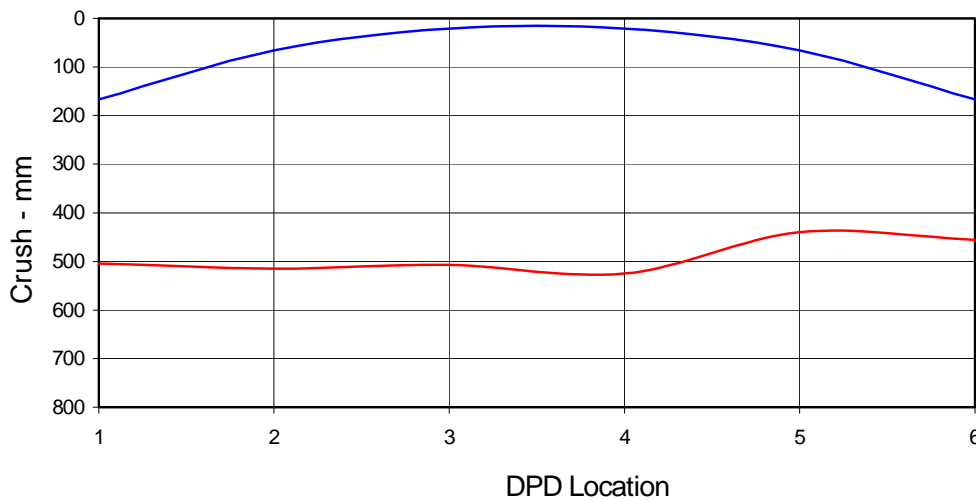
ACCELEROMETER DATA

Accelerometer Location: Left rear floor pan
Cal. Procedure/Interval: 6 months / drop test
Integration Algorithm: NHTSA Standard Linearity: Good
Impact Velocity (km/h): 55.66
Velocity Change (km/h): 67.2 Time of Separation (msec): 66.2

CRUSH PROFILE

Collision Deformation Classification: 12FDEW6 Midpoint of Damage: Vehicle Centerline
Damage Region Length (mm): 1810 Impact Mode: Full Frontal

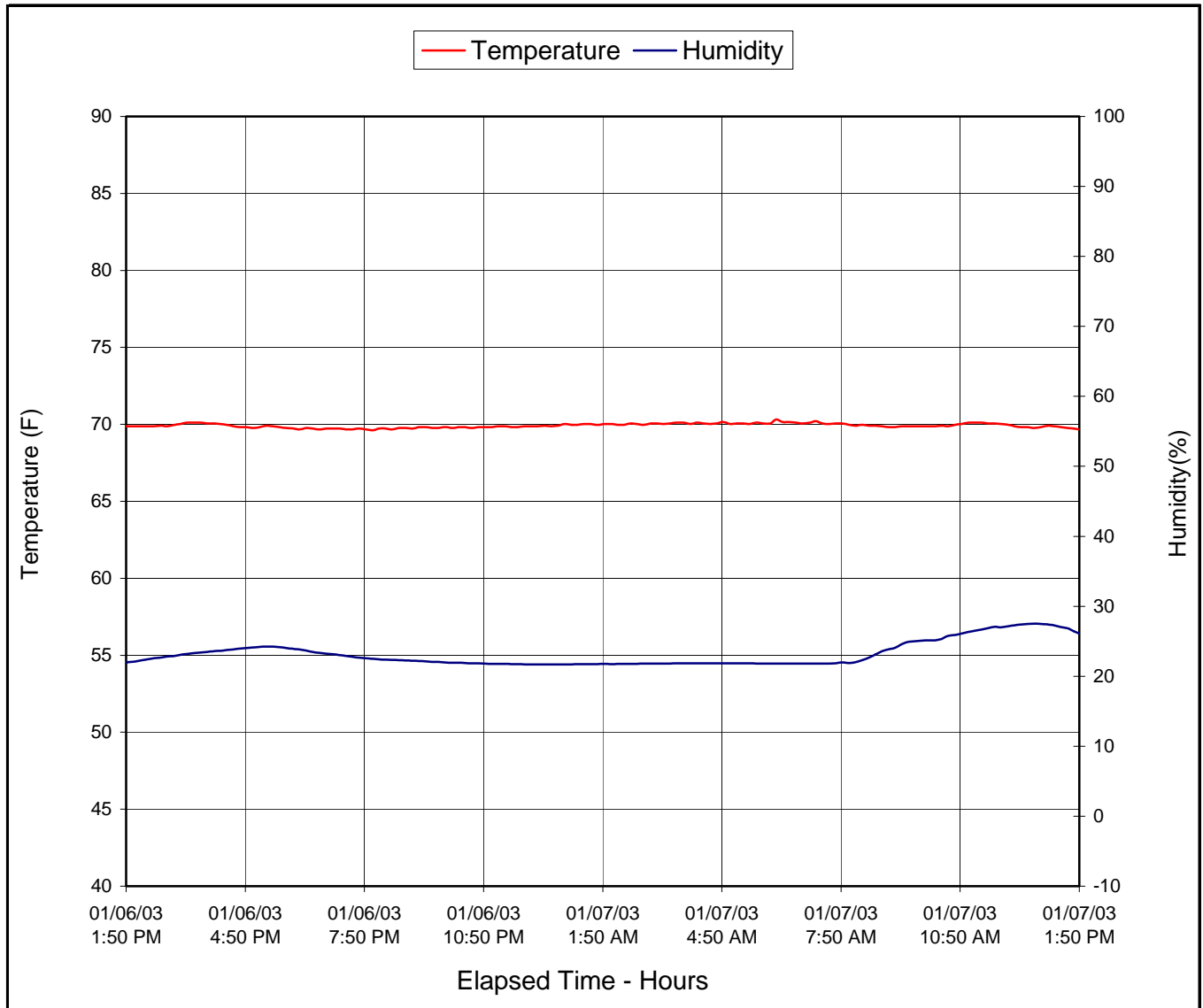
No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush zone 1 at left side	mm	167	504	-337
C2	Crush zone 2 on left side	mm	66	515	-449
C3	Crush zone 3 on left side	mm	21	507	-486
C4	Crush zone 4 on right side	mm	21	525	-504
C5	Crush zone 5 on right side	mm	66	440	-374
C6	Crush zone 6 at right side	mm	167	456	-289



DATA SHEET NO. 20
DUMMY/VEHICLE TEMPERATURE STABILIZATION

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202
Test Date: 1/7/03



APPENDIX A

PHOTOGRAPHS

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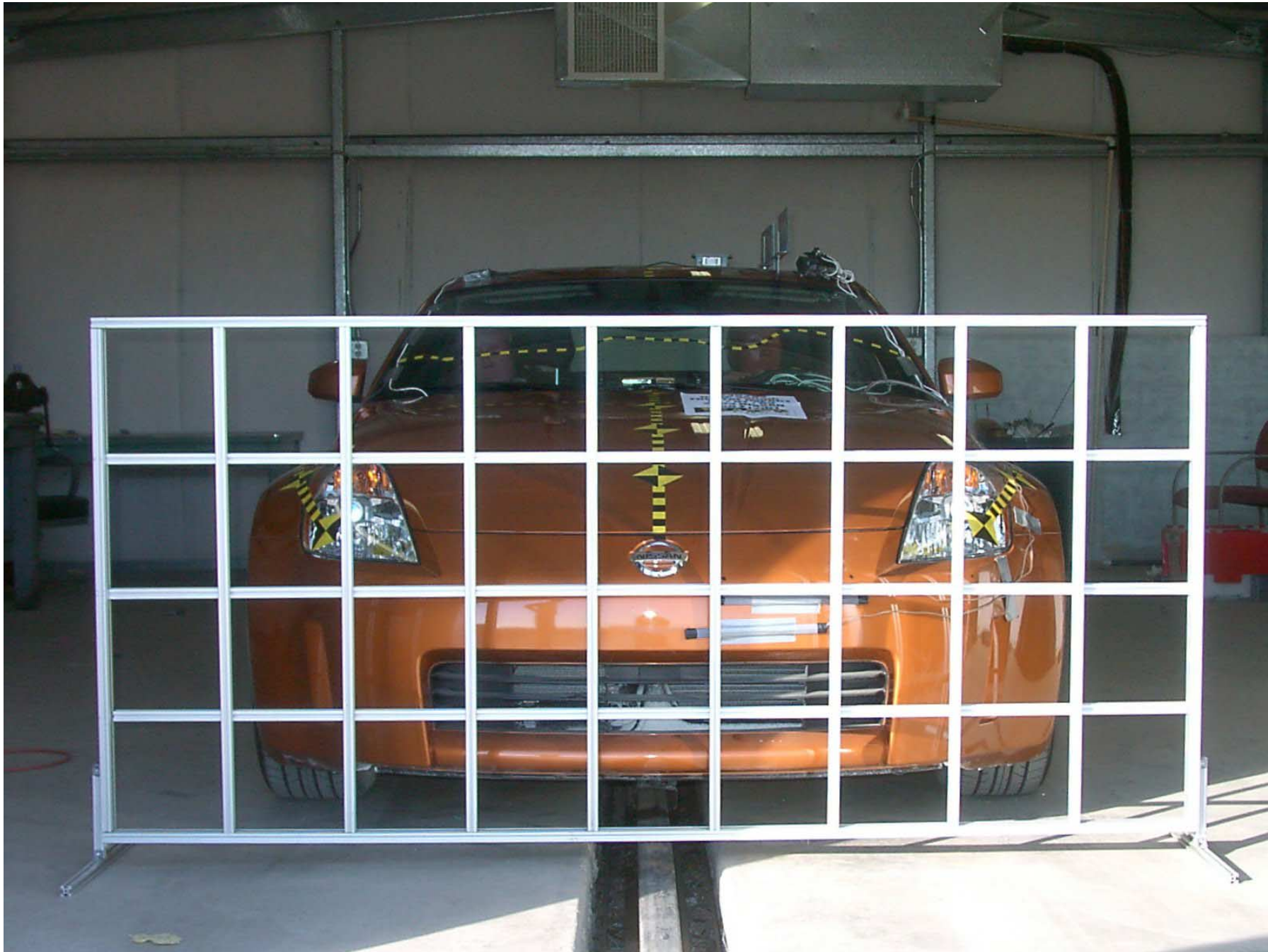


Figure A-1: Load Cell Location

MFD.BY NISSAN MOTOR CO.,LTD

DATE 10/02

GVWR/PNBV 3815 LBS.

GAWR/PNBE FR. 1906 LBS. RR. 1929 LBS.

THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL
MOTOR VEHICLE SAFETY, BUMPER, AND THEFT PREVENTION
STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE
SHOWN ABOVE.

JN1AZ34E83T008371

PASSENGER CAR/VOITURE DE TOURISME



JN1AZ34E83T008371

Figure A-2: Vehicle Certification Label

VEHICLE CAPACITY WEIGHT	450 lbs	SEATING CAPACITY	FRONT AVANT	2	TOTAL TOTAL
POIDS UTILE DU VEHICULE	204 kg	NOMBRE DE PLACES	REAR ARRIERE	0	2
RECOMMENDED COLD TIRE INFLATION PRESSURE PRESSION DE GONFLAGE RECOMMANDEE DES PNEUS FROIDS					
TIRE SIZE DIMENSIONS				kPa (psi)	
FRONT AVANT	225/45R18 91W			240 (35)	
REAR ARRIERE	245/45R18 96W			240 (35)	
SPARE TIRE ROUE DE SECOURS	T145/90D16			420 (60)	
DO NOT USE IN EXCESS OF 50 MPH, 80km/h. SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION. UTILISATION A UNE VITESSE MAX 50 MPH, 80km/h. POUR LES DETAILS SE REFERER AU MANUEL DU CONDUCTEUR.					
GE					
CD107					

Figure A-3: Vehicle Tire Label



Figure A-4: Right Front $\frac{3}{4}$ View, As Received



Figure A-5: Left Rear $\frac{3}{4}$ View, as Received



Figure A-6: Pre-Test Front View

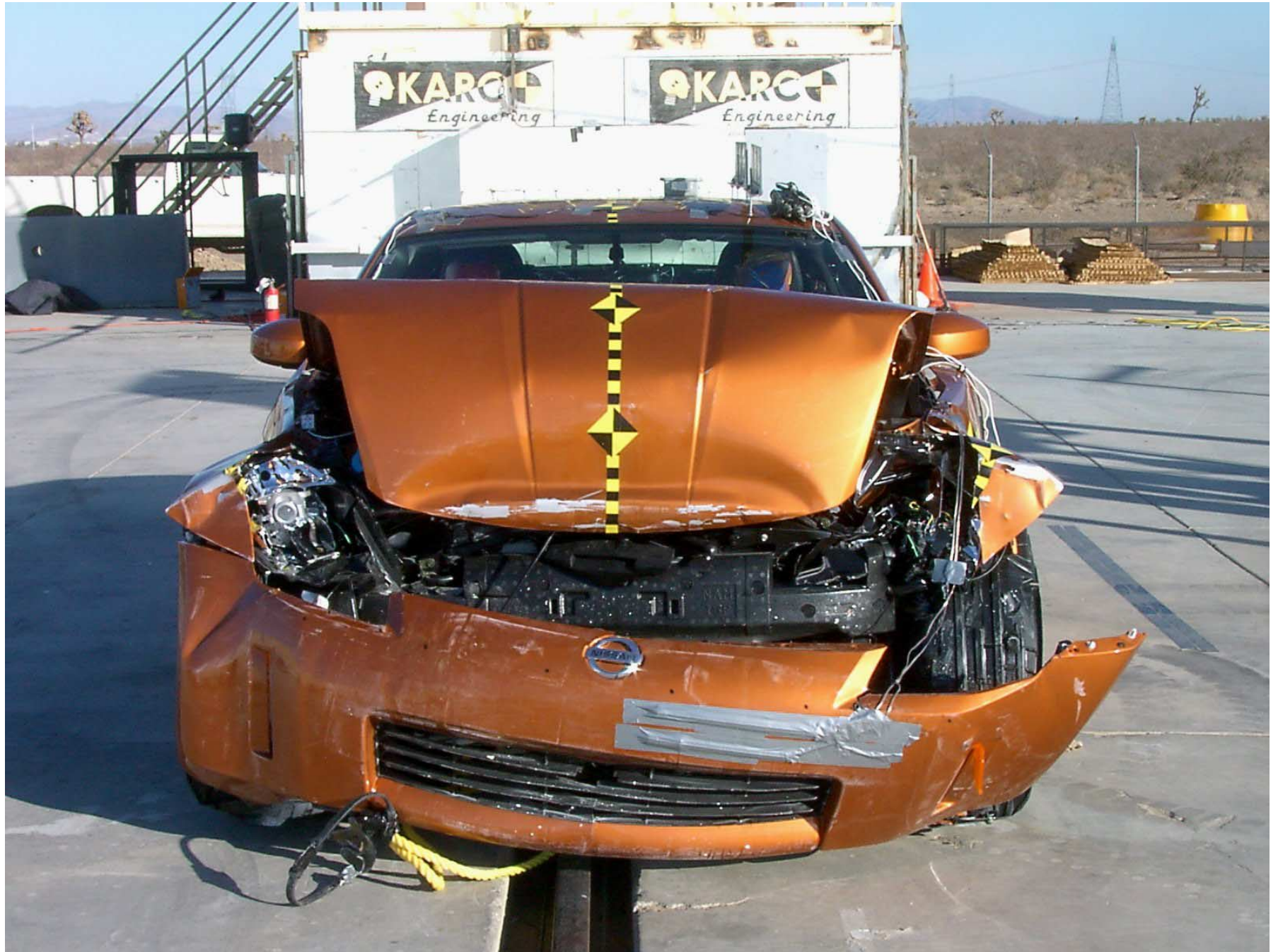


Figure A-7: Post-Test Front View



Figure A-8: Pre-Test Left Side View



Figure A-9: Post-Test Left Side View



Figure A-10: Pre-Test Right Side View



Figure A-11: Post-Test Right Side View



A-12

TR-P23001-05-NC

Figure A-12: Pre-Test Right Front ¾ View



Figure A-13: Post-Test Right Front $\frac{3}{4}$ View



Figure A-14: Pre-Test Left Rear 3/4 View



Figure A-15: Post-Test Left Rear ¾ View



Figure A-16: Left Rear $\frac{3}{4}$ View of Doors After Impact



Figure A-17: Right Rear 3/4 View of Doors After Impact



Figure A-18: Pre-Test Windshield View



Figure A-19: Post-Test Windshield View



Figure A-20: Pre-Test Engine Compartment



Figure A-21: Post-Test Engine Compartment



Figure A-22: Pre-Test Fuel Cap



Figure A-23: Post-Test Fuel Cap

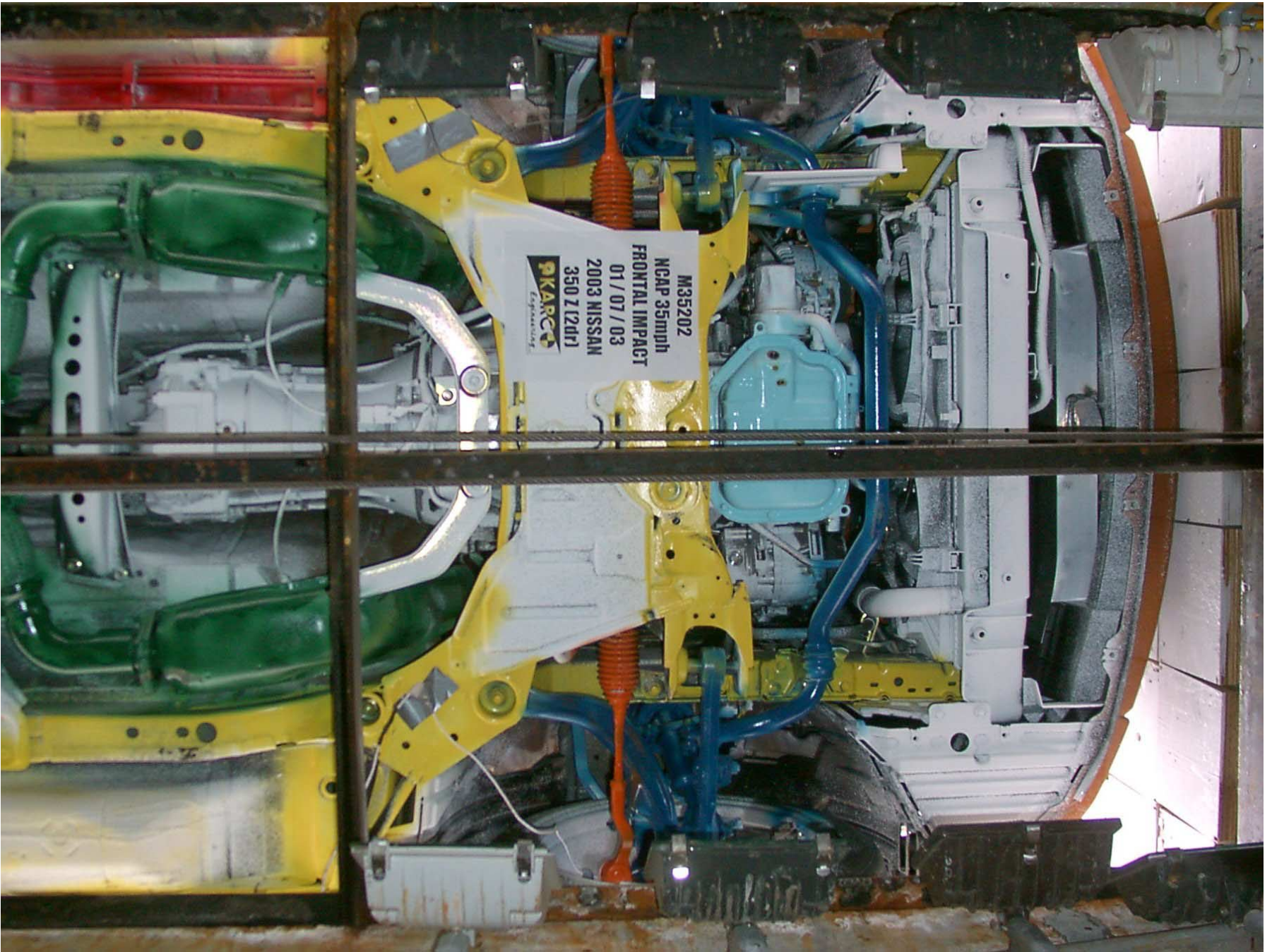


Figure A-24: Pre-Test Front Underbody View

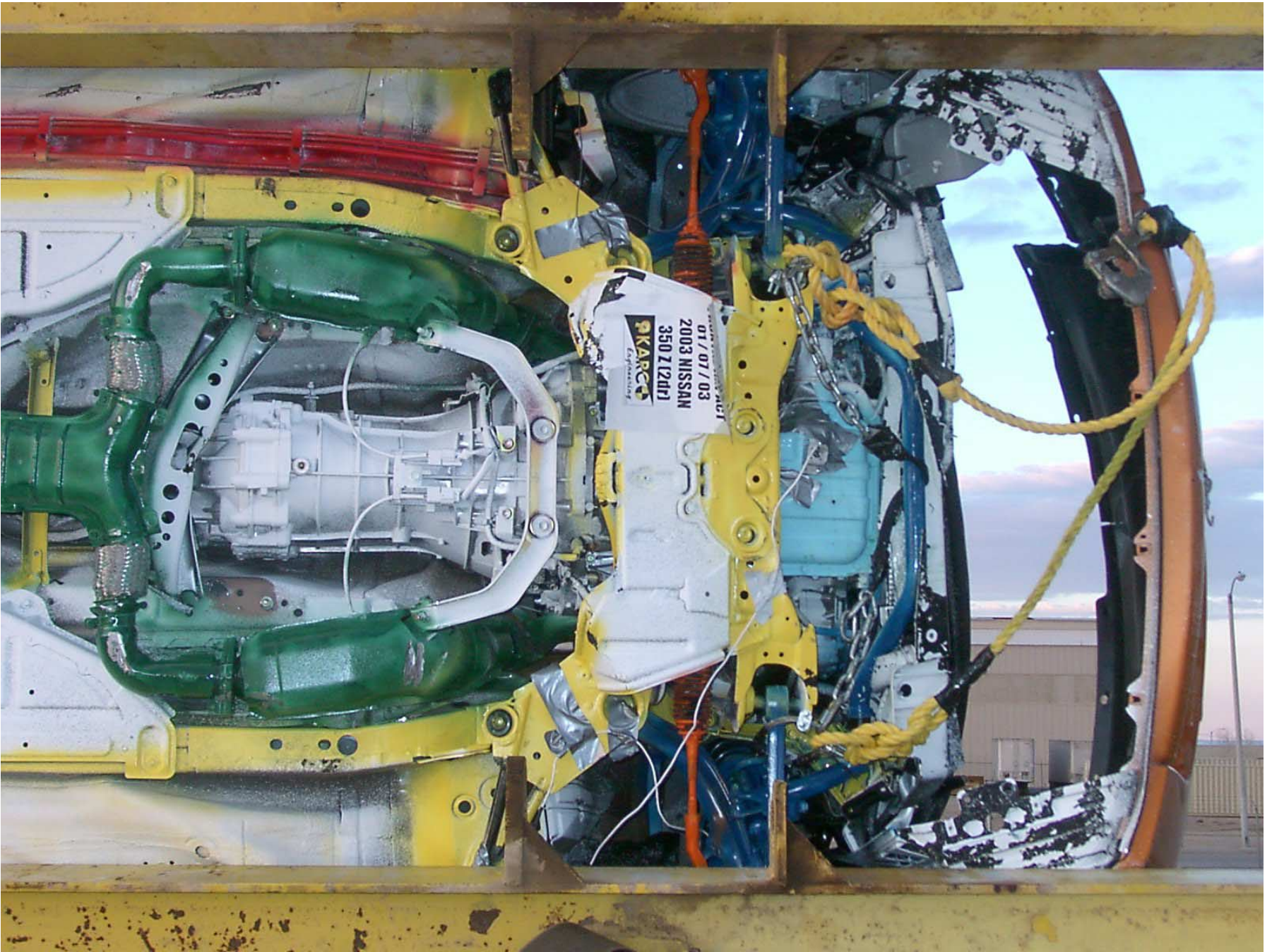


Figure A-25: Post-Test Front Underbody View



Figure A-26: Pre-Test Mid Underbody View

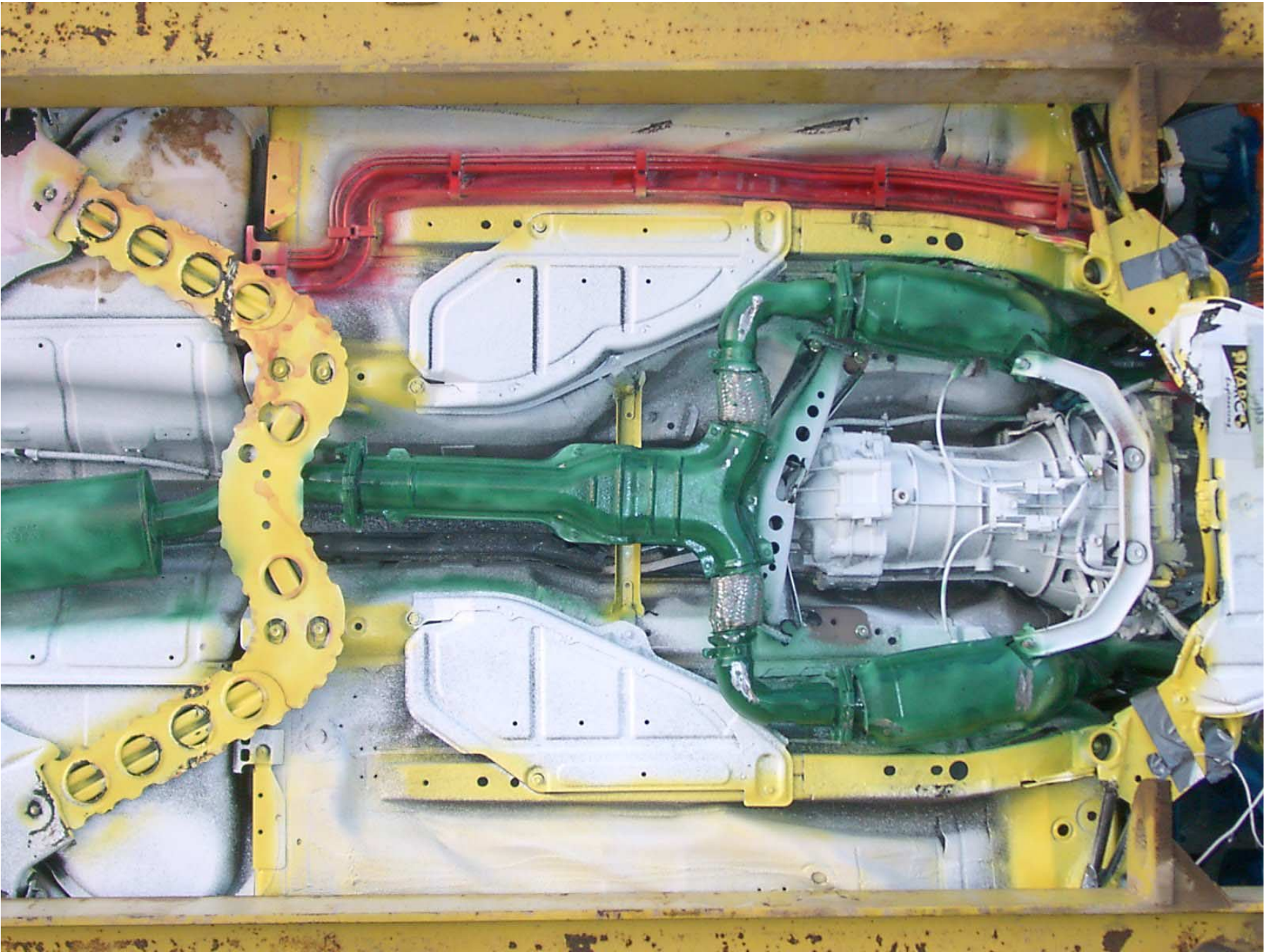


Figure A-27: Post-Test Mid Underbody View

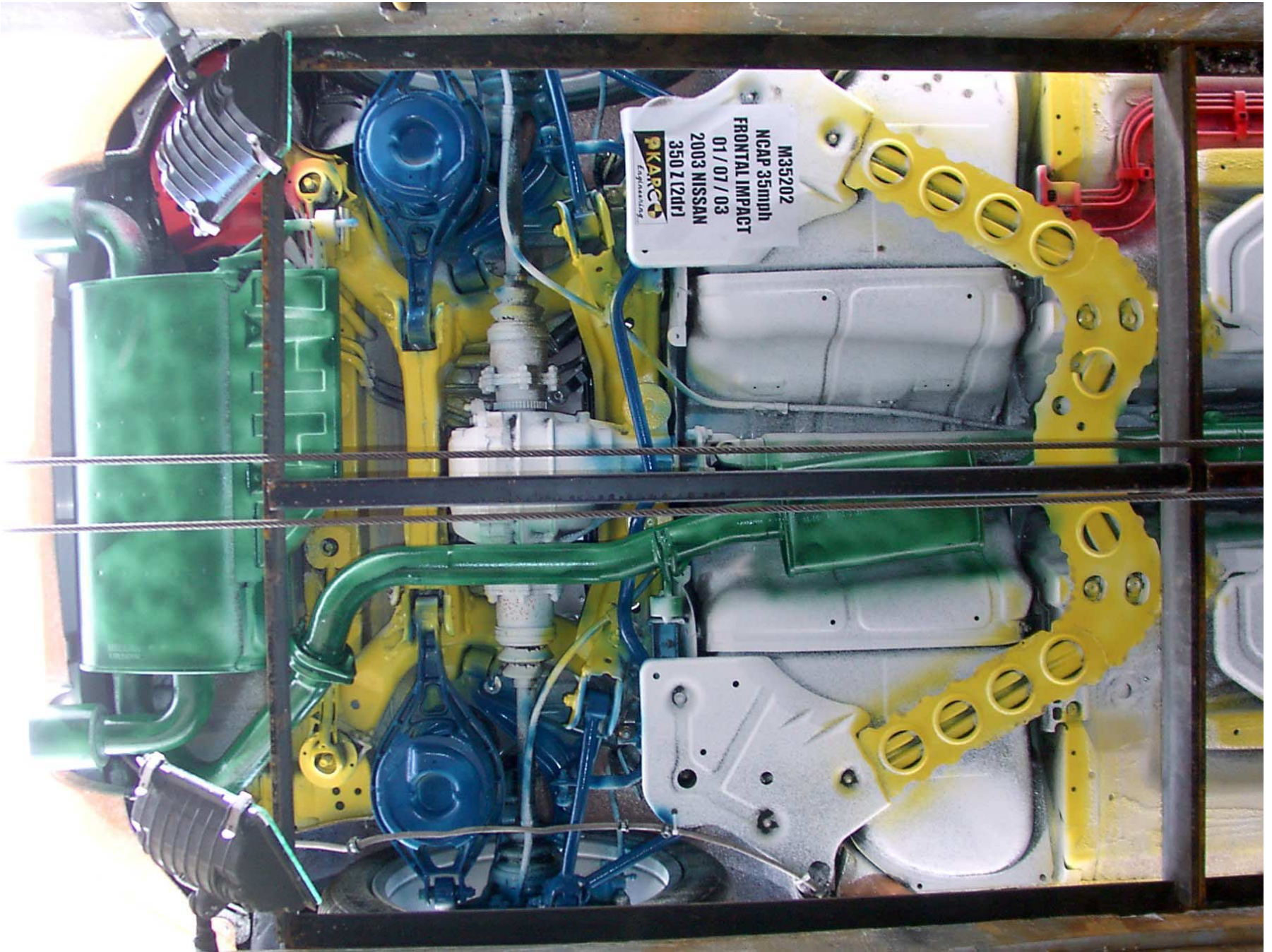


Figure A-28: Pre-Test Rear Underbody View

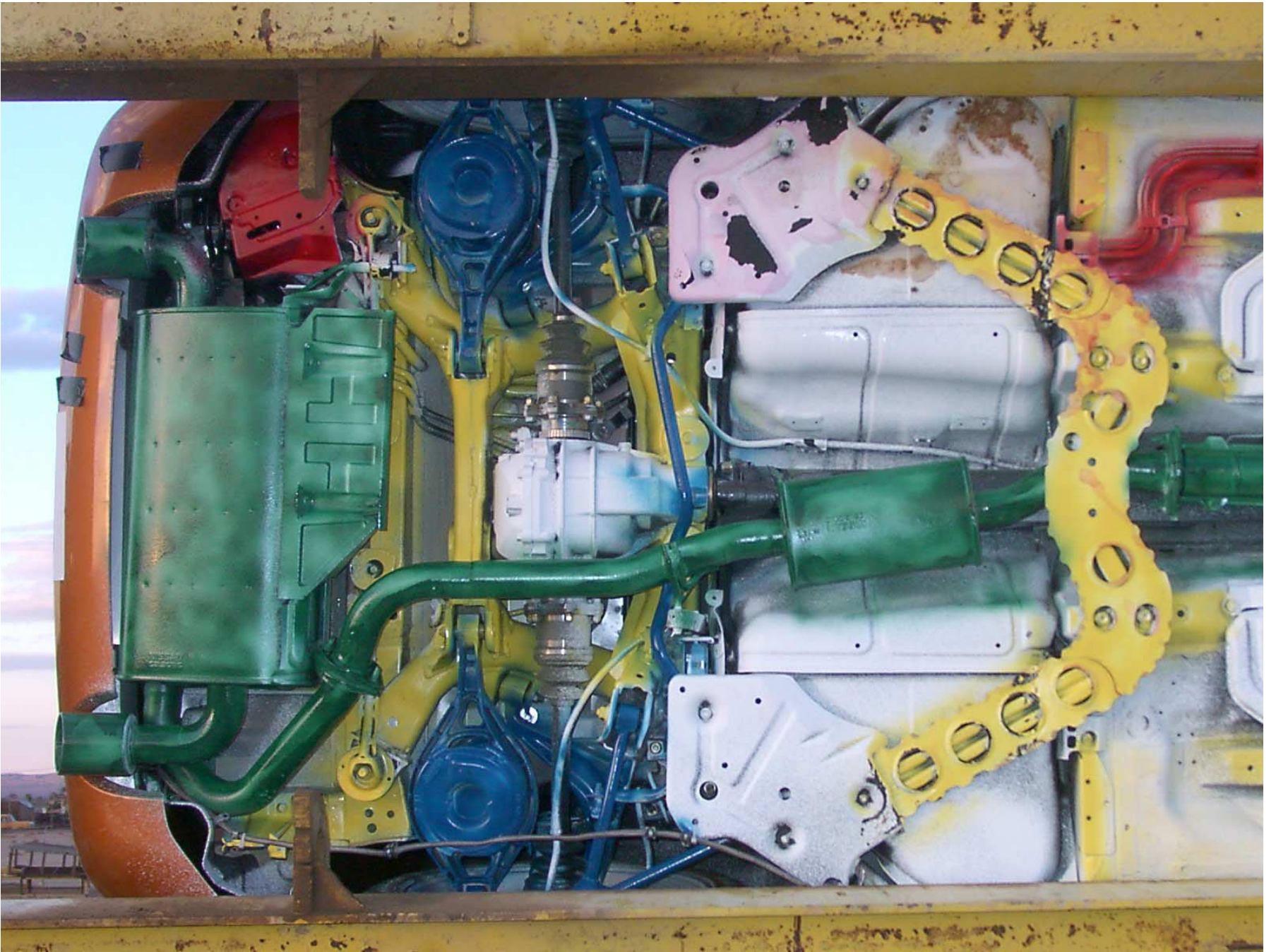


Figure A-29: Post-Test Rear Underbody View



Figure A-30: Pre-Test Driver Dummy Front View (Head Position)



Figure A-31: Post-Test Driver Dummy Front View (Head Position)



Figure A-32: Pre-Test Driver Dummy Front Through Window



Figure A-33: Post-Test Driver Dummy Front Through Window



Figure A-34: Pre-Test Driver Dummy Door Open



Figure A-35: Post-Test Driver Dummy Door Open



Figure A-36: Pre-Test Driver Dummy Feet



Figure A-37: Post-Test Driver Dummy Feet



Figure A-38: Pre-Test Driver Side Knee Bolster



Figure A-39: Post-Test Driver Side Knee Bolster



Figure A-40: Pre-Test Driver Side Floor Pan



Figure A-41: Post-Test Driver Side Floor Pan



Figure A-42: Post-Test Driver Dummy Head



Figure A-43: Post-Test Driver Dummy Contact to Air Bag



Figure A-44: Pre-Test Passenger Dummy Front View (Head Position)



Figure A-45: Post-Test Passenger Dummy Front View (Head Position)



Figure A-46: Pre-Test Passenger Dummy Front Through Window



Figure A-47: Post-Test Passenger Dummy Front Through Window



Figure A-48: Pre-Test Passenger Dummy Door Open



Figure A-49: Post-Test Passenger Dummy Door Open



Figure A-50: Pre-Test Passenger Dummy Feet



Figure A-51: Post-Test Passenger Dummy Feet



Figure A-52: Pre-Test Passenger Side Floor Pan



Figure A-53: Post-Test Passenger Side Floor Pan



Figure A-54: Pre-Test Passenger Side Knee Bolster



Figure A-55: Post-Test Passenger Side Knee Bolster



Figure A-56: Post-Test Passenger Dummy Head



Figure A-57: Post-Test Passenger Dummy Contact to Air Bag



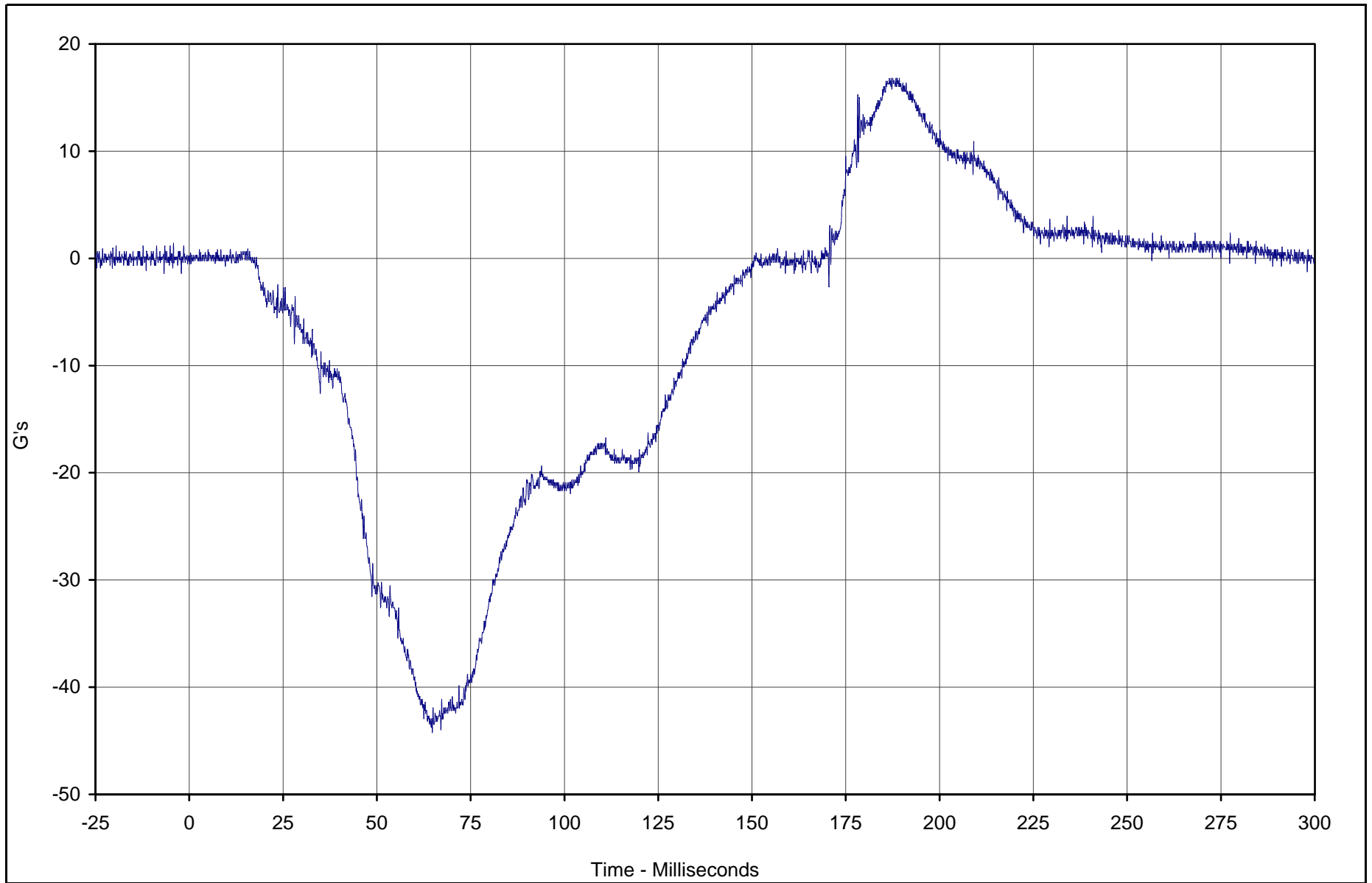
Figure A-58: Vehicle on Rollover Device



Figure A-59: Vehicle During Impact

APPENDIX B

DATA PLOTS



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Primary X	001	FIL	G's	16.8	187.1	-44.2	64.8	1000



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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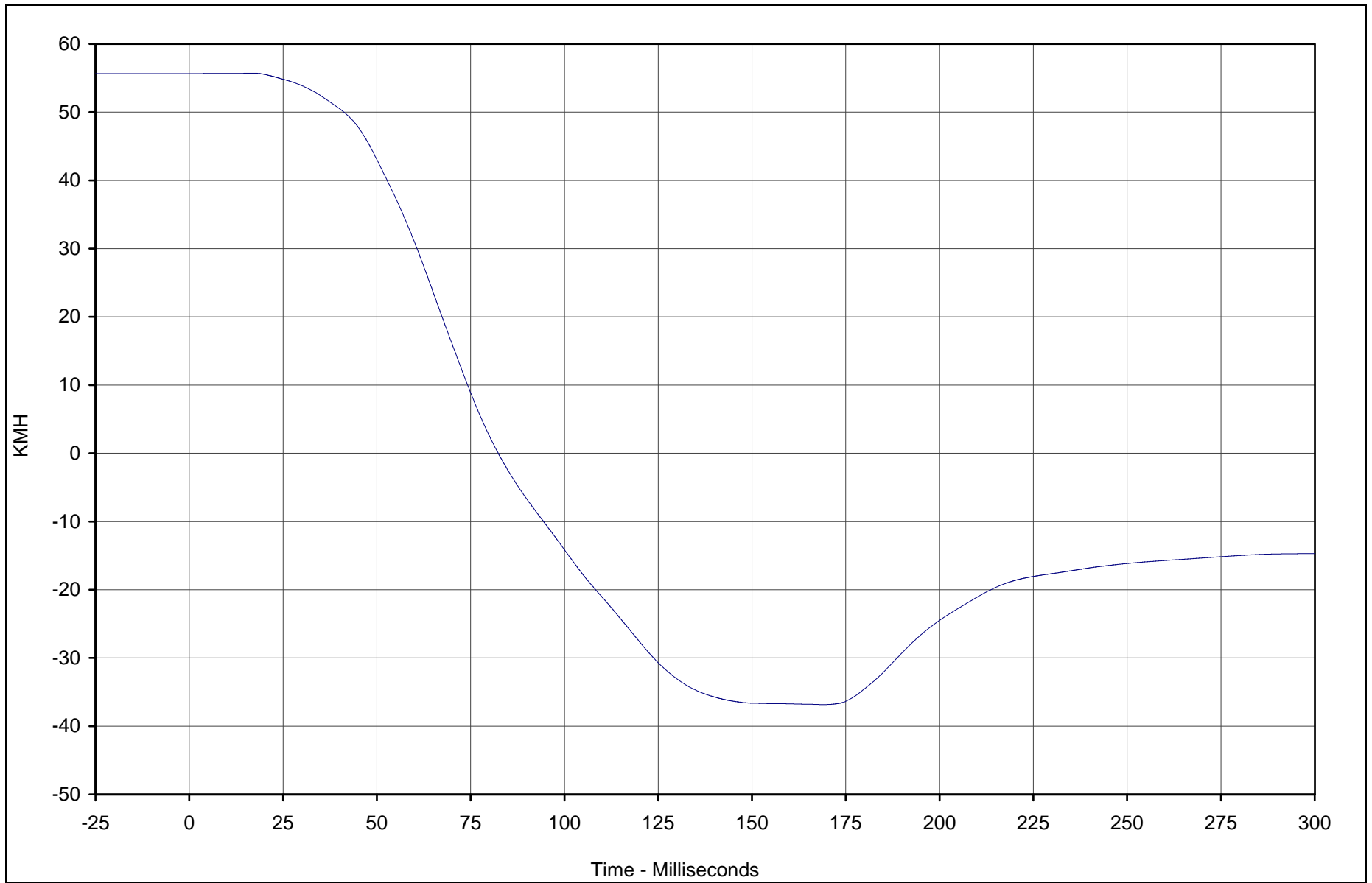
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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Primary X Velocity	001	IN1	KMH	55.7	16.6	-36.8	168.7	180

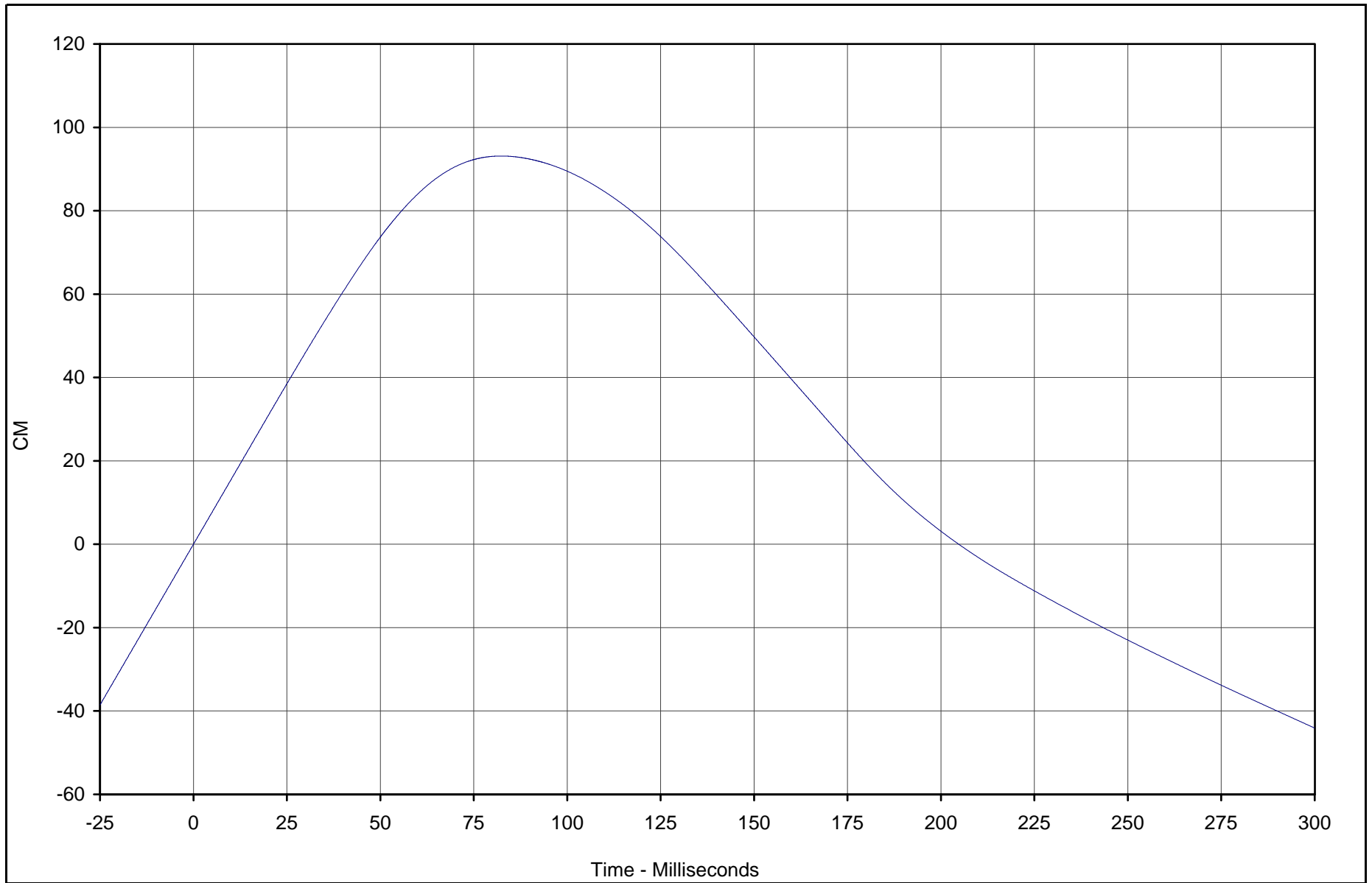


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Primary X Displ.	001	IN2	CM	93.1	82.4	-44.1	299.9	180

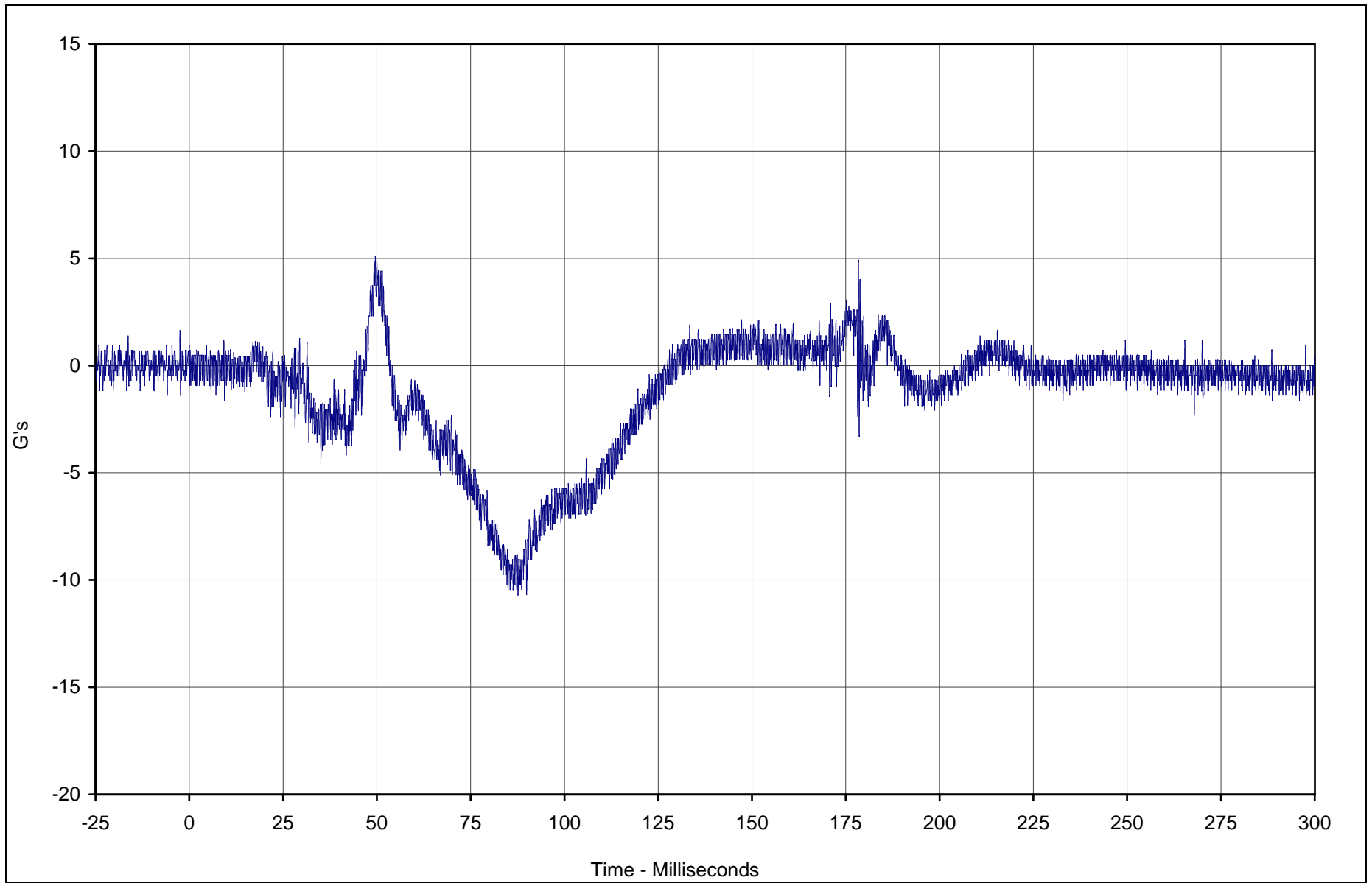


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Primary Y	002	FIL	G's	5.1	49.6	-10.7	87.6	1000

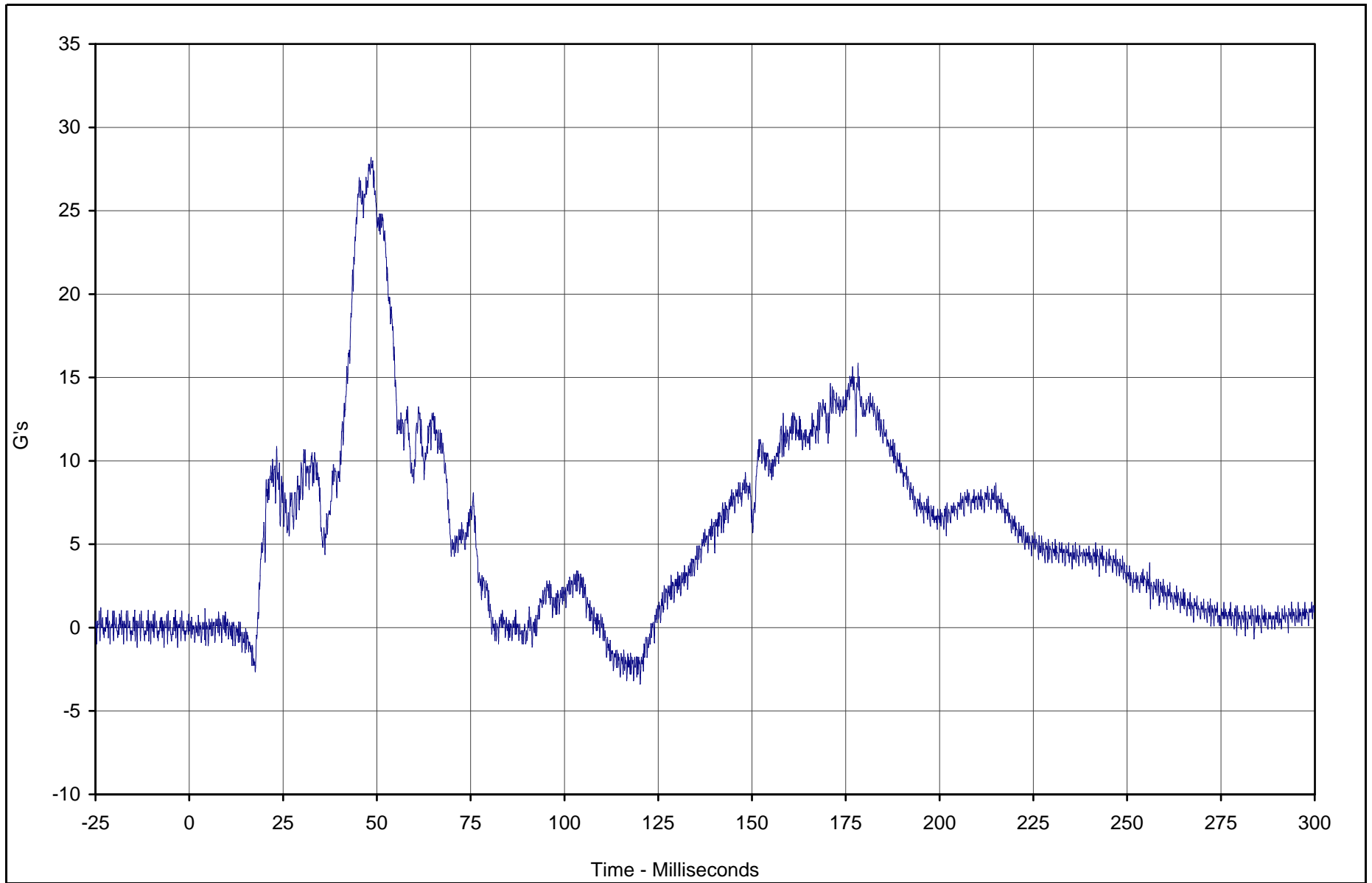


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Primary Z	003	FIL	G's	28.2	48.5	-3.4	120.2	1000

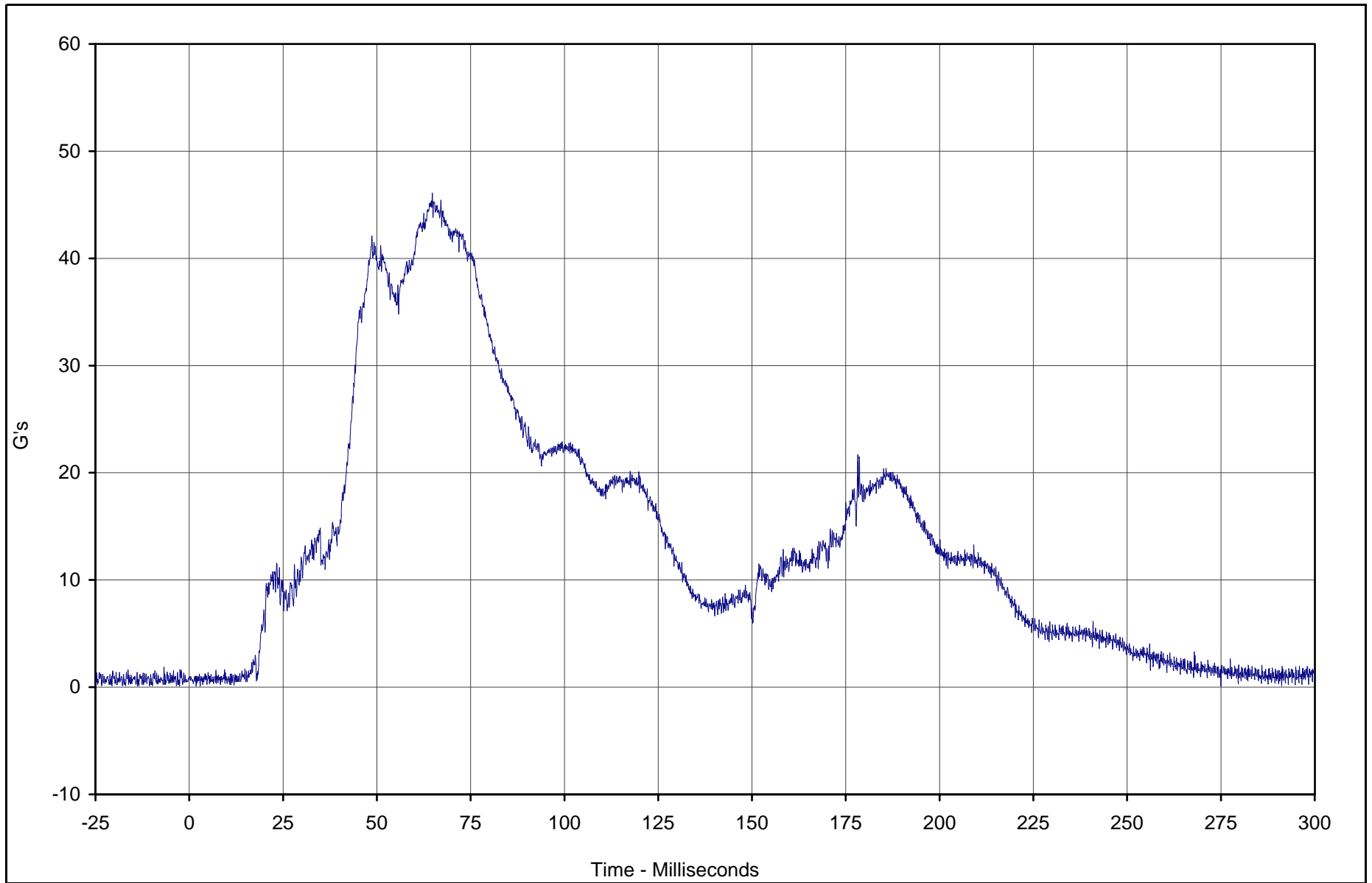


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Resultant Primary	001	RES	G's	46.1	64.8	0.1	1.8	1000

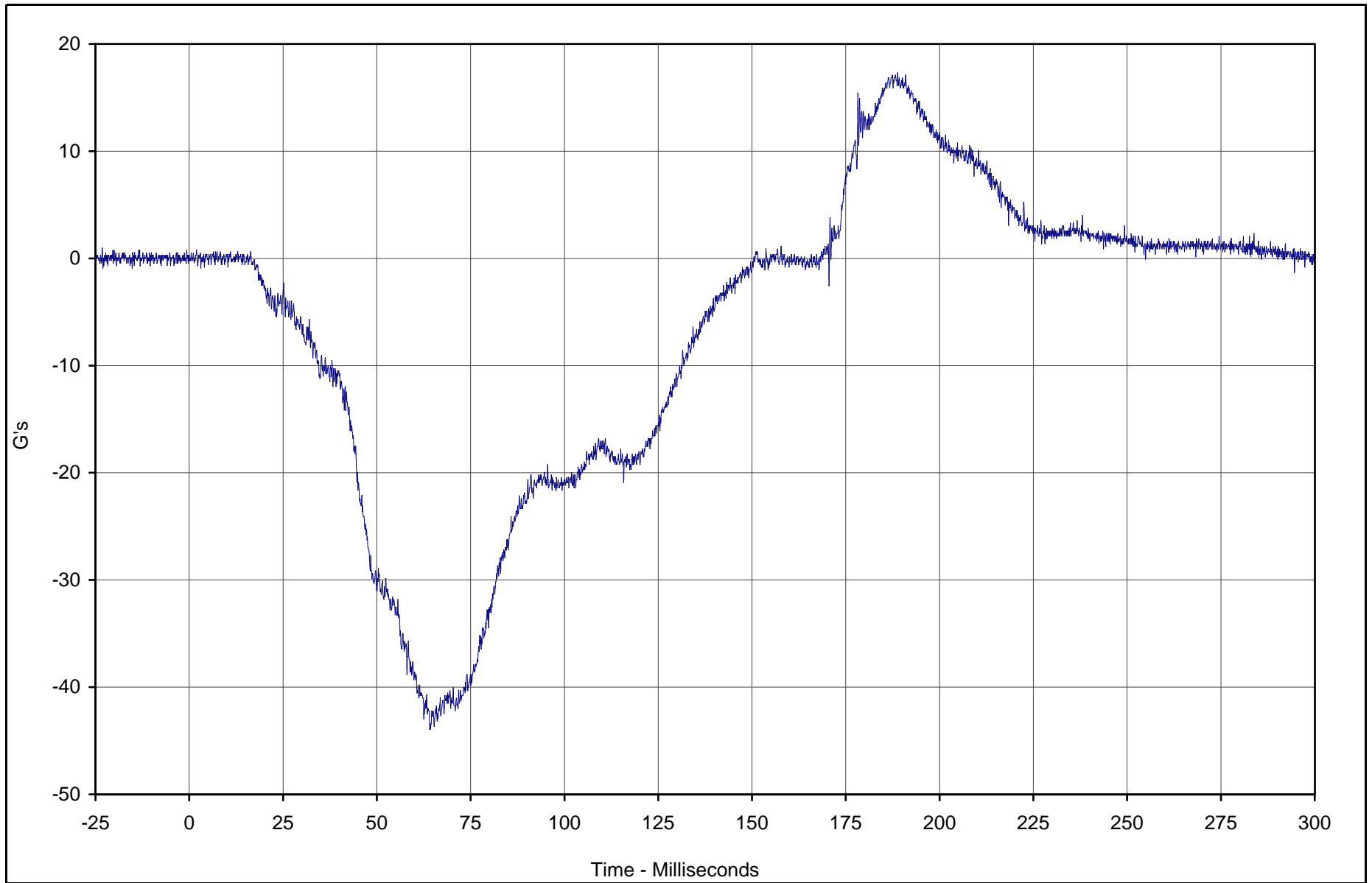


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Redundant X	004	FIL	G's	17.3	188.8	-43.9	64.1	1000

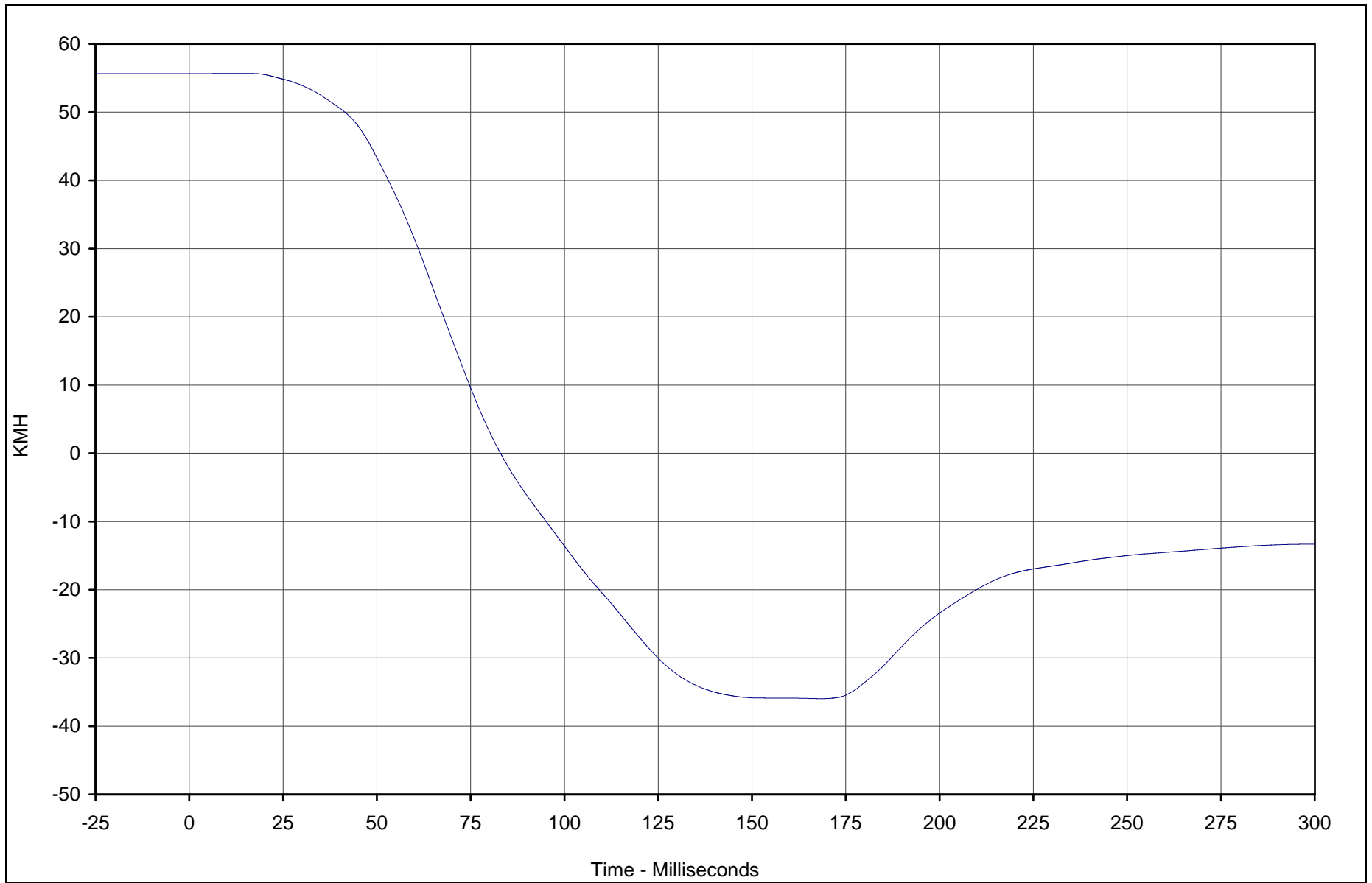


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Redundant X Velocity	004	IN1	KMH	55.7	13.9	-36.0	168.4	180

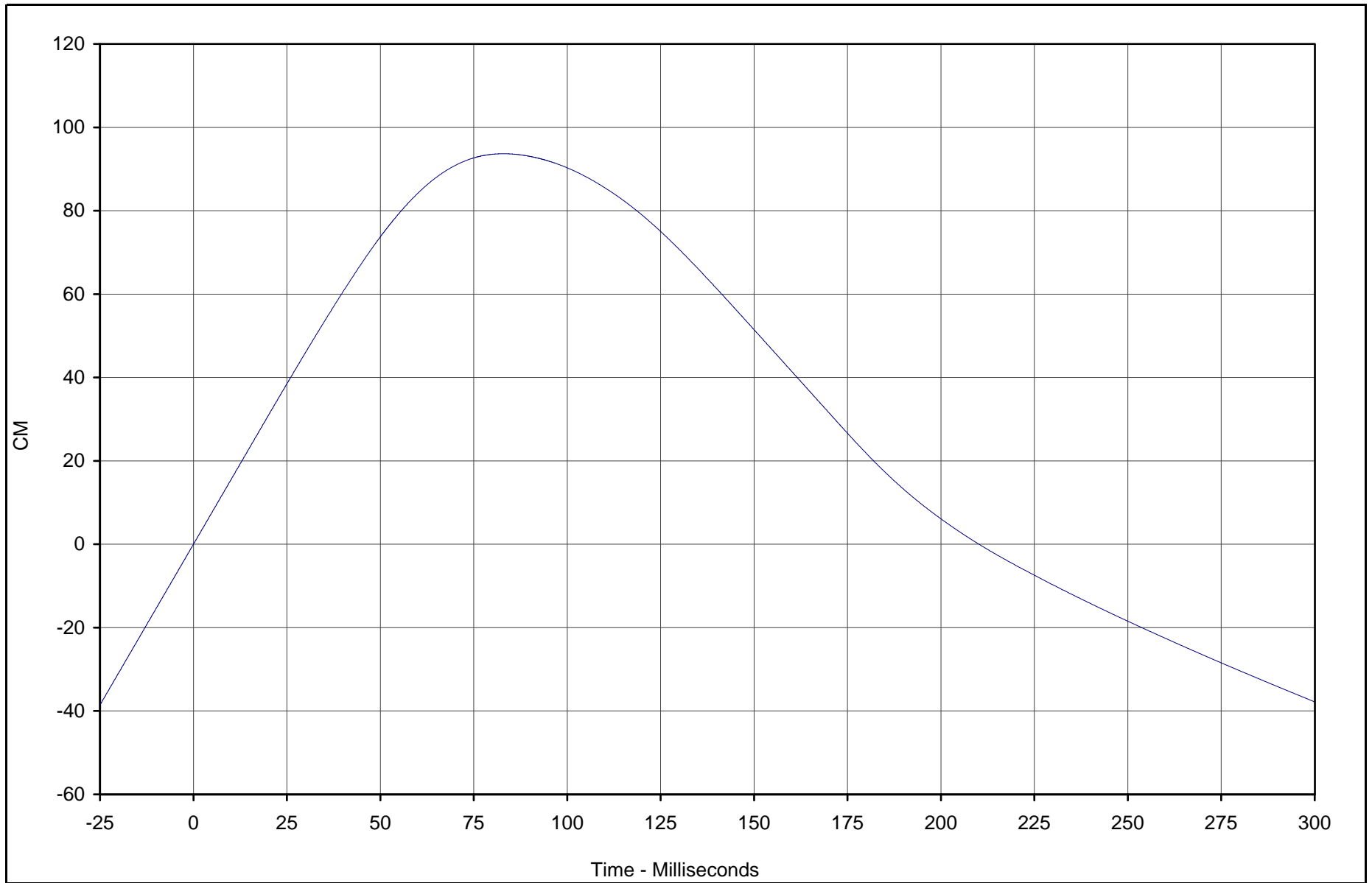


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Redundant X Displ.	004	IN2	CM	93.7	83.0	-37.8	299.9	180

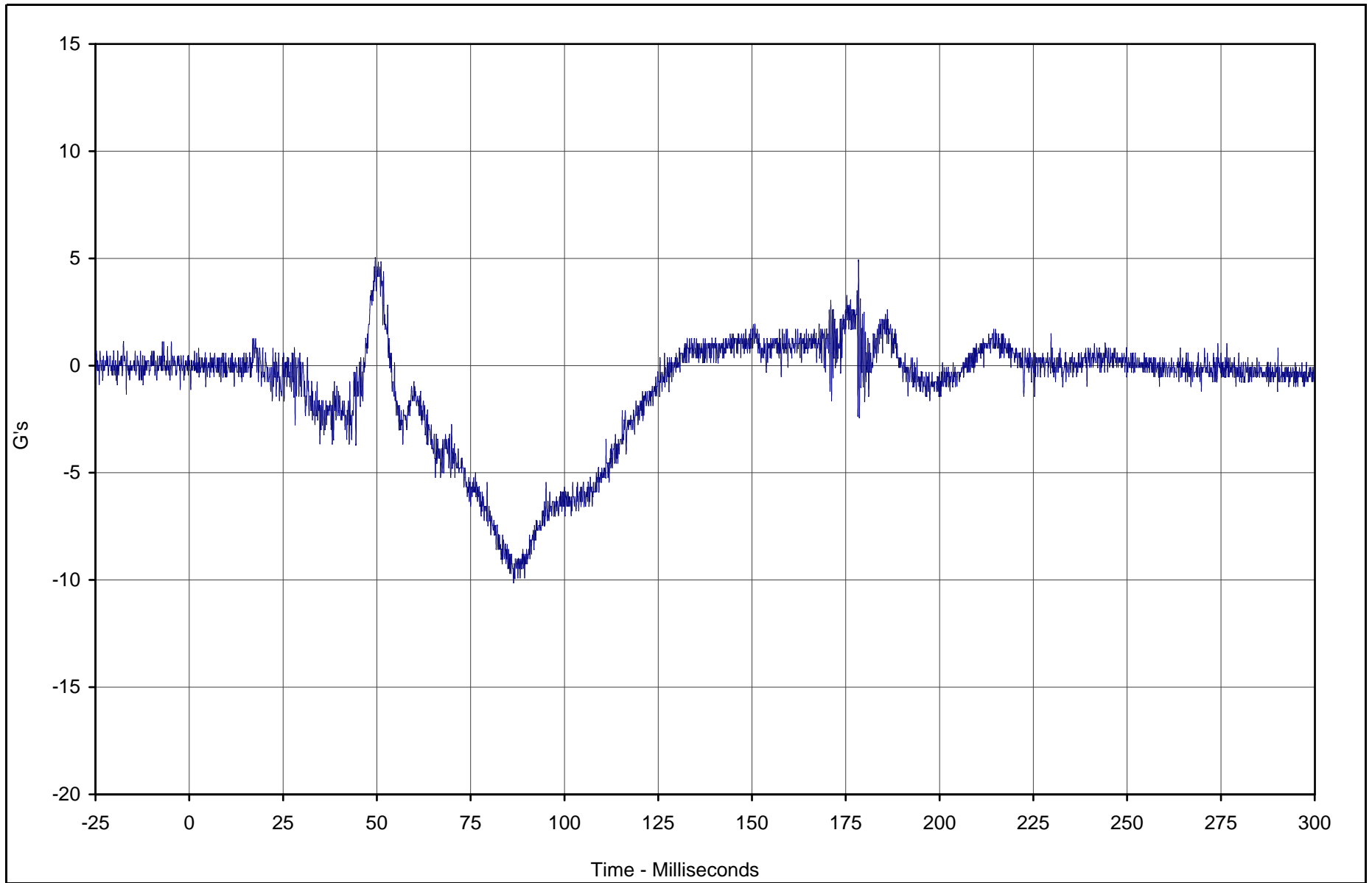


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Redundant Y	005	FIL	G's	5.1	49.6	-10.1	86.4	1000

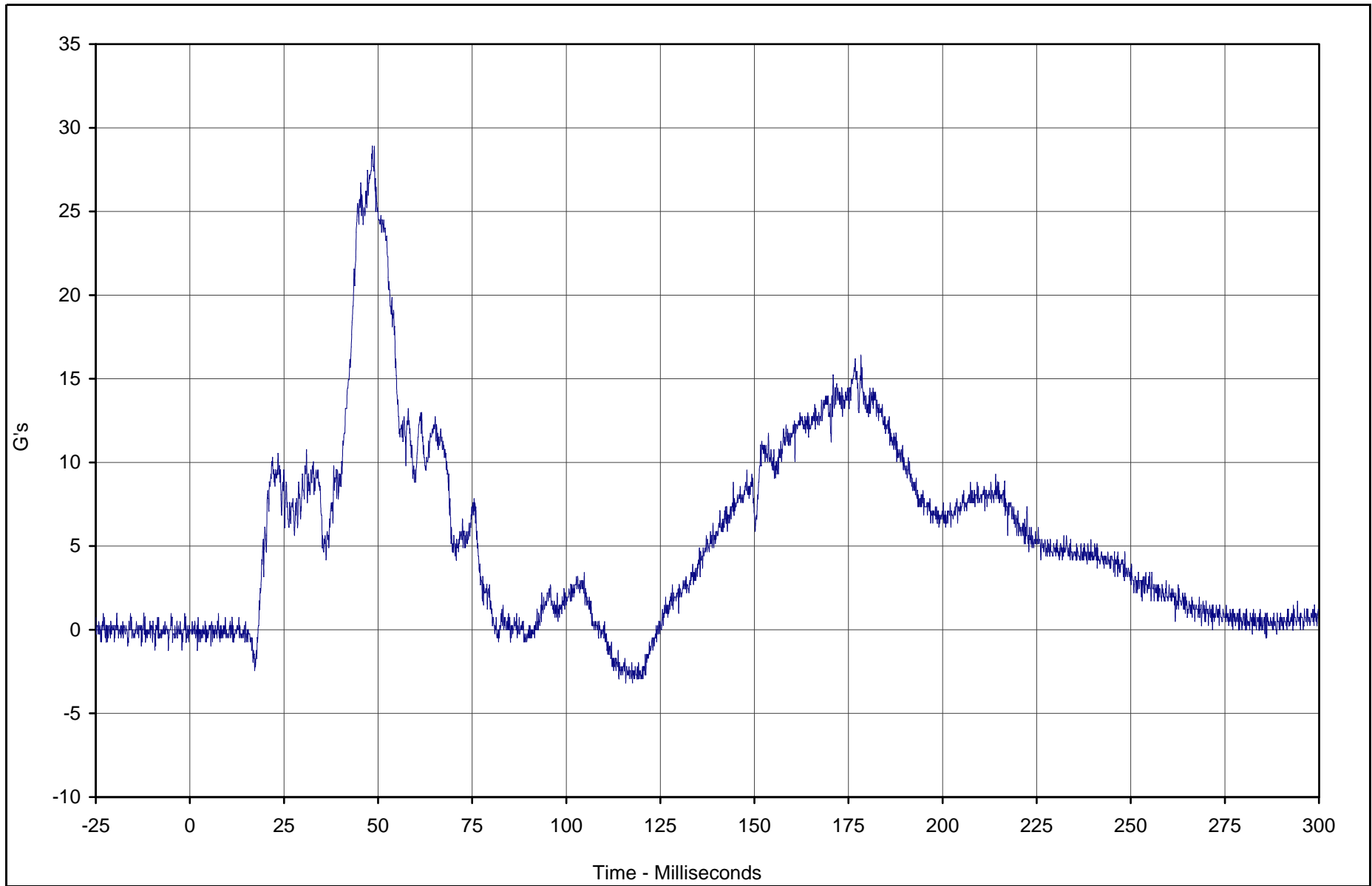


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Redundant Z	006	FIL	G's	28.9	48.5	-3.2	115.8	1000

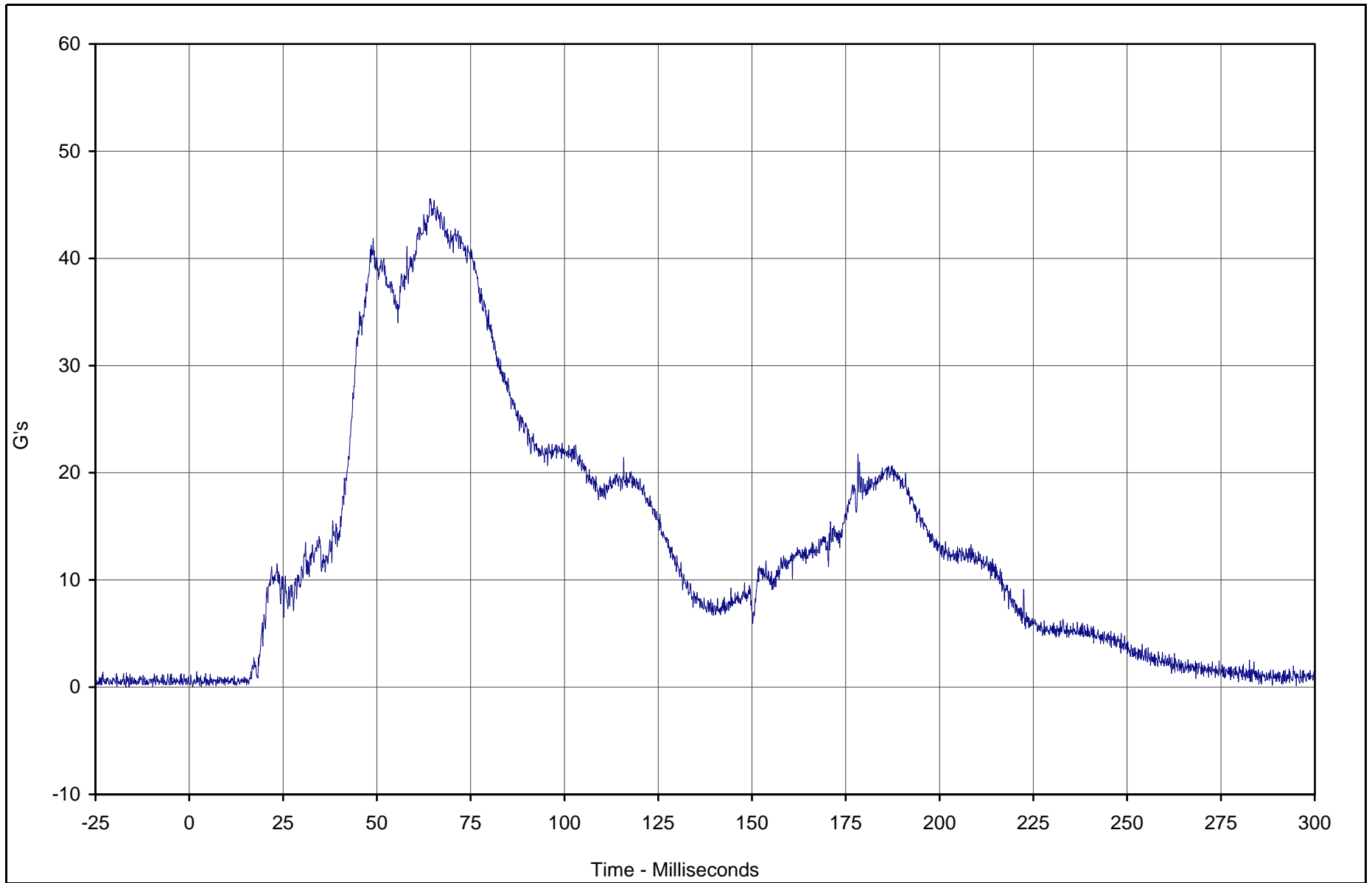


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Resultant Redundant	004	RES	G's	45.6	64.3	0.0	0.9	1000

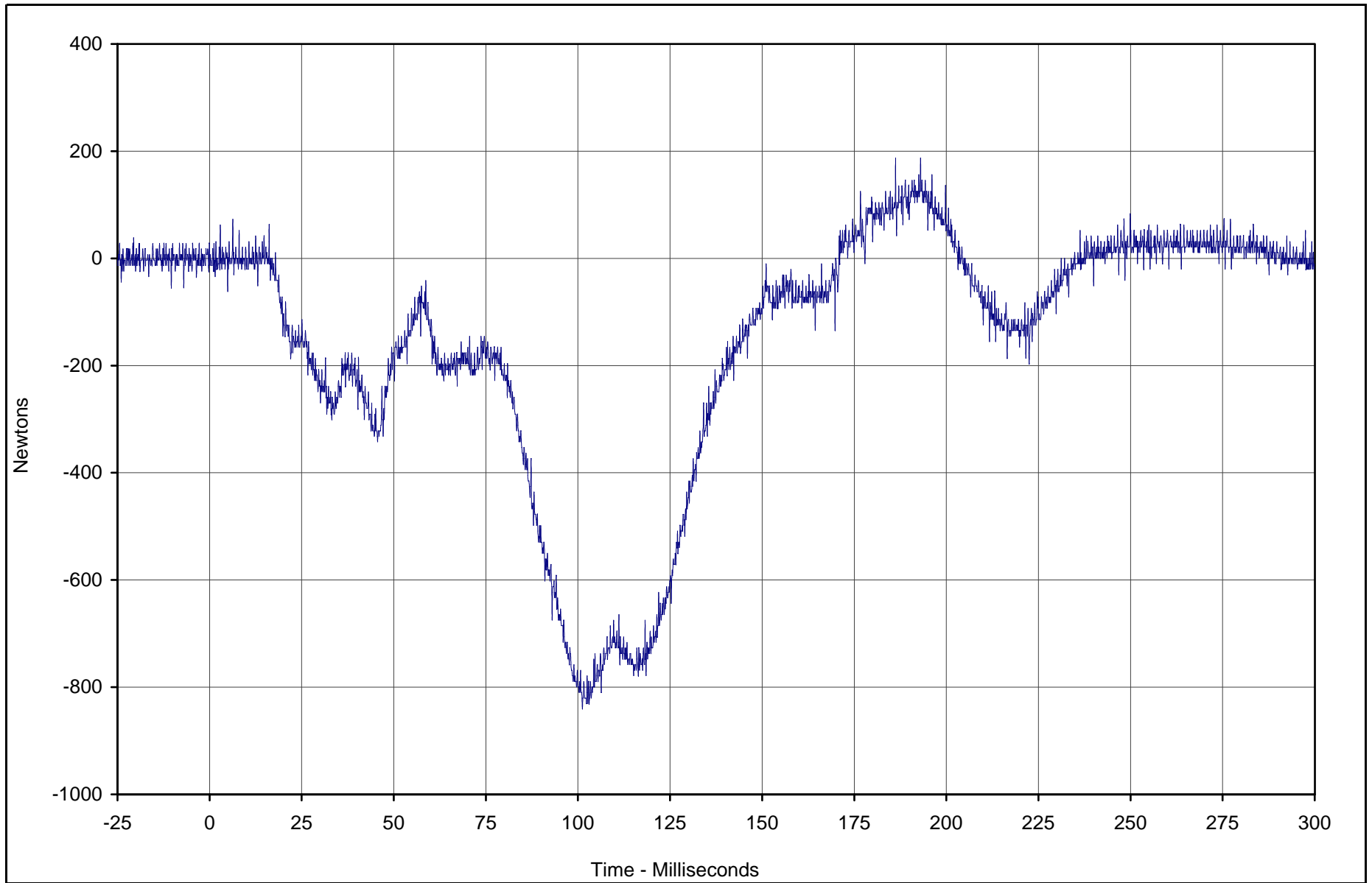


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Force X	007	FIL	Newtons	187.4	186.2	-841.1	101.2	1000

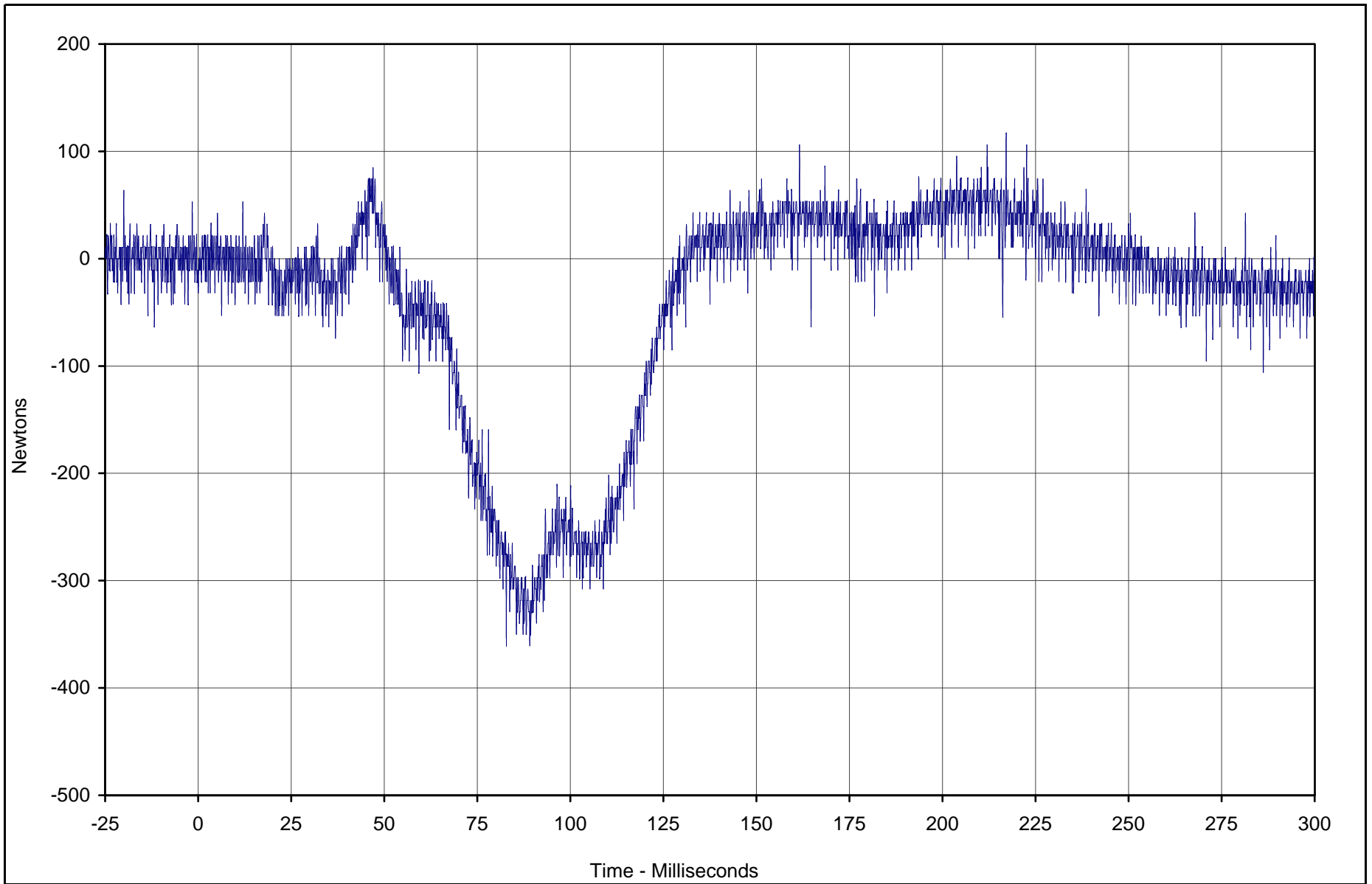


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Force Y	008	FIL	Newtons	116.7	217.1	-360.8	82.8	1000

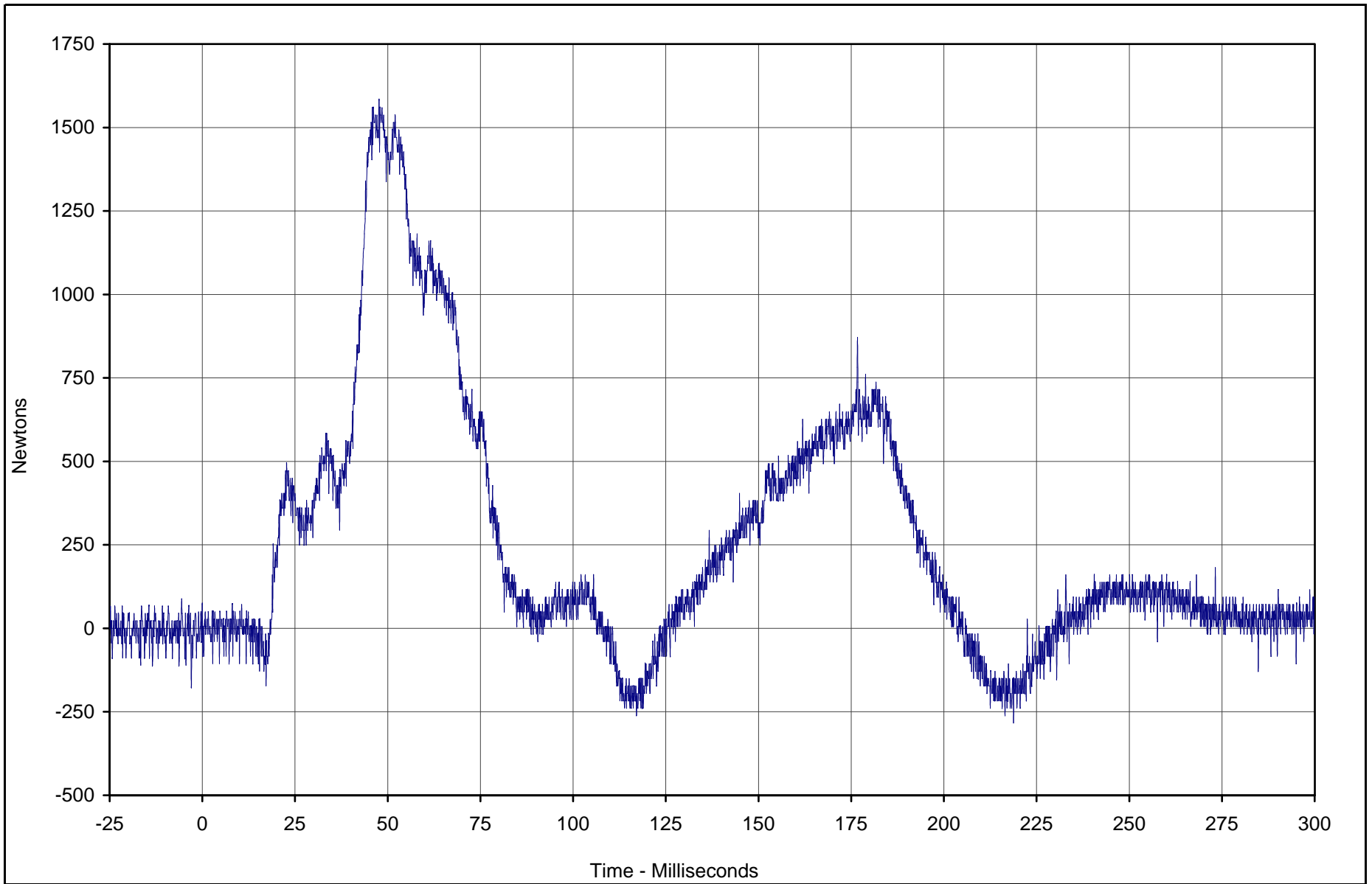


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Force Z	009	FIL	Newtons	1581.6	47.7	-283.7	218.8	1000

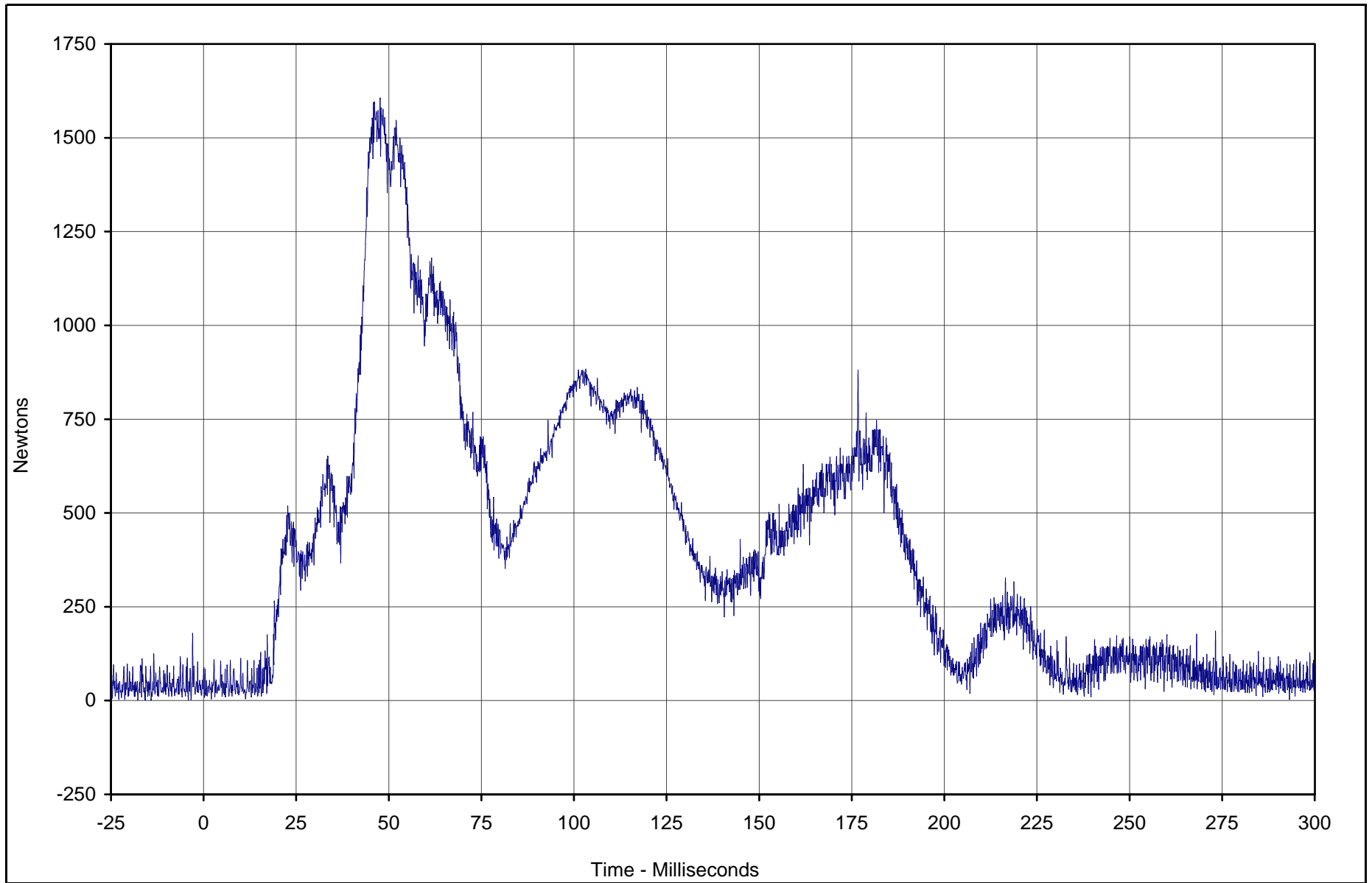


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Force Resultant	007	RES	Newtons	1602.8	47.7	5.0	2.1	1000



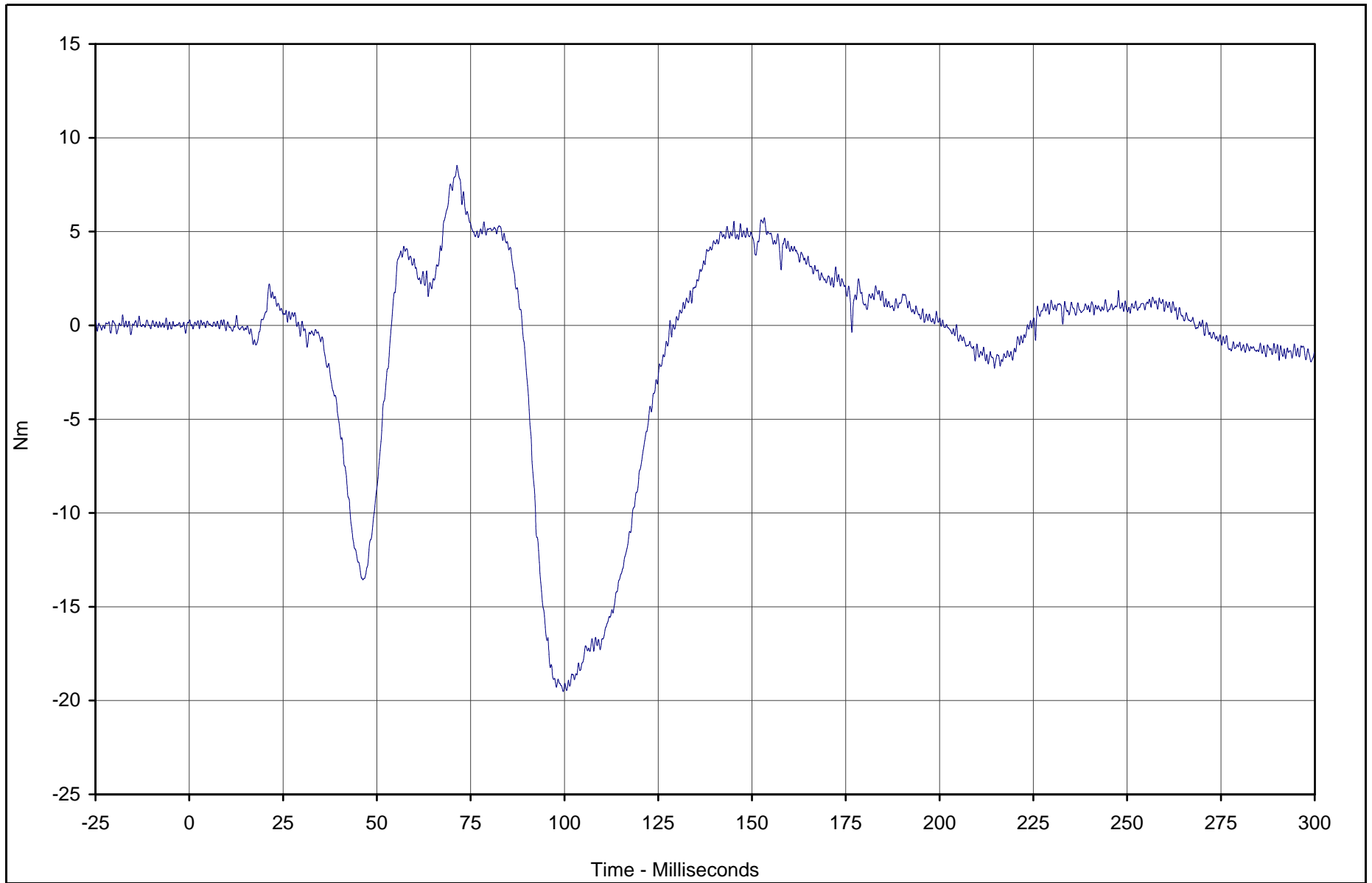
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Moment X	010	FIL	Nm	8.5	71.4	-19.5	99.7	600



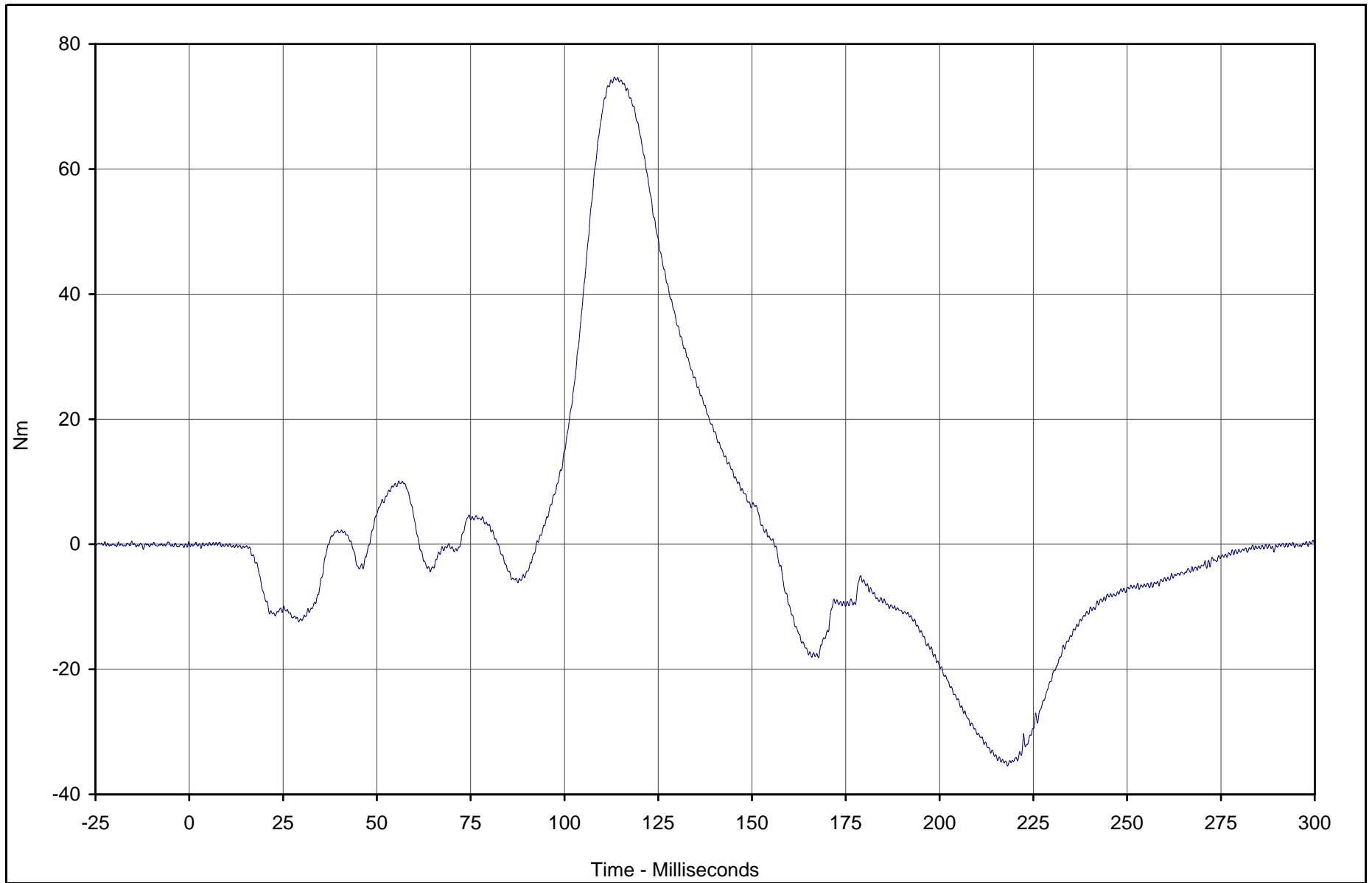
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Moment Y	011	FIL	Nm	74.7	113.3	-35.4	218.1	600

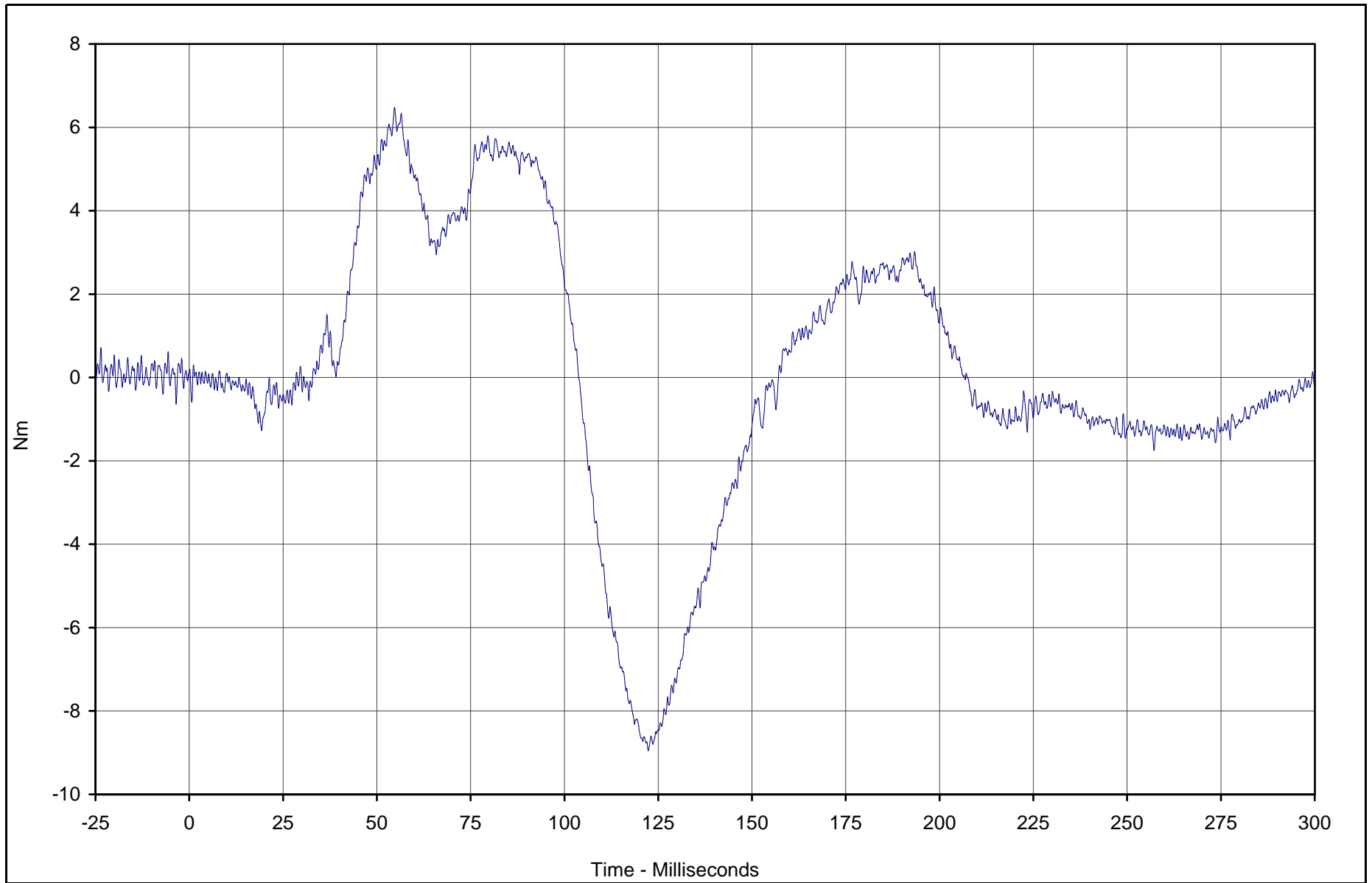


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Moment Z	012	FIL	Nm	6.5	54.7	-9.0	122.4	600

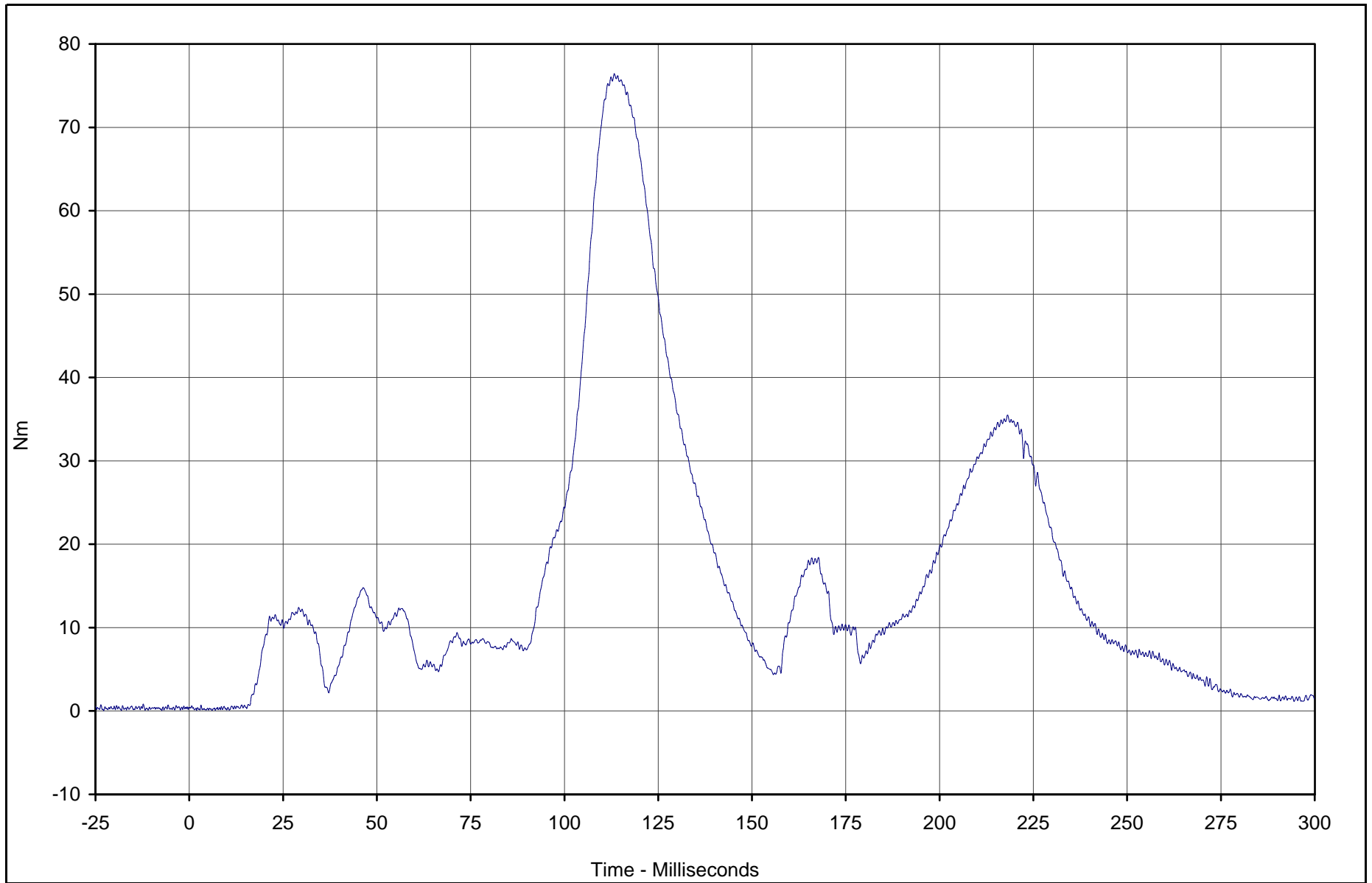


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Moment Resultant	010	RES	Nm	76.4	113.3	0.1	2.0	600



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

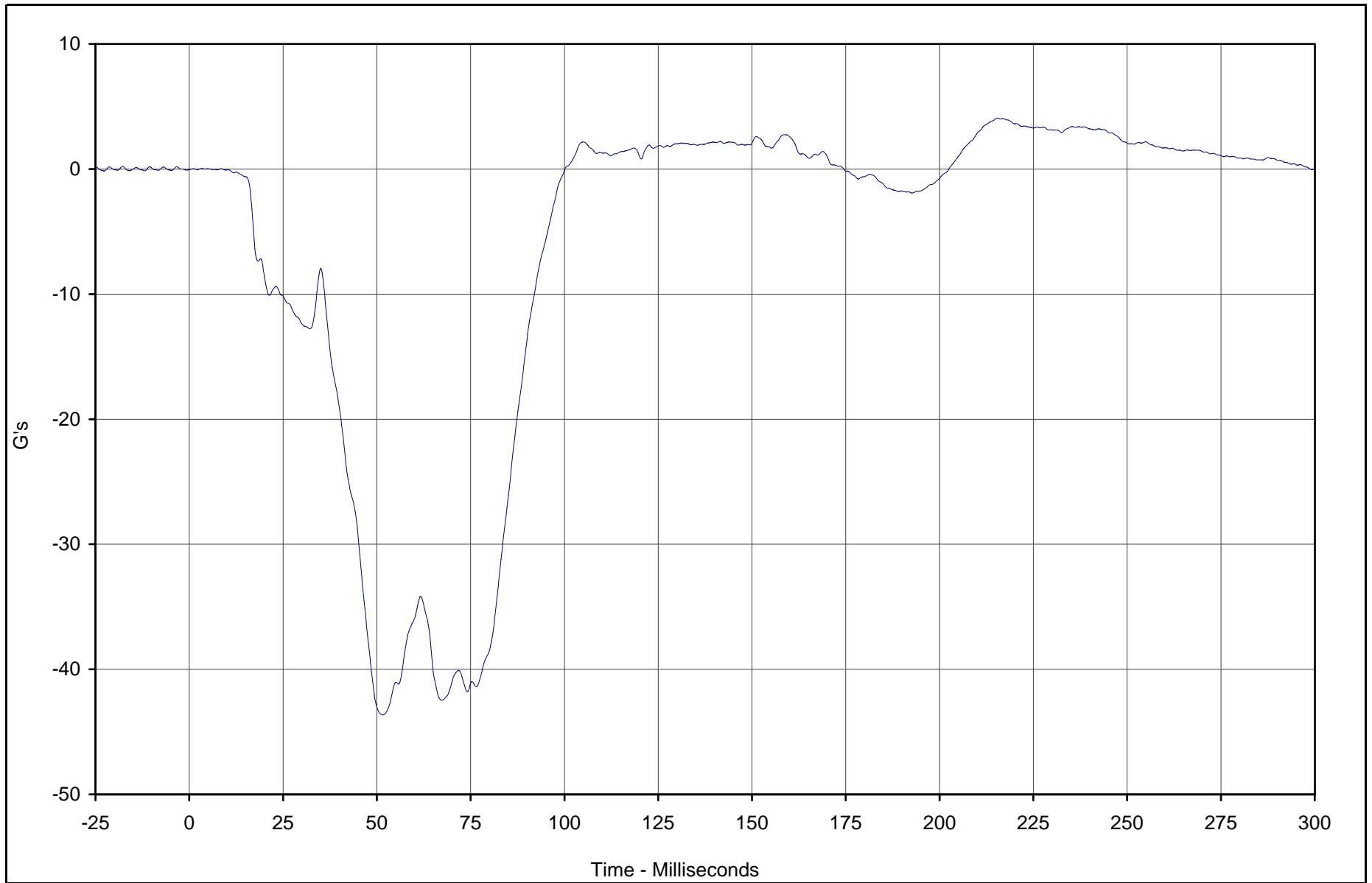
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Primary X	013	FIL	G's	4.1	215.5	-43.7	51.6	180



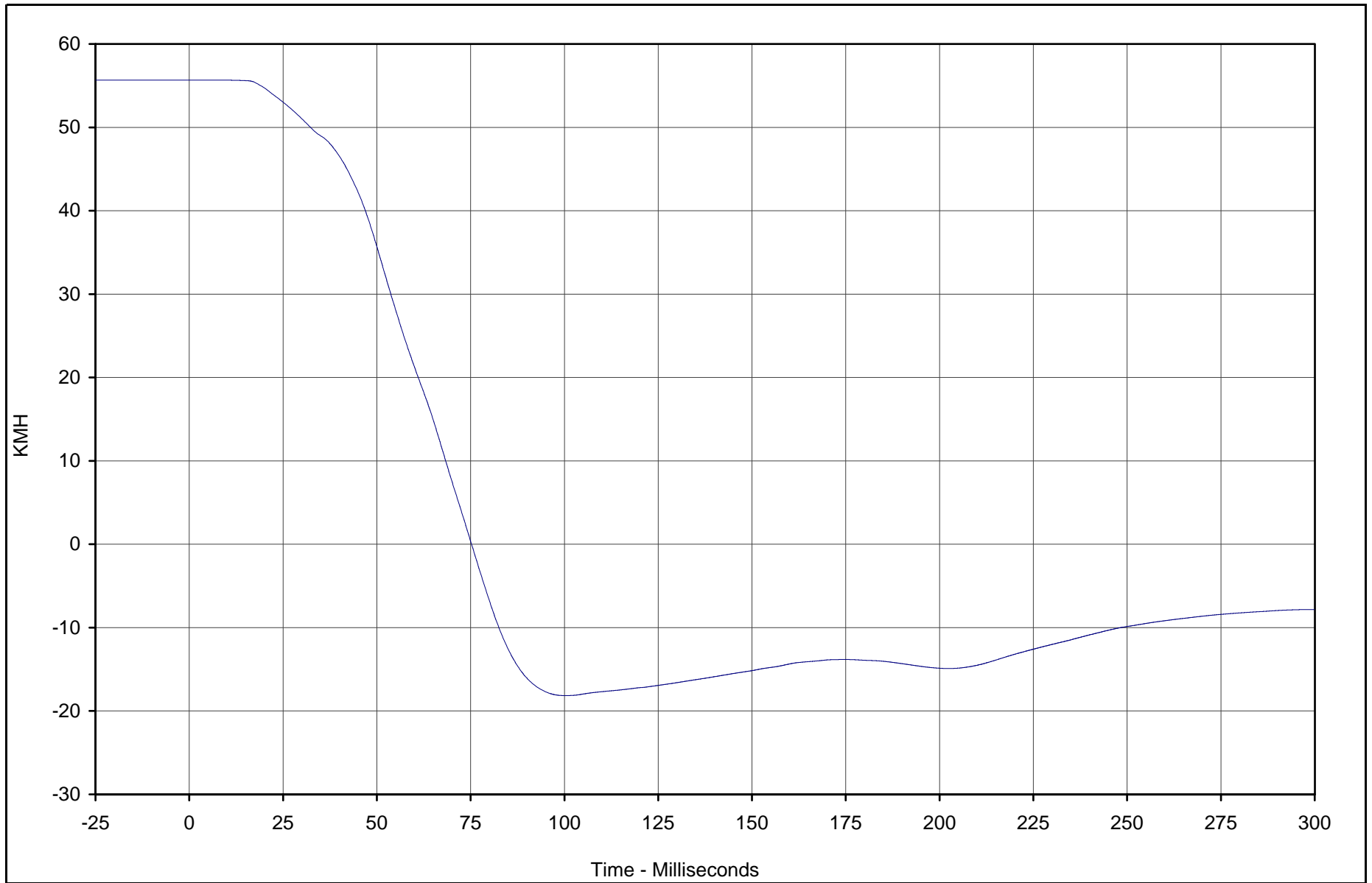
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Primary X Velocity	013	IN1	KMH	55.7	5.5	-18.2	100.1	180



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

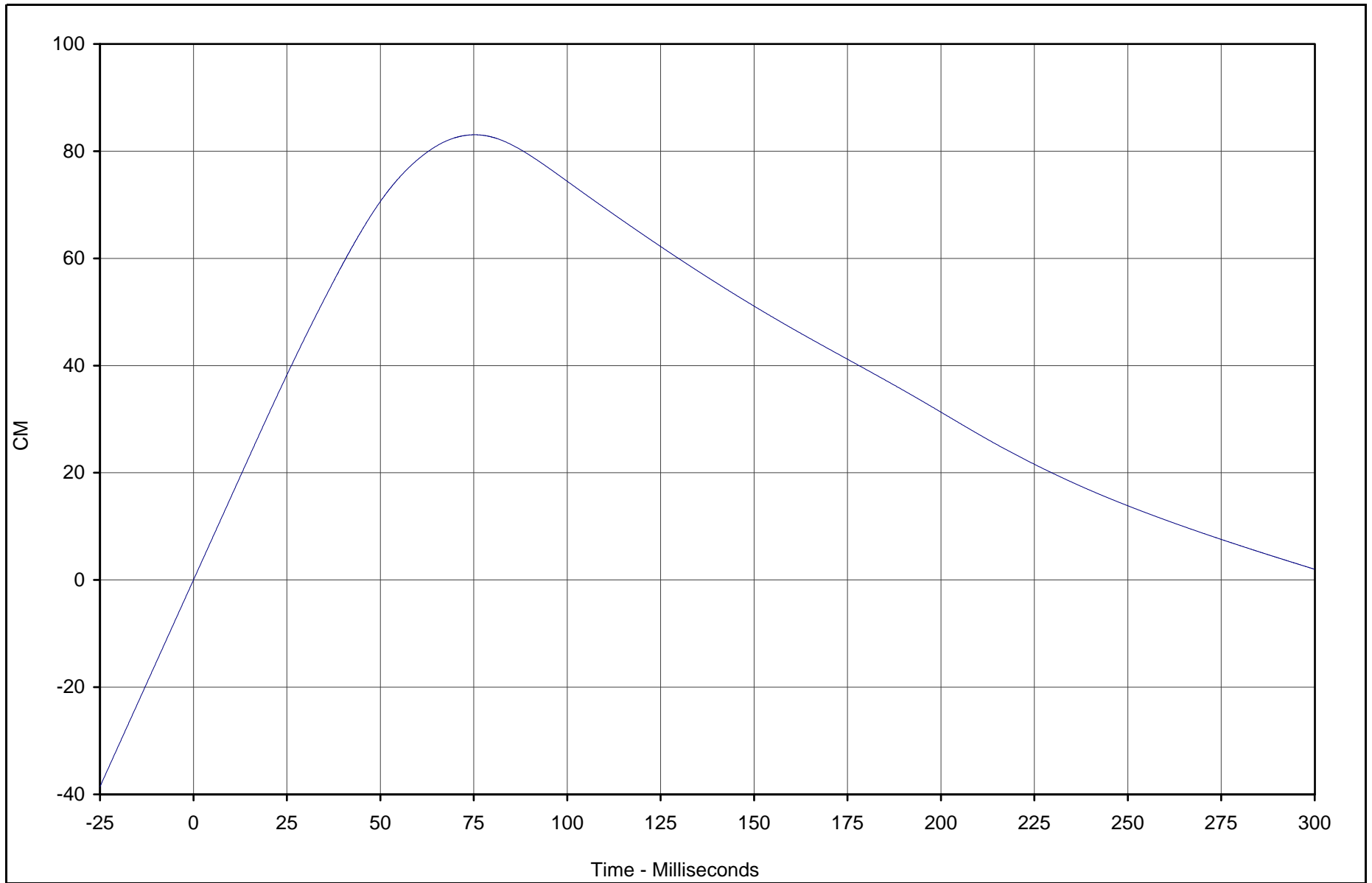
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Primary X Displ.	013	IN2	CM	83.1	75.2	0.0	0.0	180

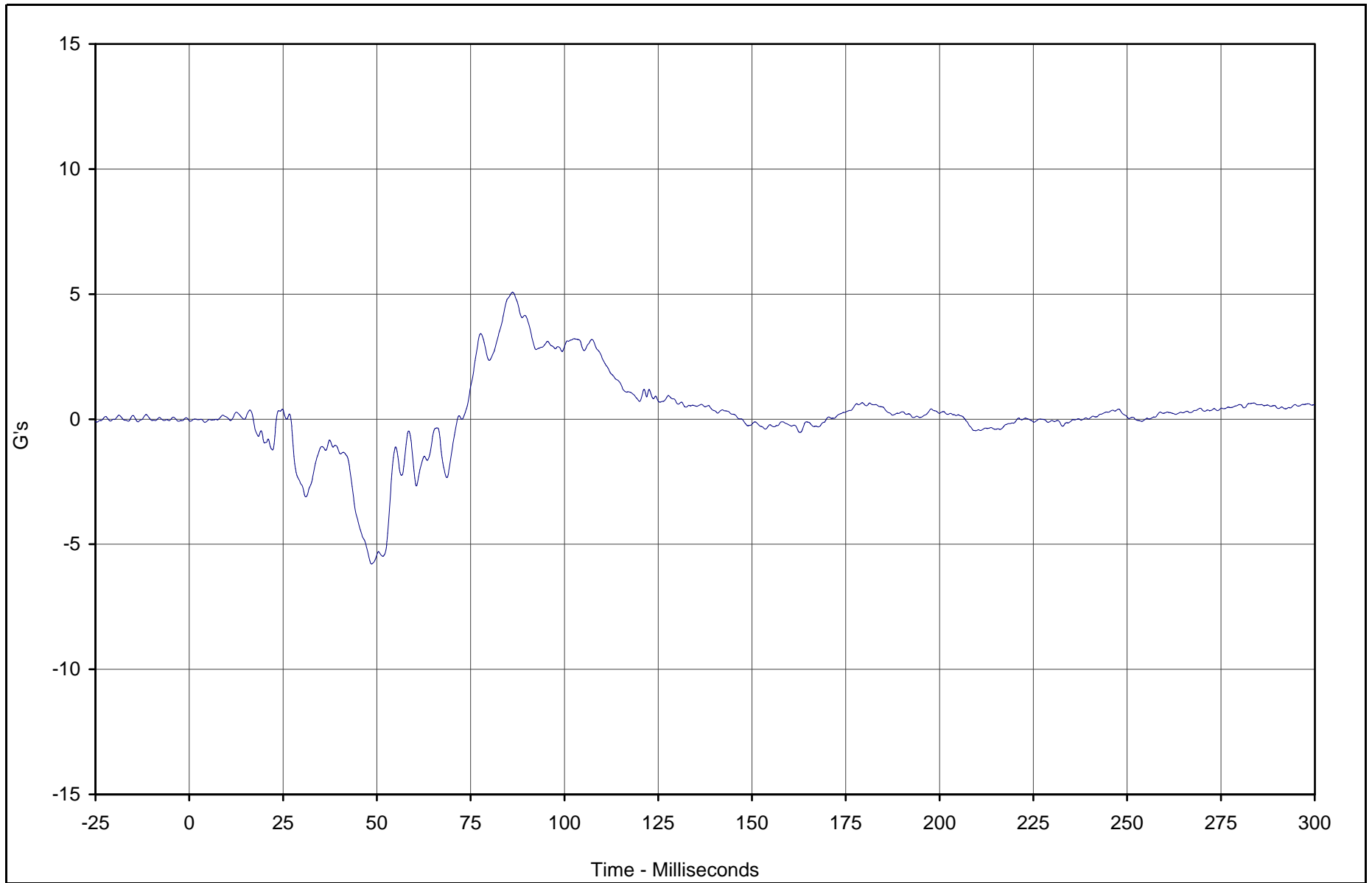


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Primary Y	014	FIL	G's	5.1	86.2	-5.8	48.6	180

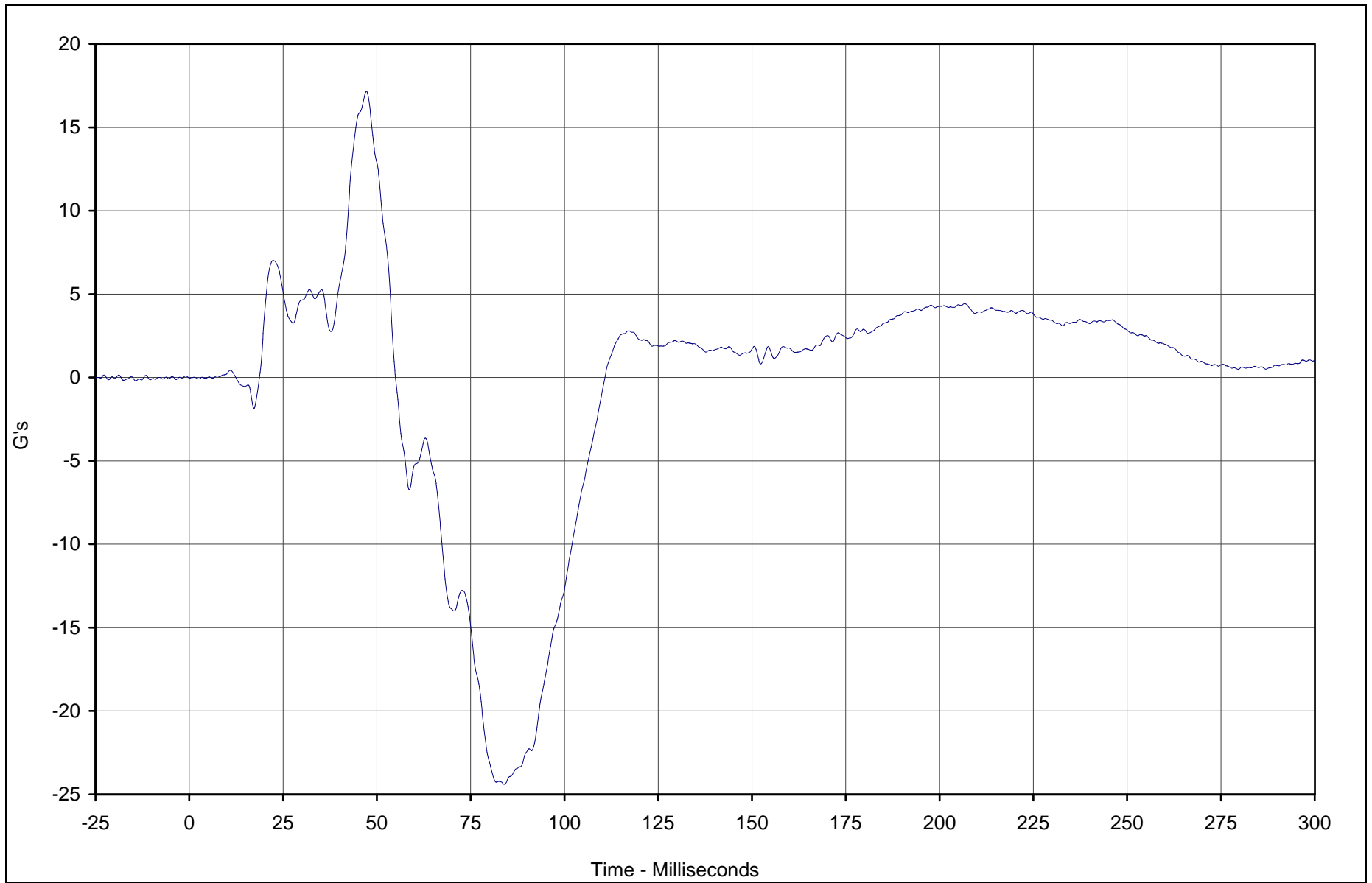


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Primary Z	015	FIL	G's	17.2	47.2	-24.4	83.9	180

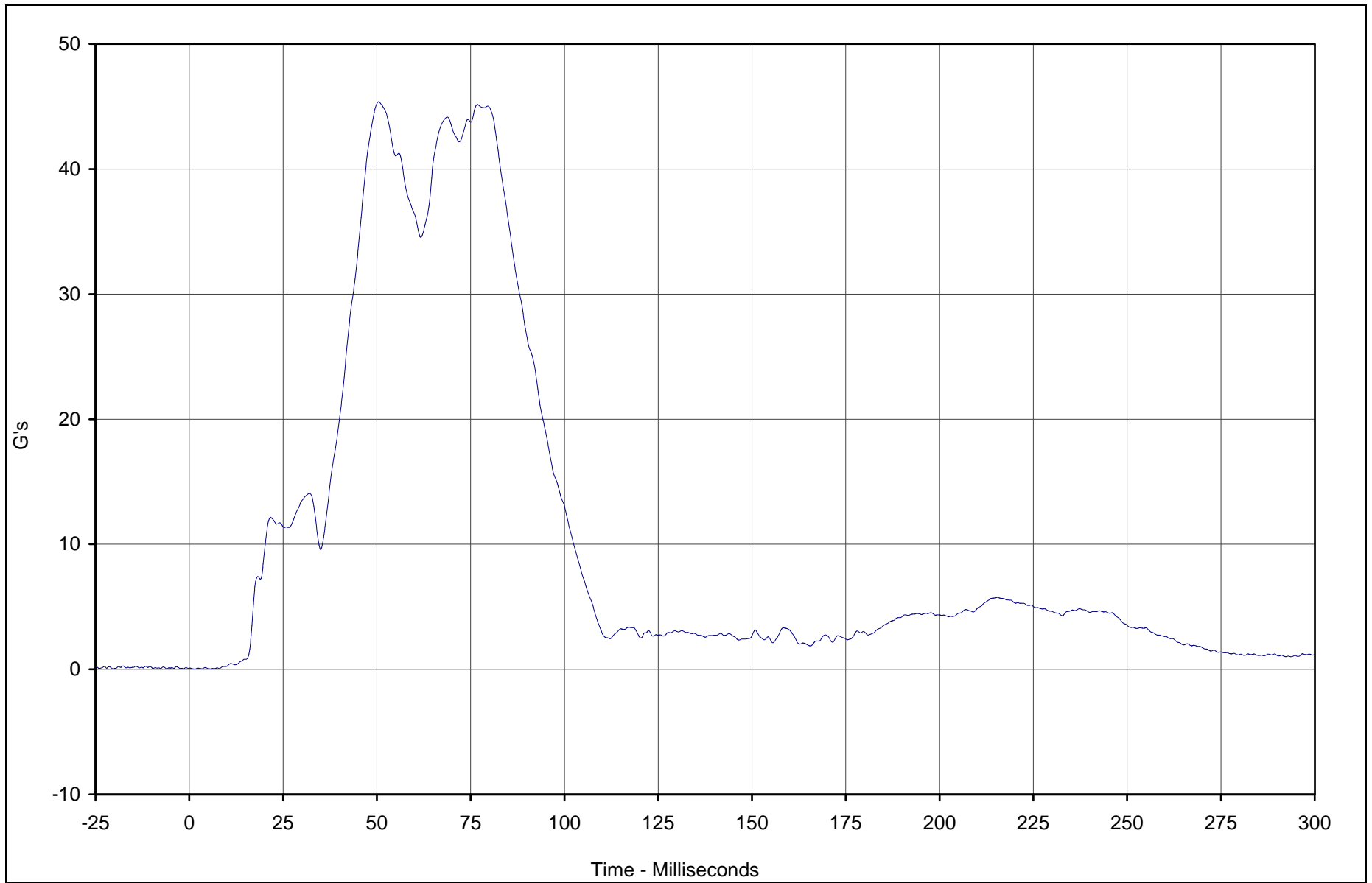


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Resultant Primary	013	RES	G's	45.4	50.5	0.0	1.5	180



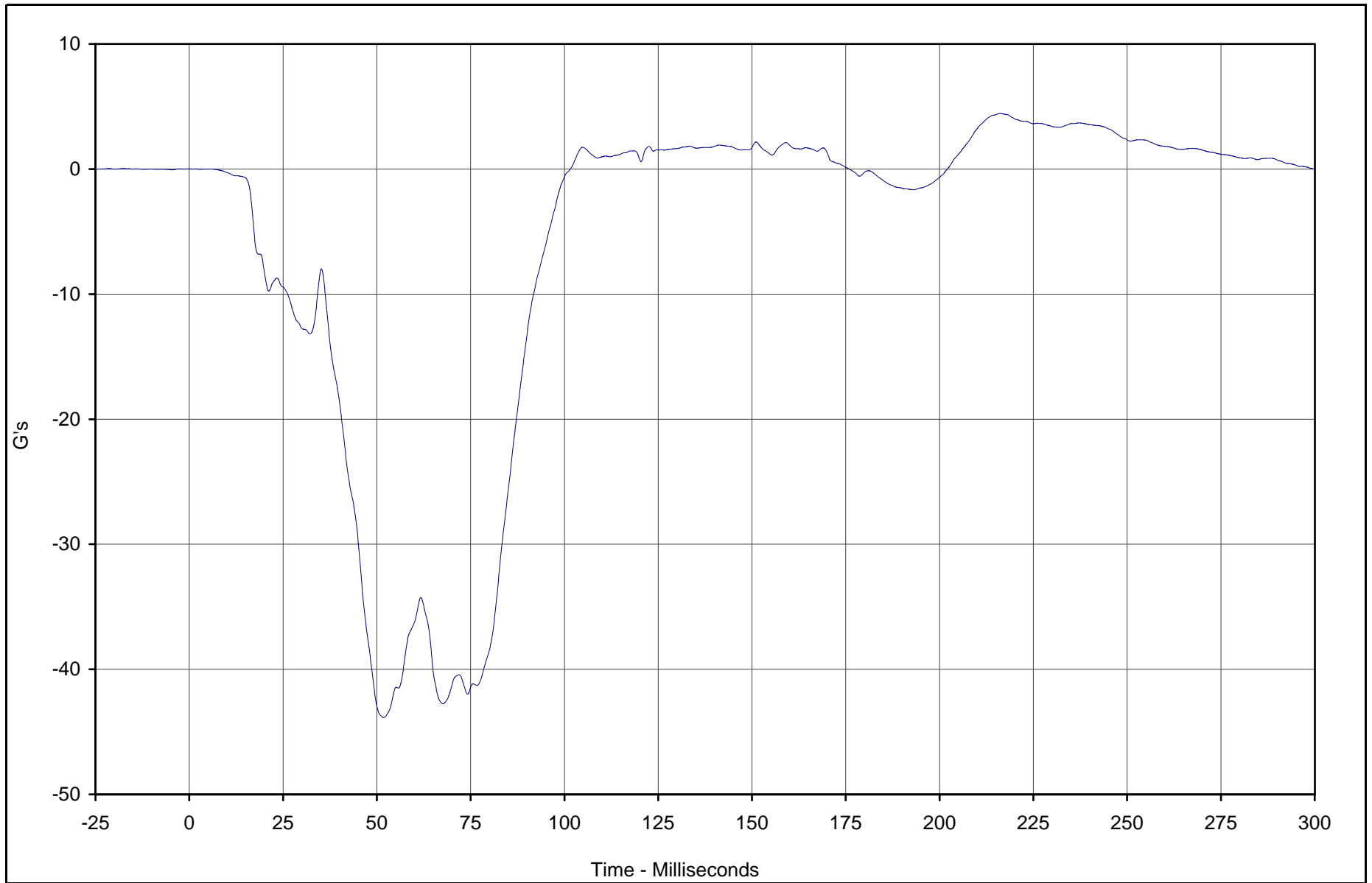
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Redundant X	016	FIL	G's	4.4	216.0	-43.9	51.8	180



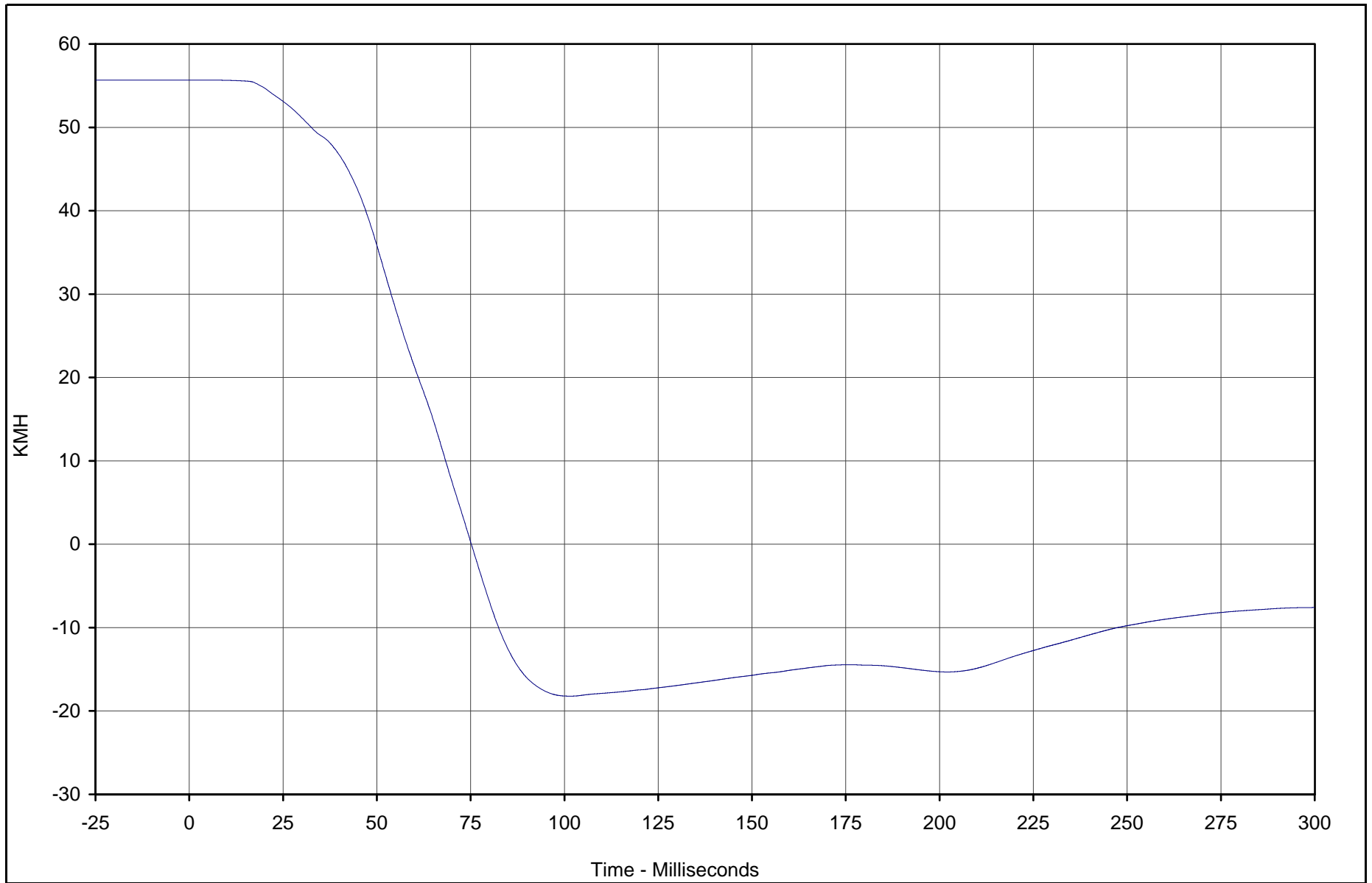
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Redundant X Velocity	016	IN1	KMH	55.7	2.1	-18.2	101.6	180

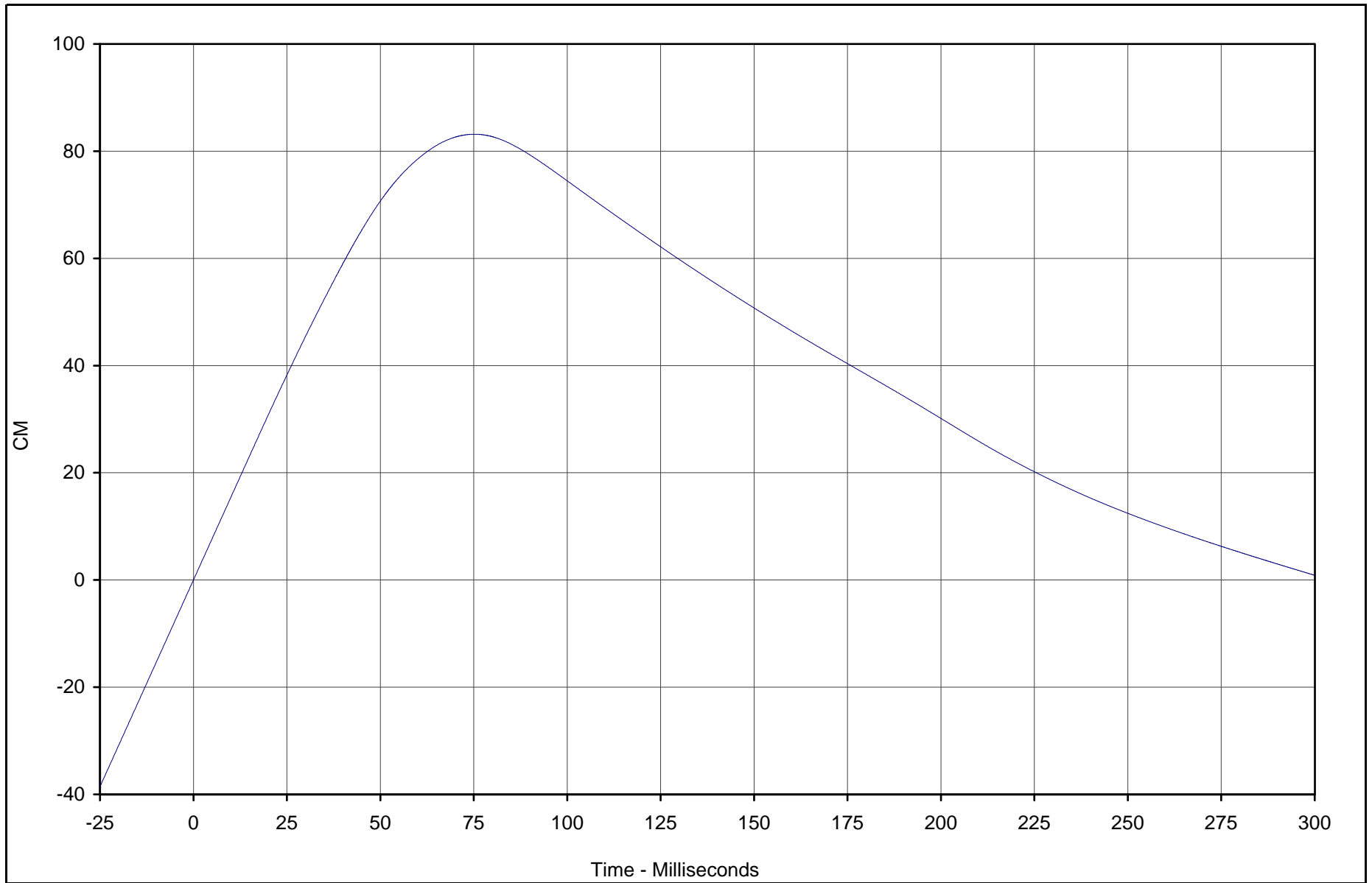


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Redundant X Displ.	016	IN2	CM	83.2	75.2	0.0	0.0	180

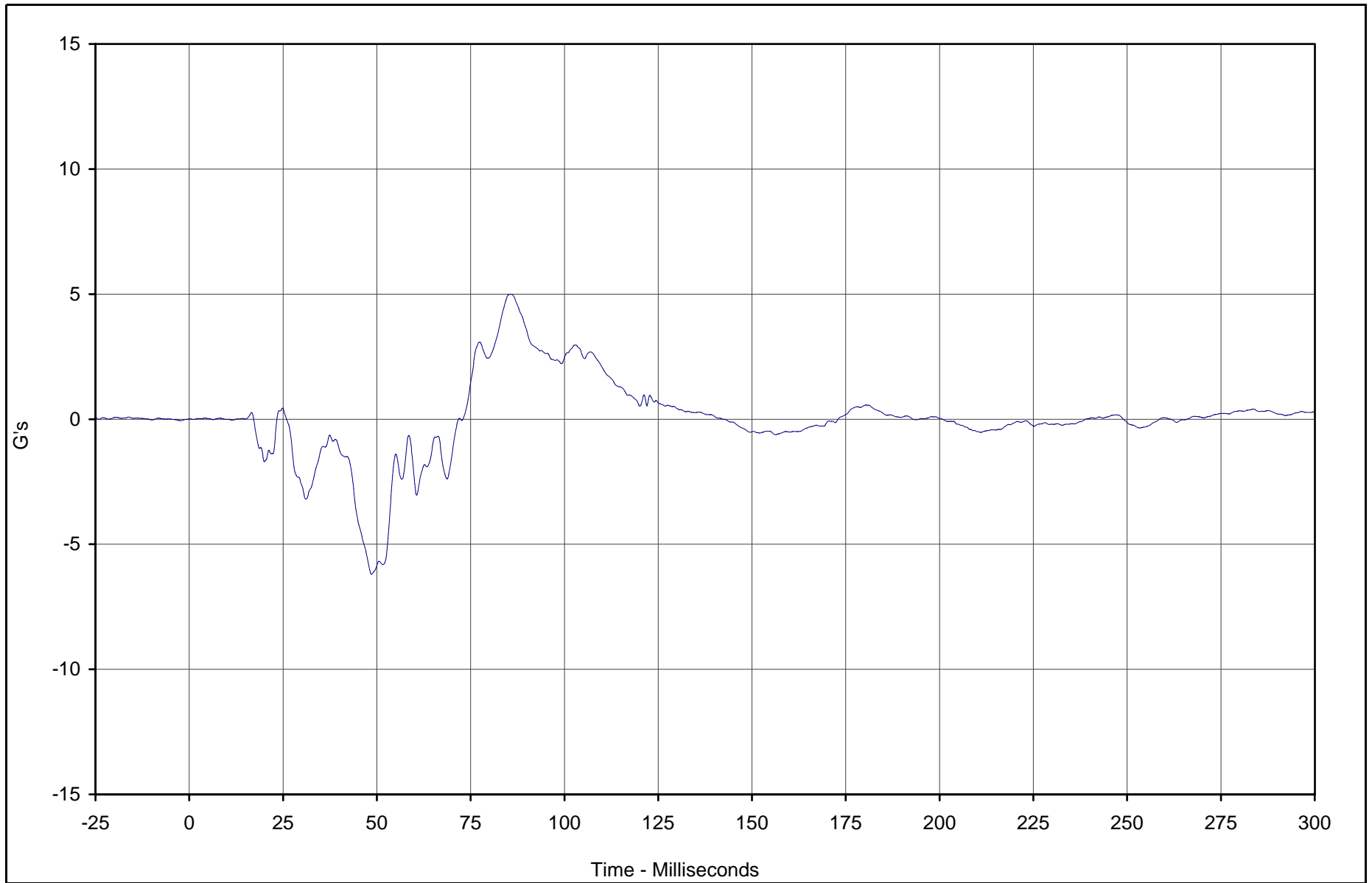


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Redundant Y	017	FIL	G's	5.0	85.8	-6.2	48.6	180

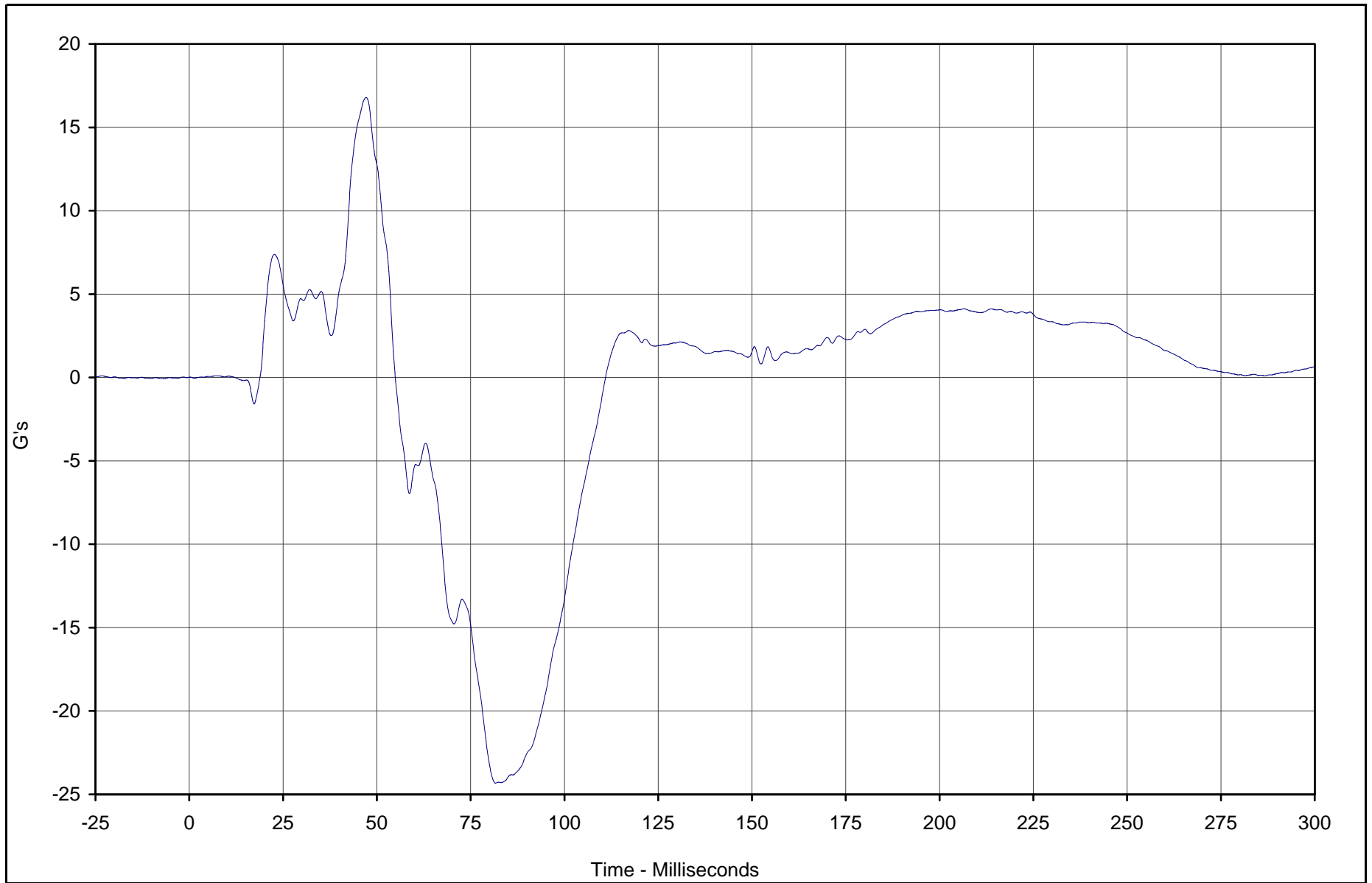


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Redundant Z	018	FIL	G's	16.8	47.2	-24.3	81.6	180



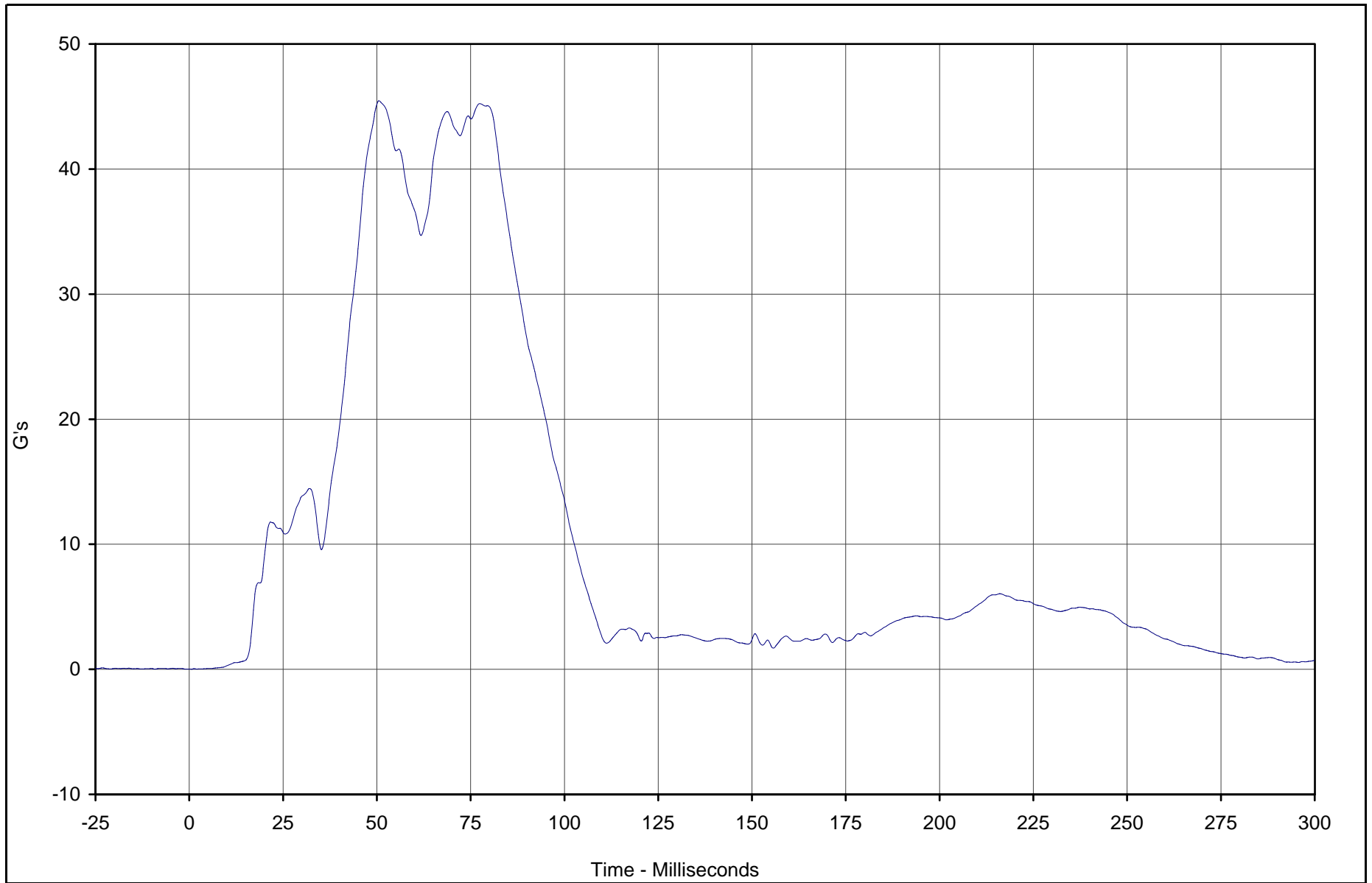
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Resultant Redundant	016	RES	G's	45.5	50.6	0.0	0.6	180



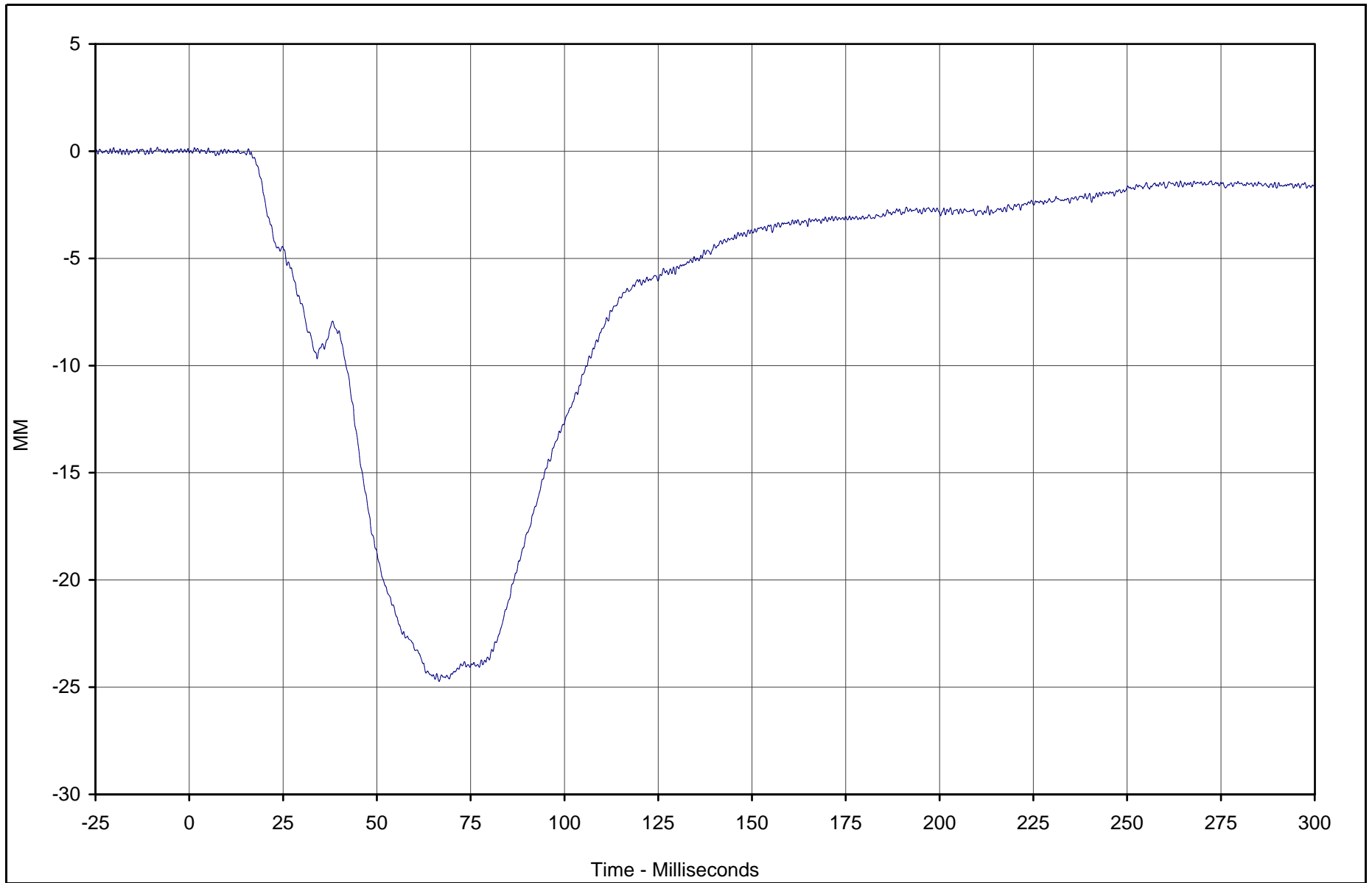
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Displacement X	019	FIL	MM	0.2	1.4	-24.7	66.6	600

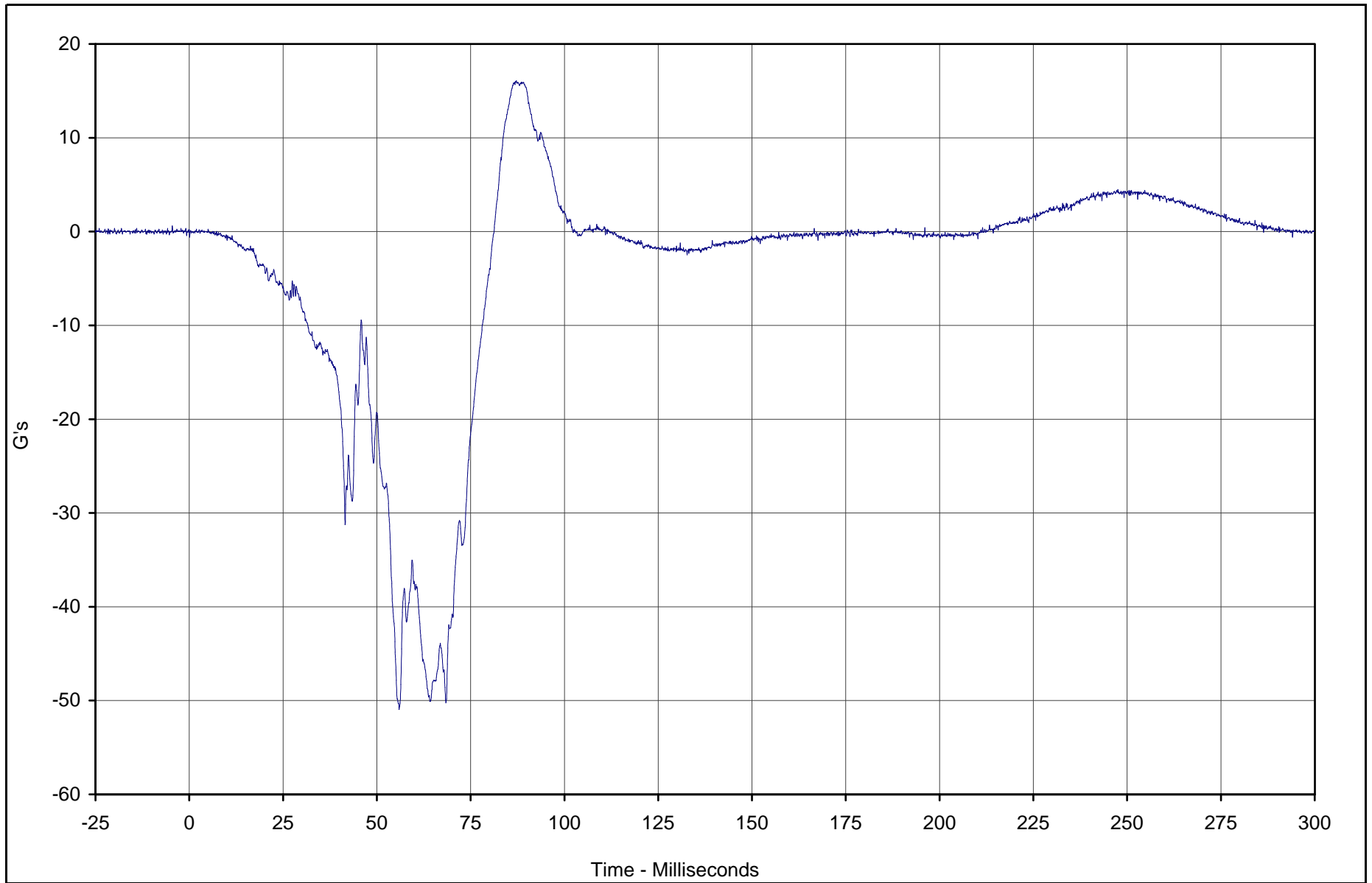


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Pelvis X	020	FIL	G's	16.1	87.2	-50.9	55.9	1000

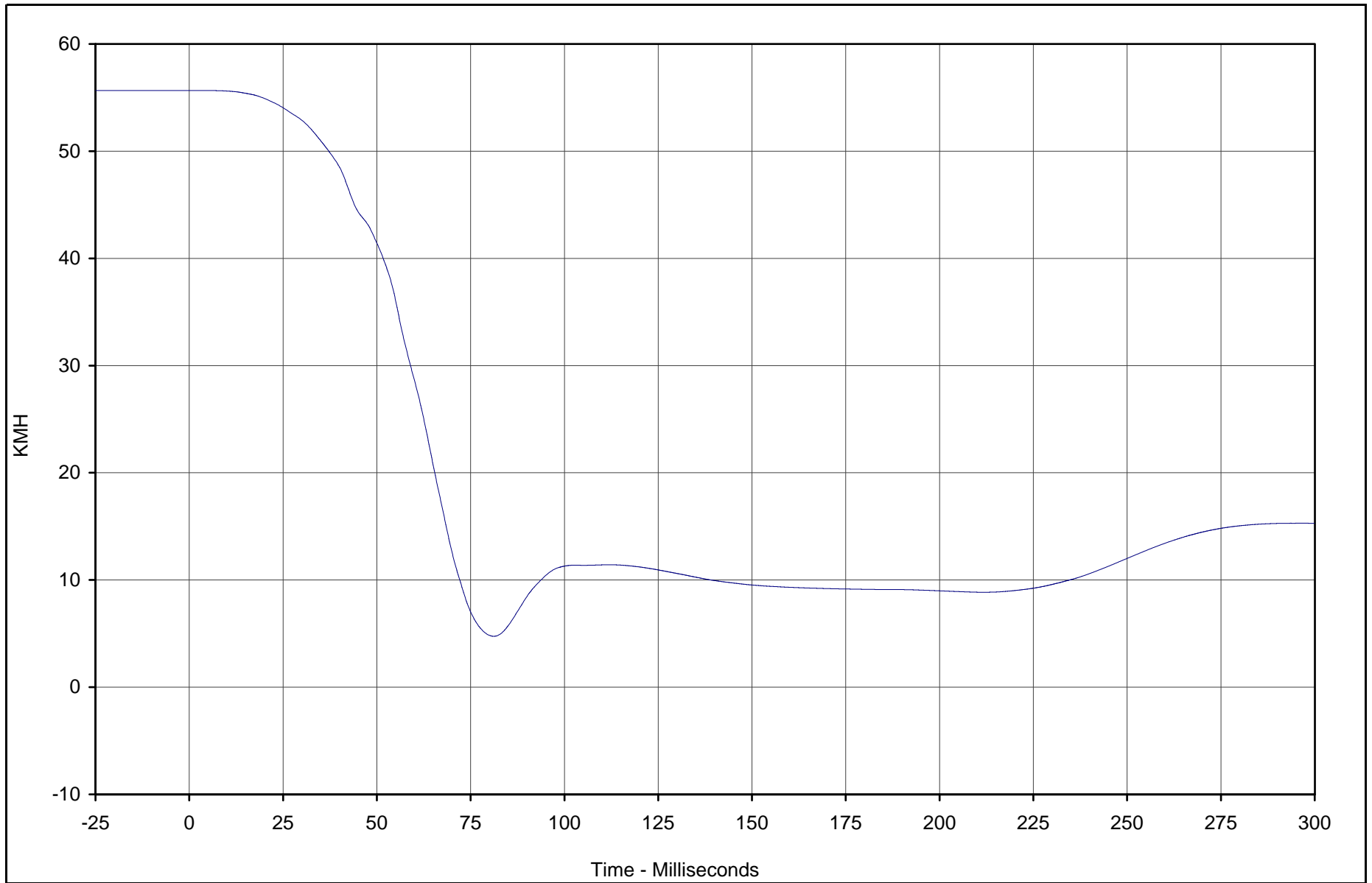


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Pelvis X Velocity	020	IN1	KMH	55.7	0.0	4.7	81.2	180

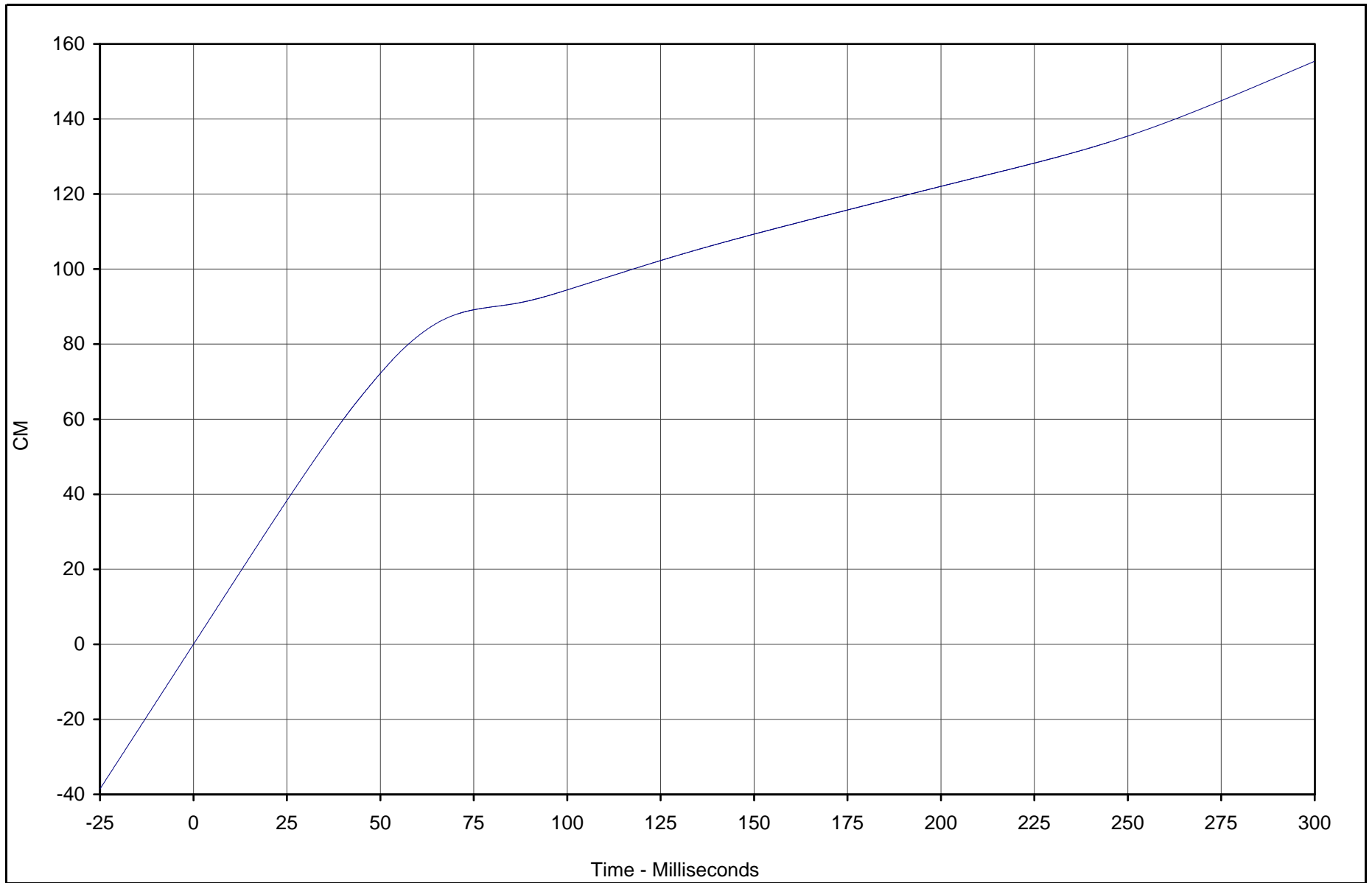


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Pelvis X Displ.	020	IN2	CM	155.4	299.9	0.0	0.0	180

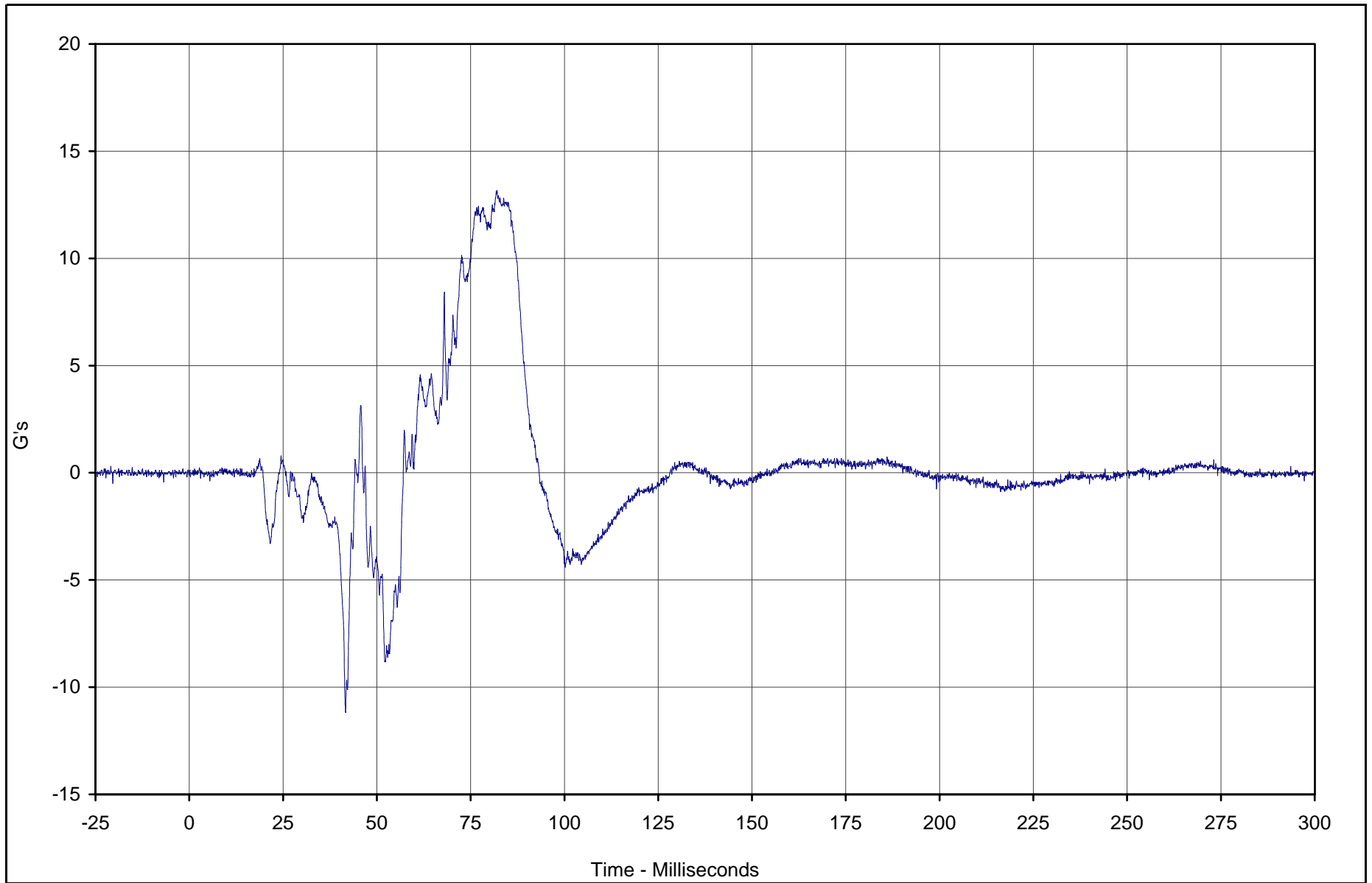


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Pelvis Y	021	FIL	G's	13.2	82.0	-11.2	41.7	1000

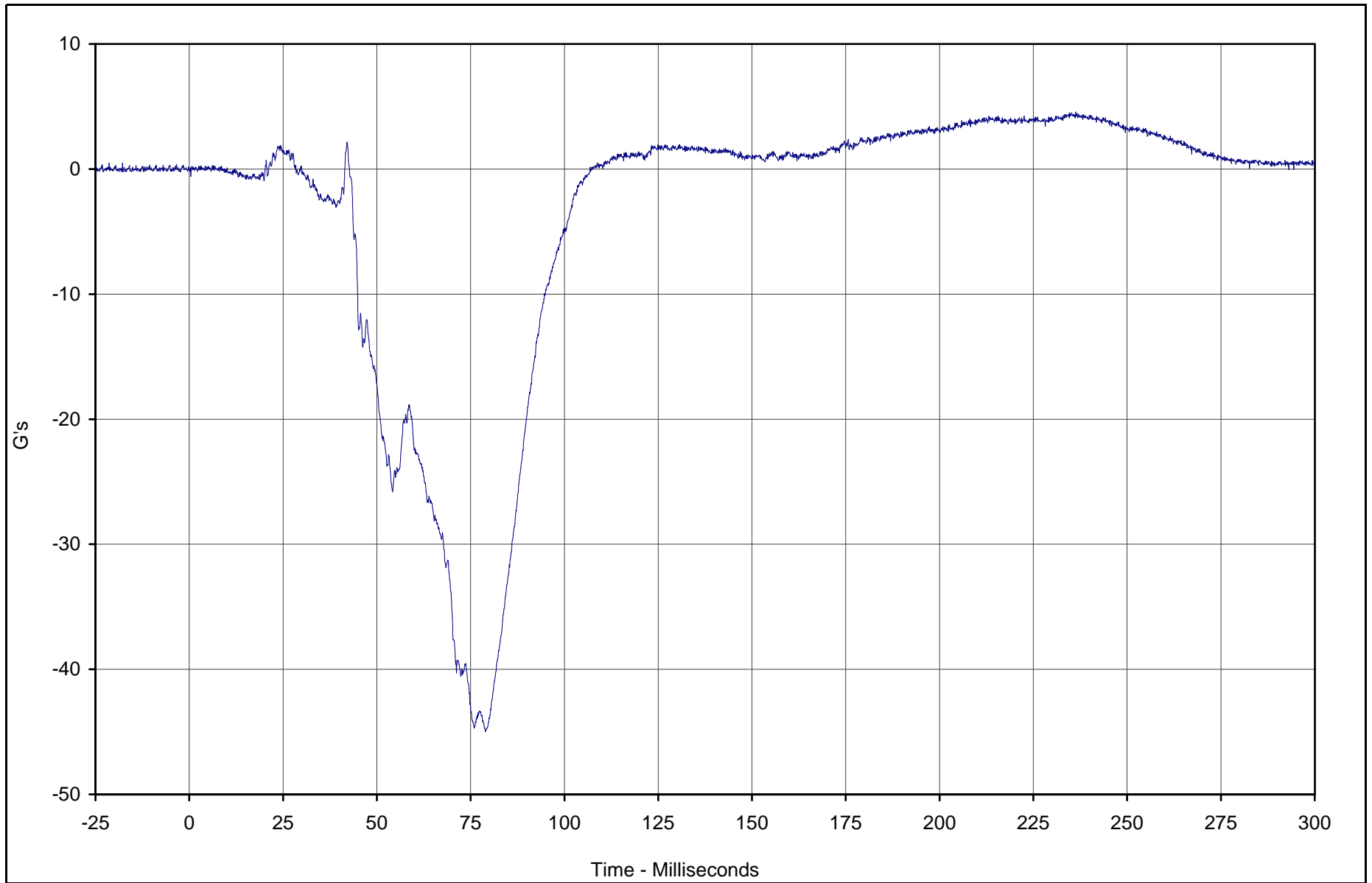


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Pelvis Z	022	FIL	G's	4.6	236.3	-45.0	78.9	1000

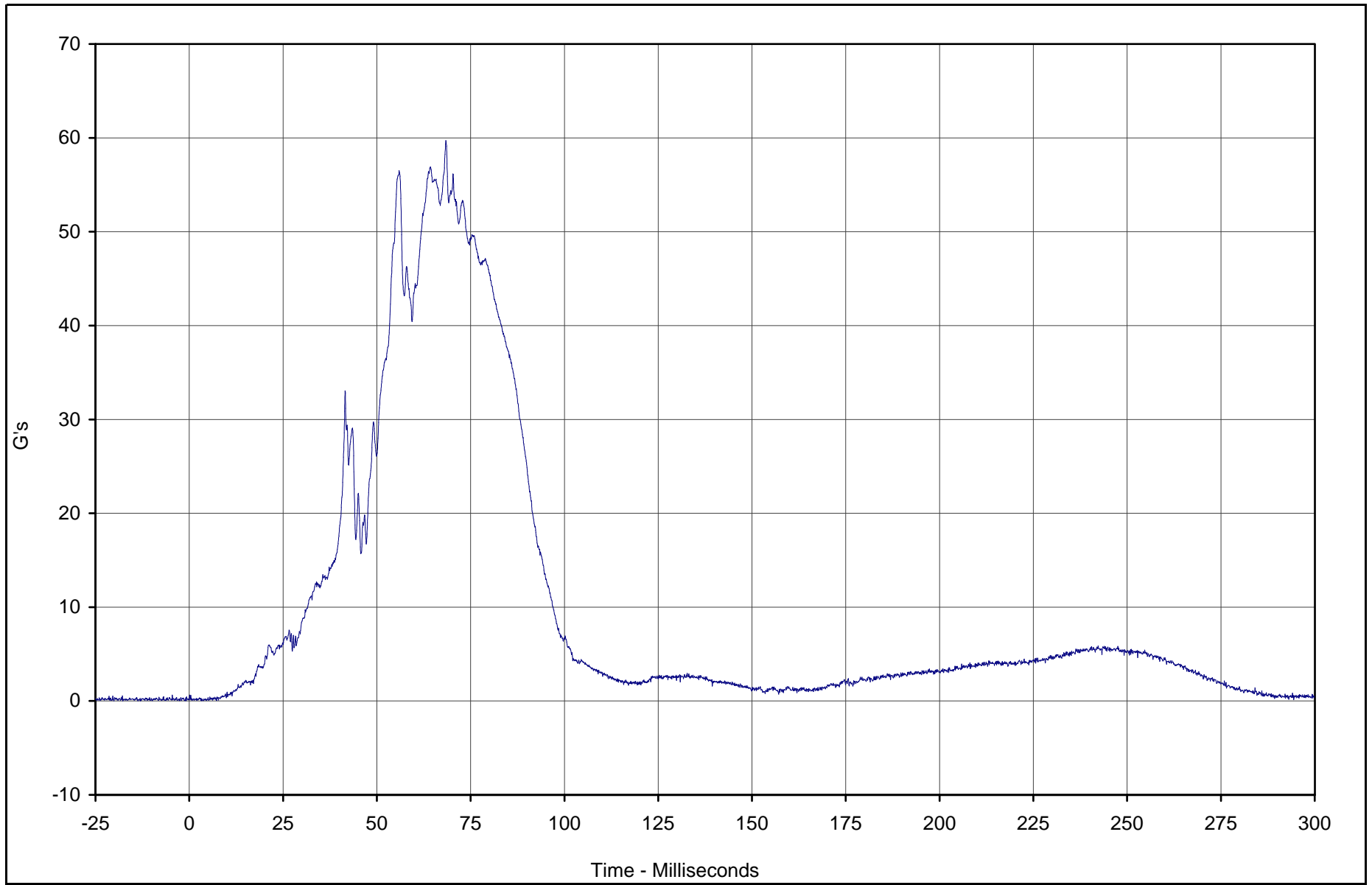


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Pelvis Resultant	023	RES	G's	59.7	68.4	0.0	3.3	1000

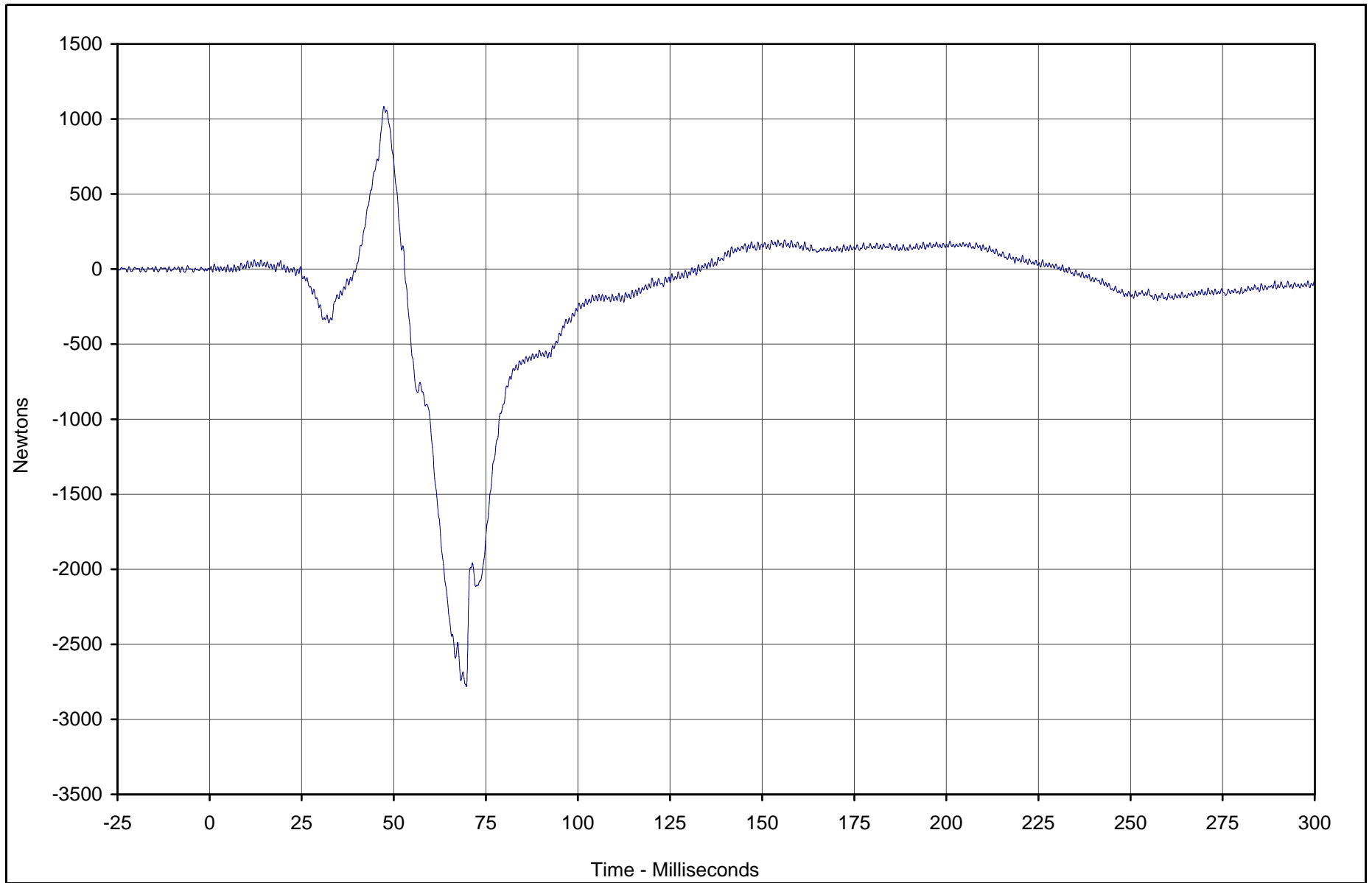


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Femur Force	023	FIL	Newtons	1083.6	47.3	-2783.1	69.7	600



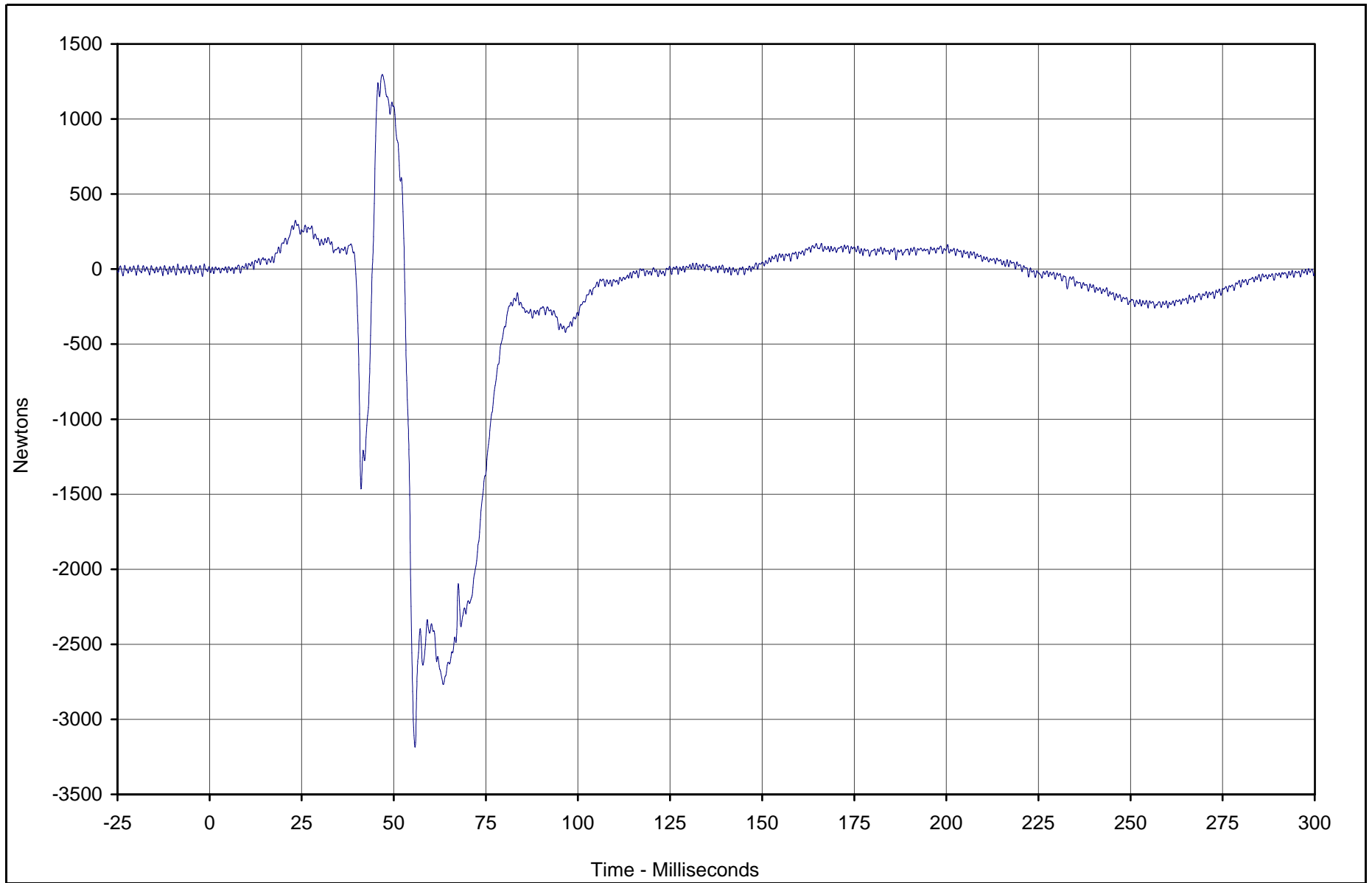
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Femur Force	024	FIL	Newtons	1297.1	46.9	-3186.3	55.8	600



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

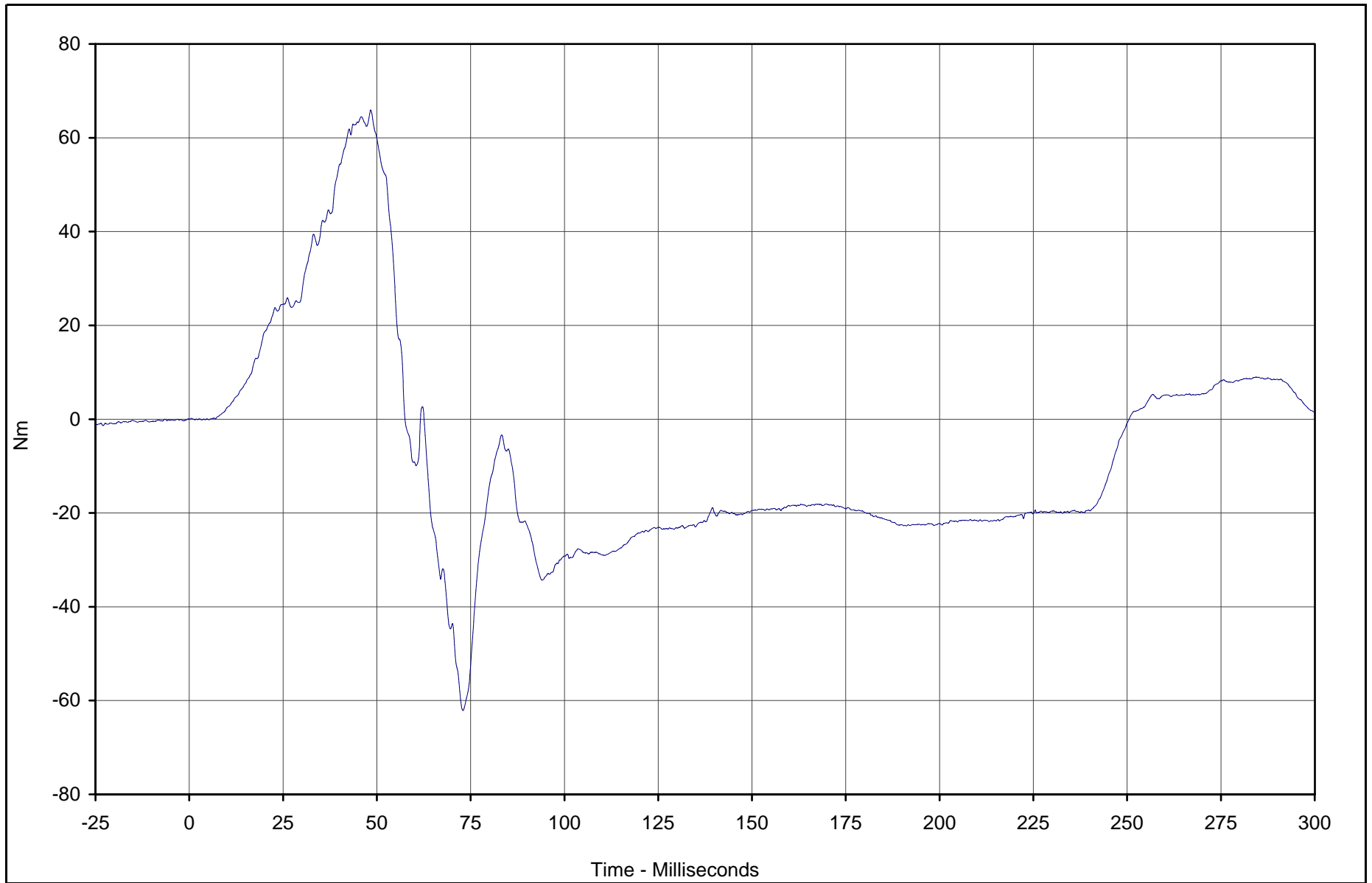
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Upper Tibia Moment X	025	FIL	Nm	65.9	48.4	-62.1	73.0	600



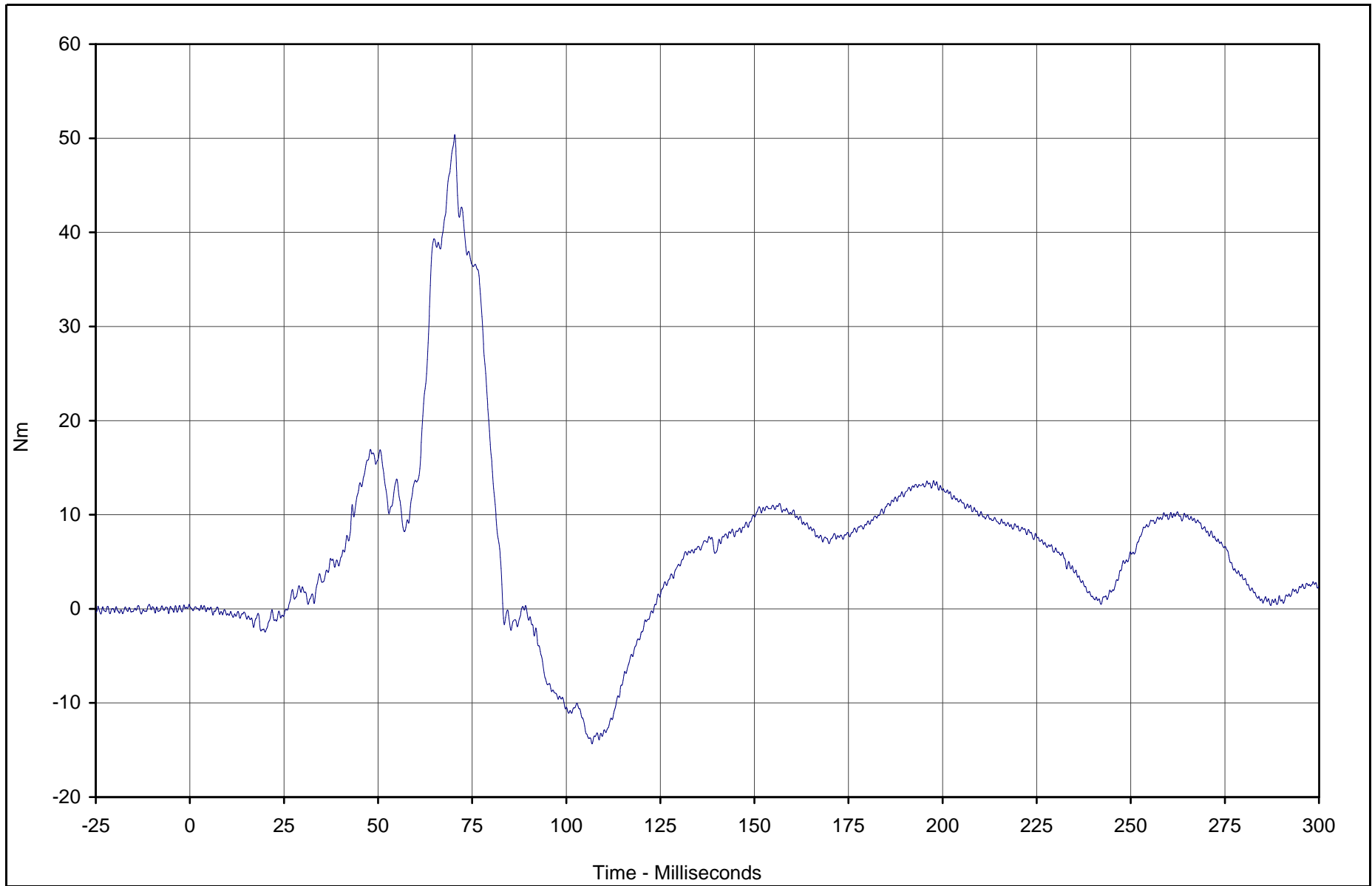
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Upper Tibia Moment Y	026	FIL	Nm	50.4	70.4	-14.3	106.9	600



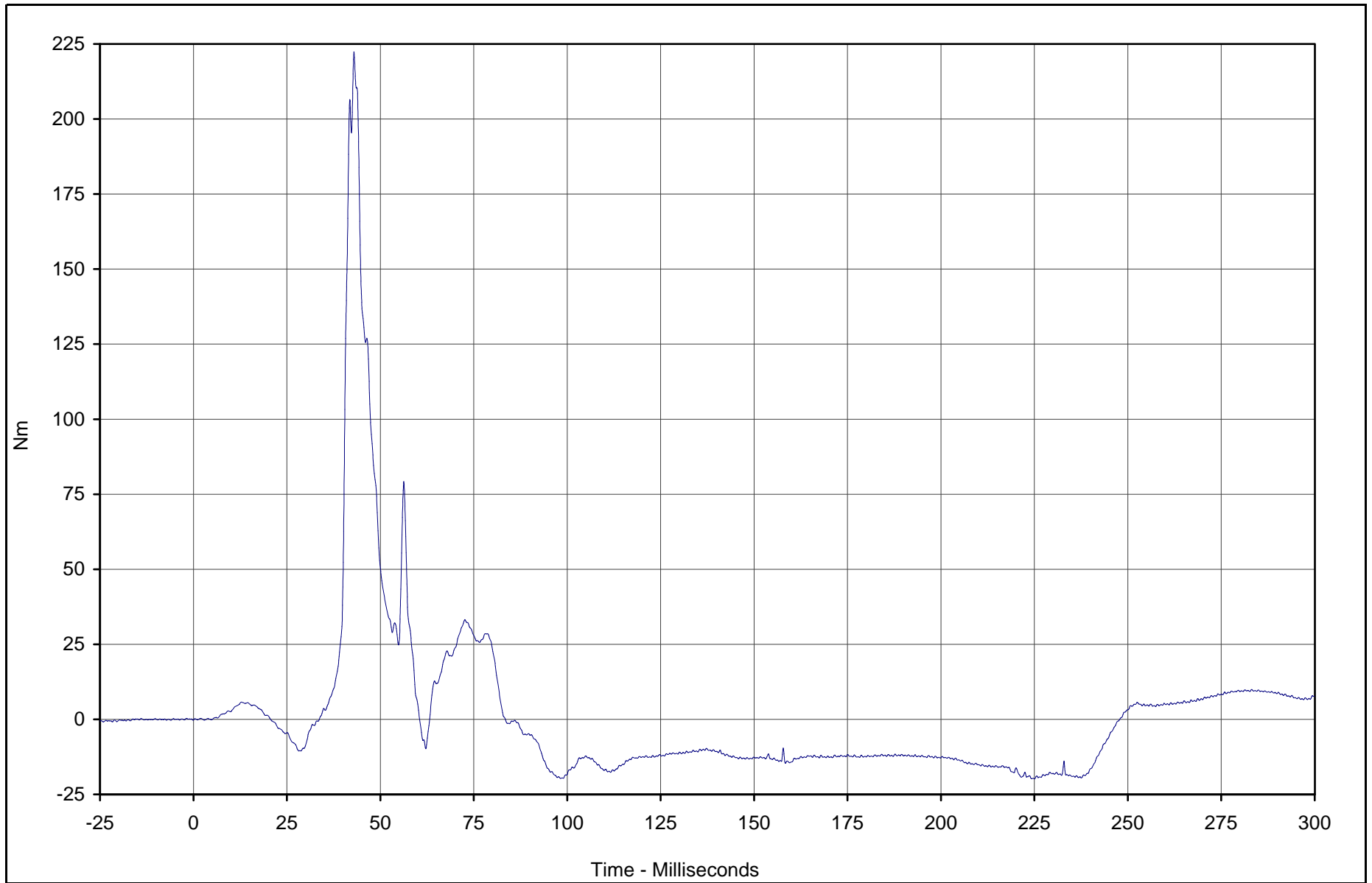
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Upper Tibia Moment X	027	FIL	Nm	222.4	43.0	-19.9	225.0	600



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

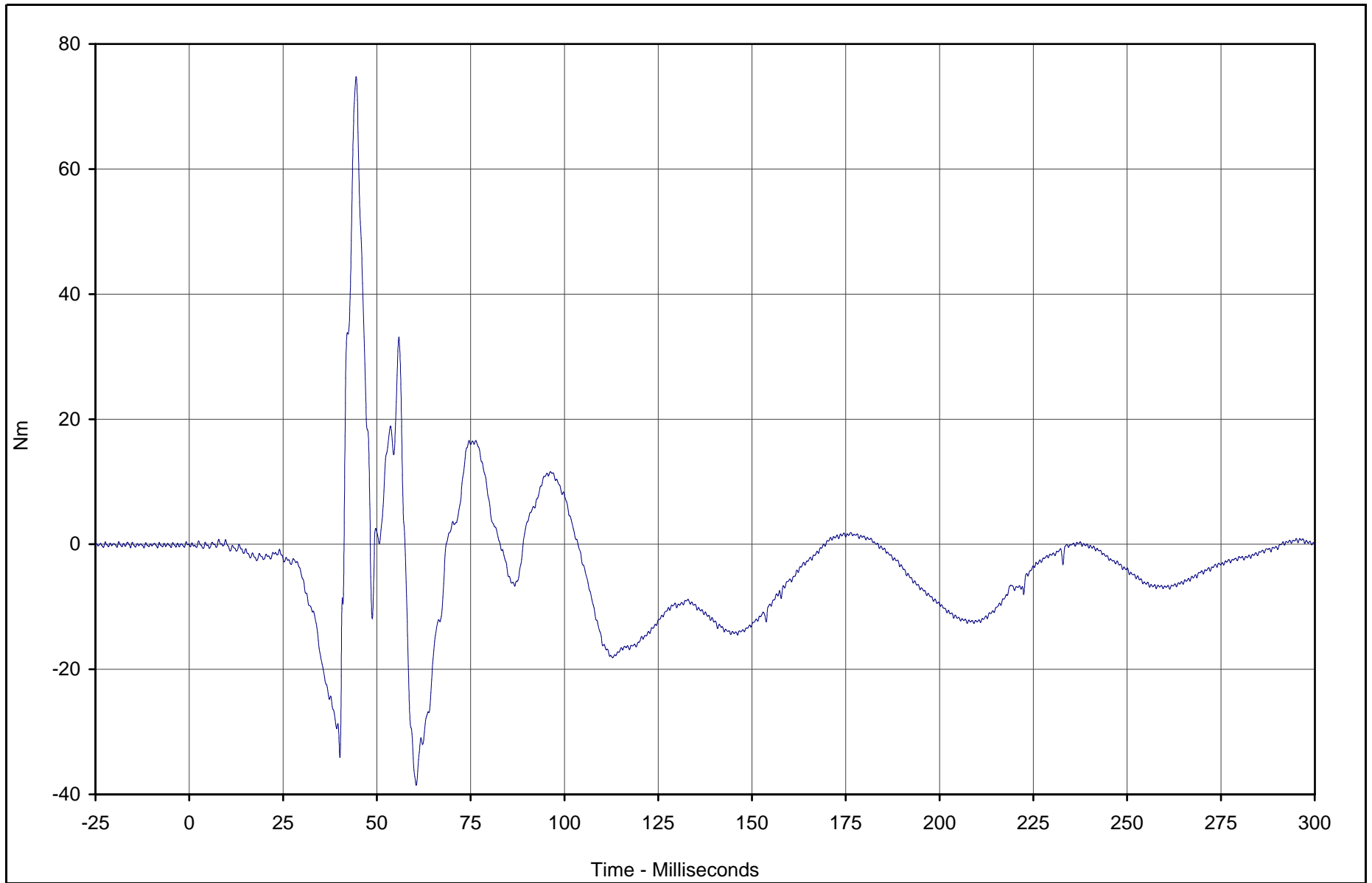
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Upper Tibia Moment Y	028	FIL	Nm	74.8	44.5	-38.5	60.5	600



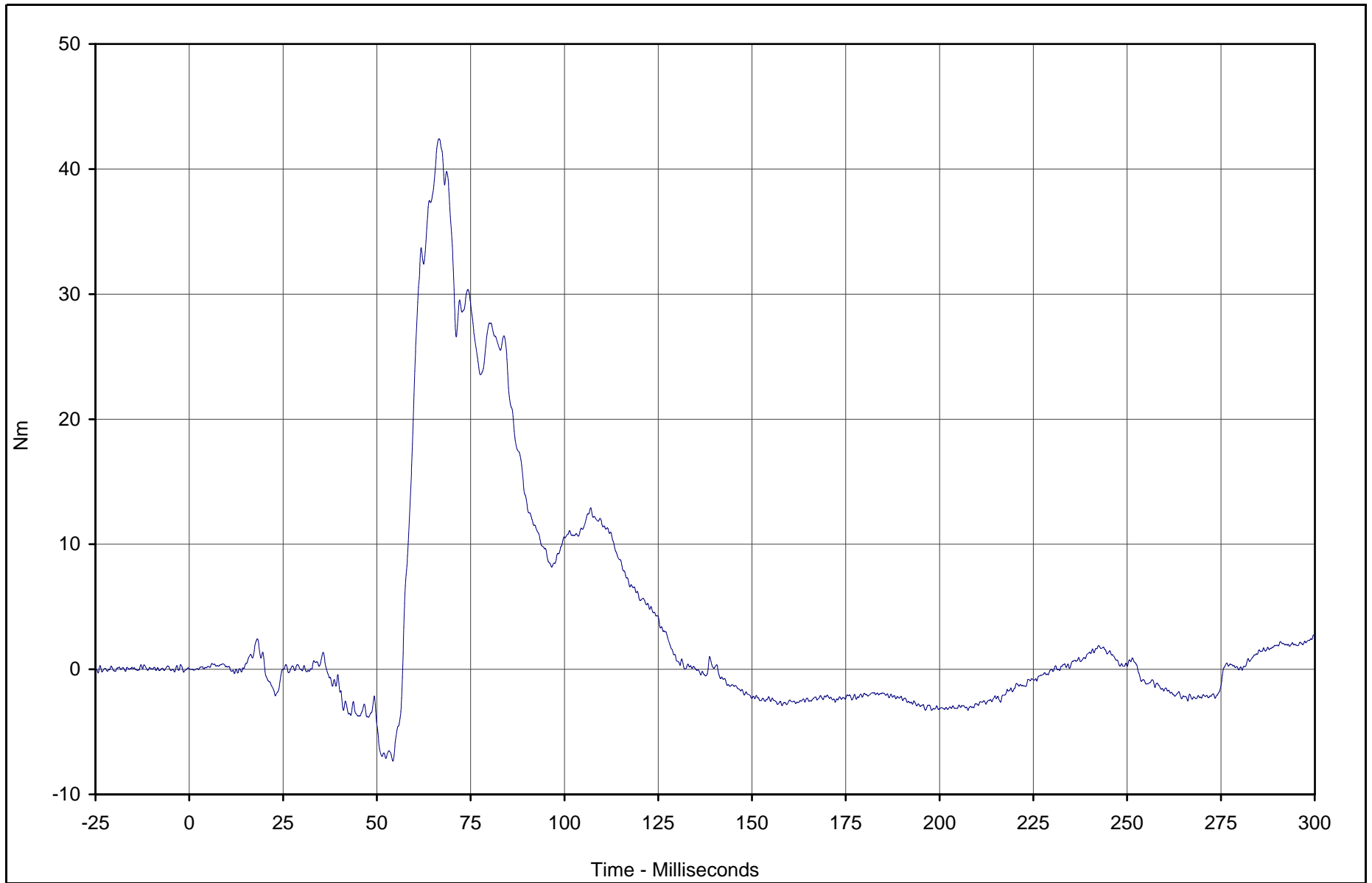
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Lower Tibia Moment X	029	FIL	Nm	42.4	66.6	-7.3	54.3	600

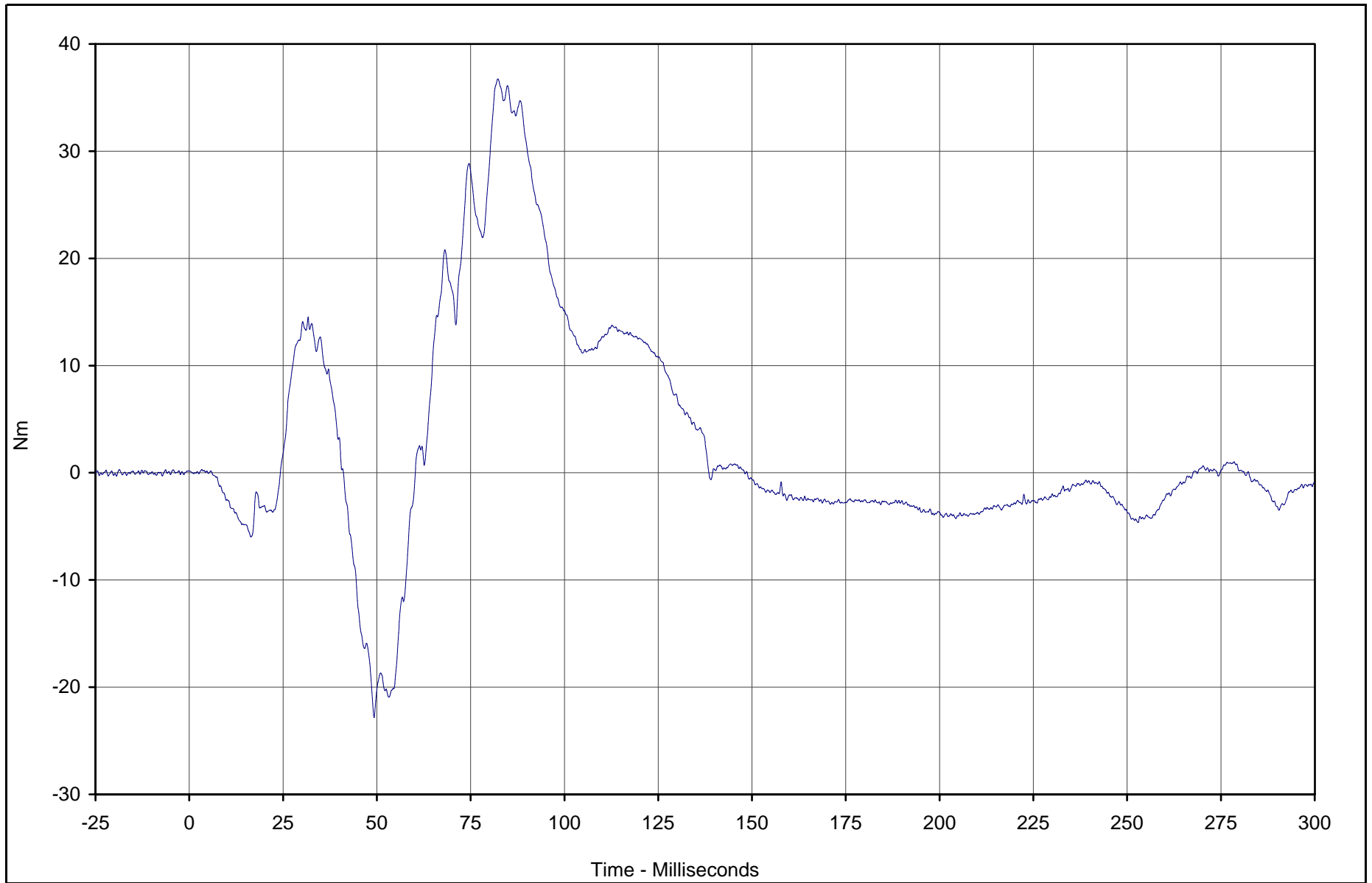


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Lower Tibia Moment Y	030	FIL	Nm	36.7	82.2	-22.8	49.3	600

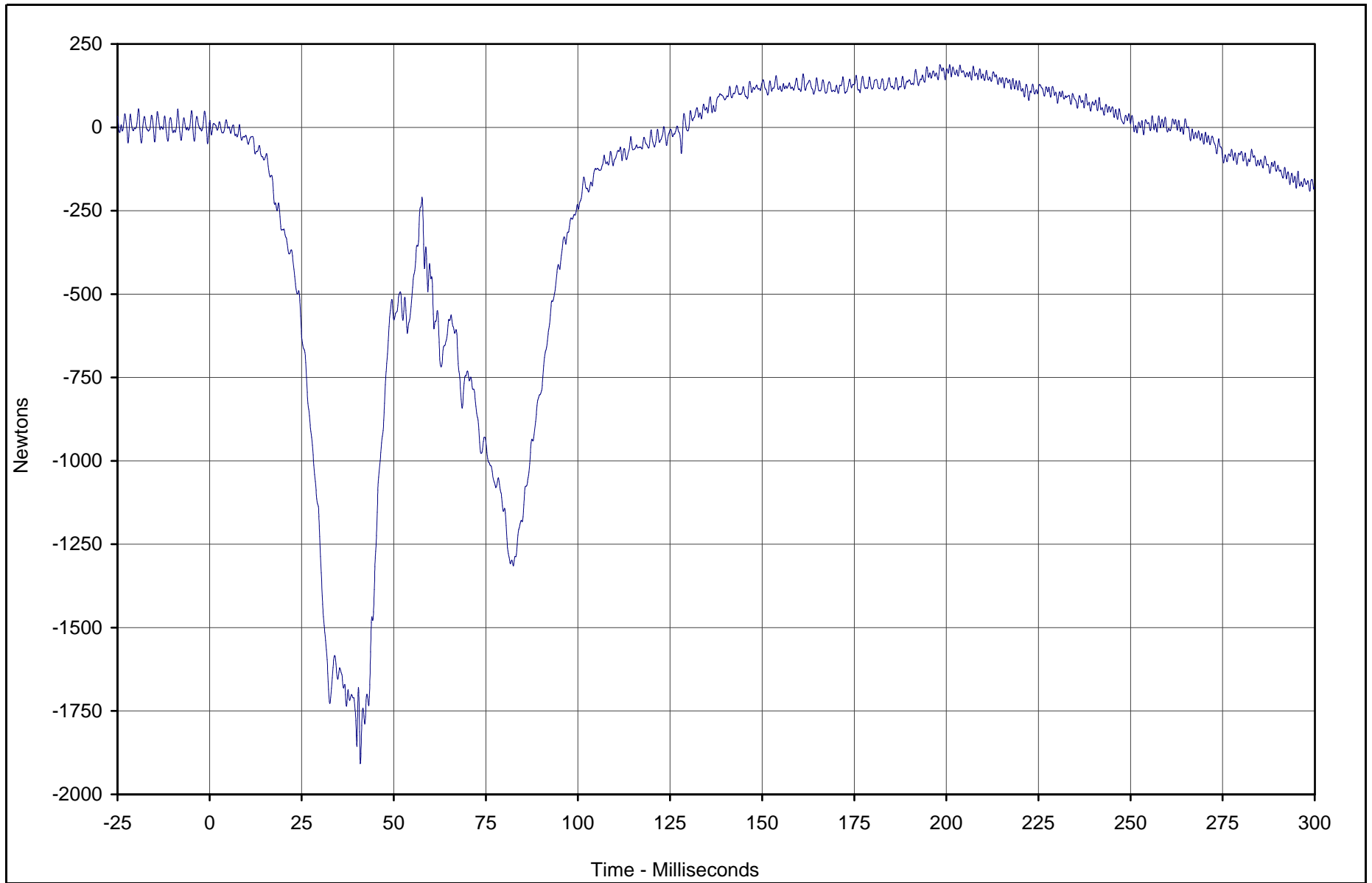


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Lower Tibia Force Z	031	FIL	Newtons	188.0	198.3	-1907.5	40.9	600



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

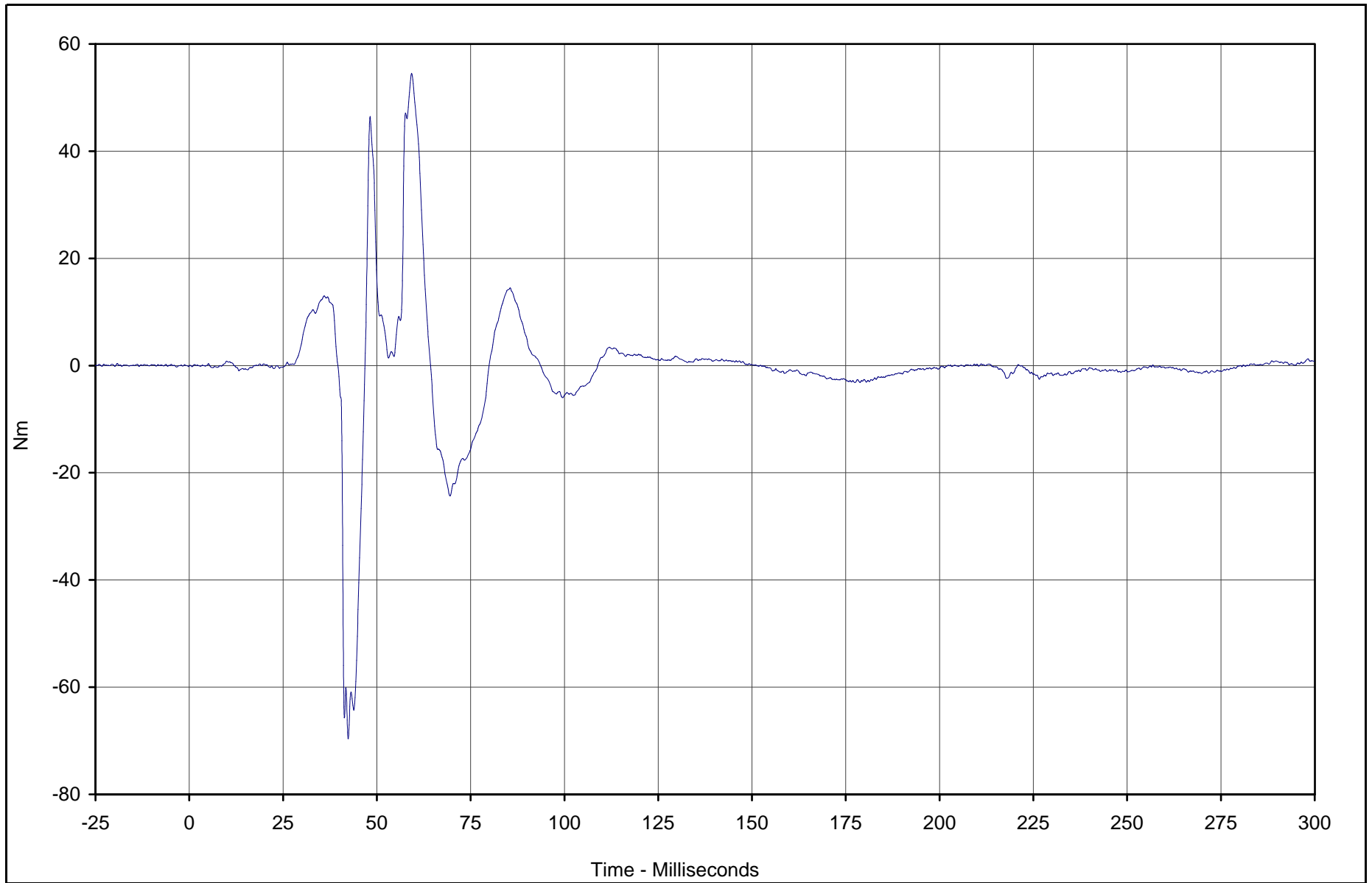
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Lower Tibia Moment X	032	FIL	Nm	54.5	59.3	-69.6	42.3	600



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

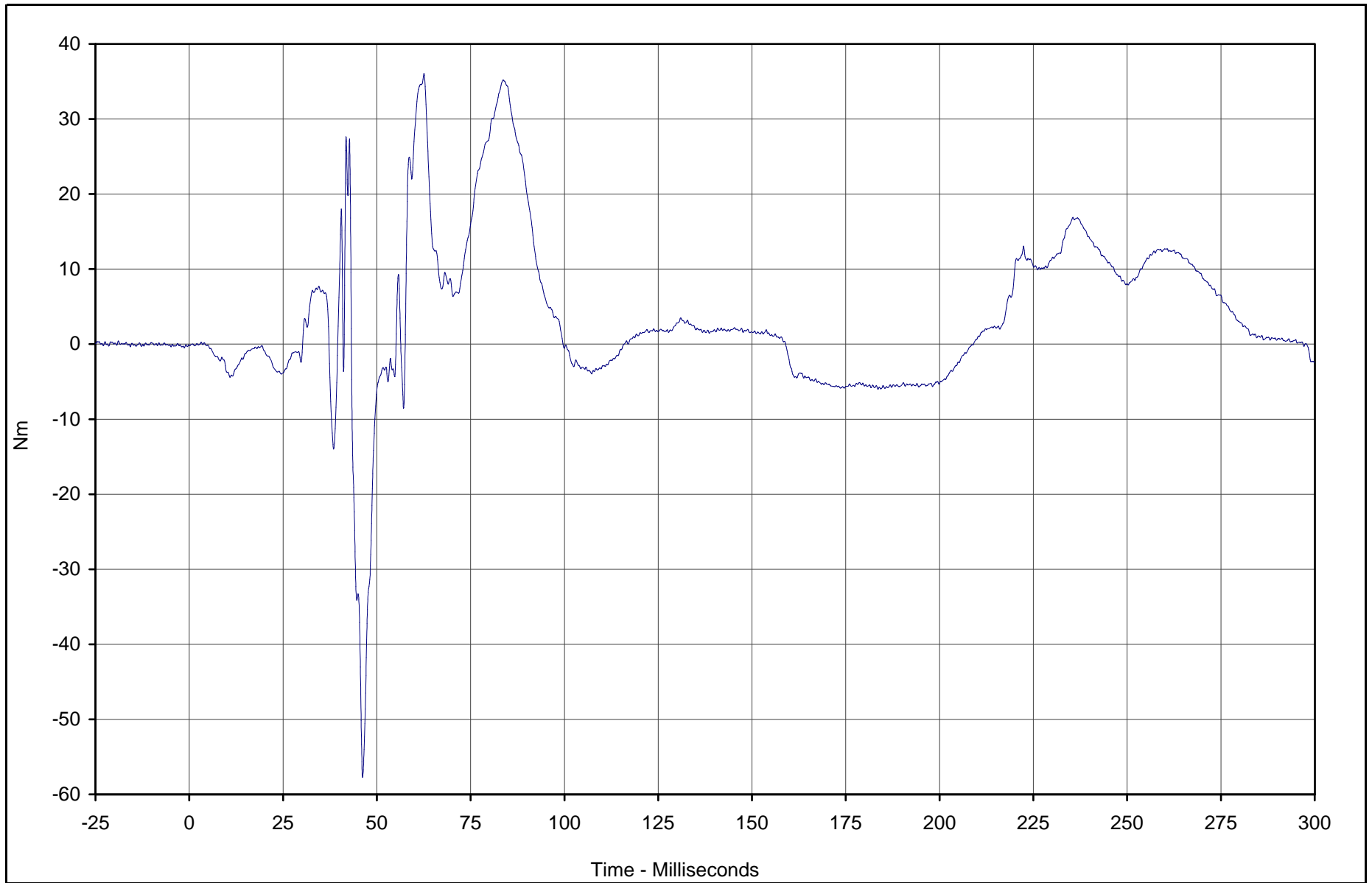
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Lower Tibia Moment Y	033	FIL	Nm	36.1	62.6	-57.8	46.2	600



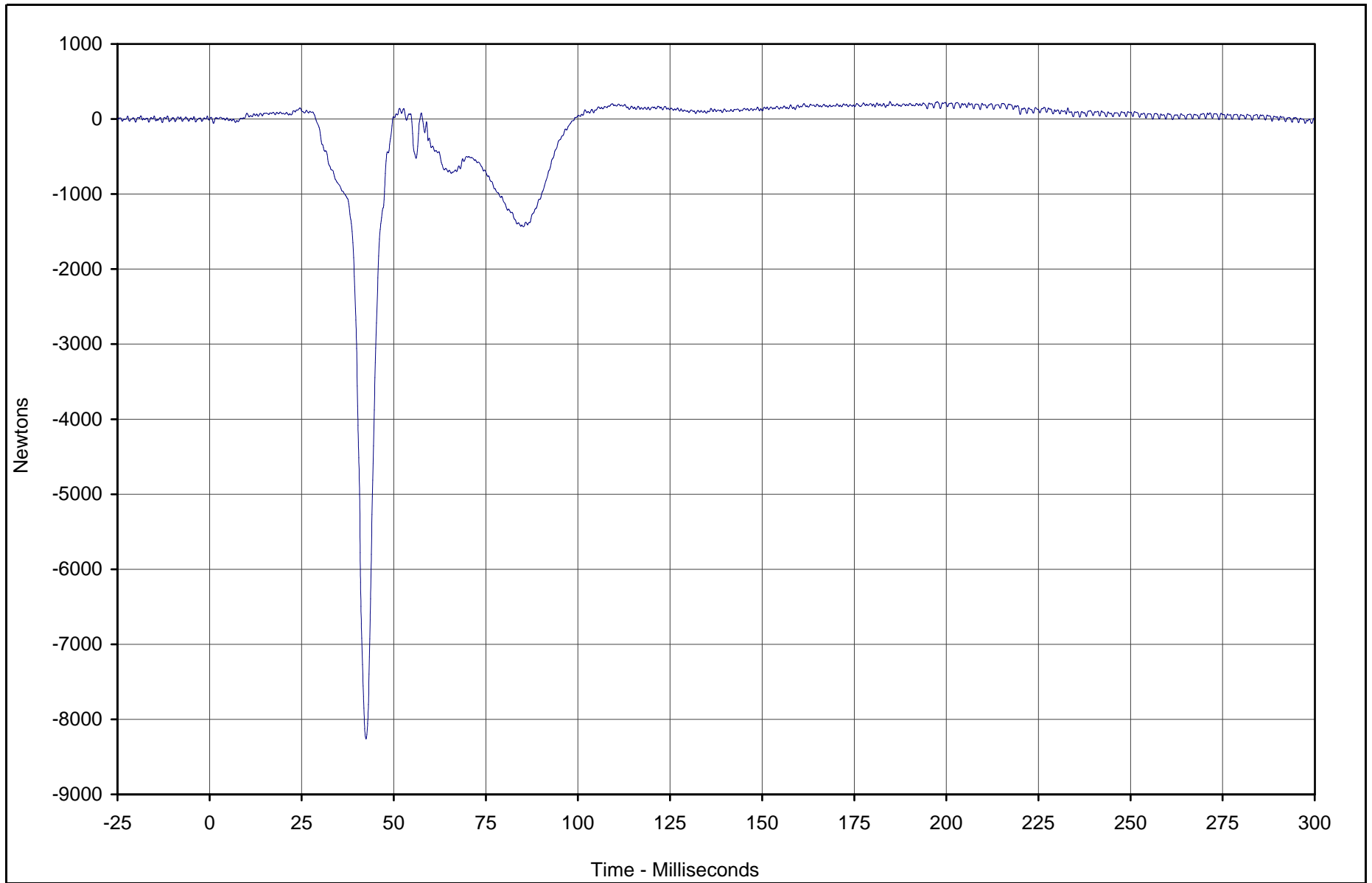
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Lower Tibia Force Z	034	FIL	Newtons	232.1	184.7	-8260.8	42.5	600



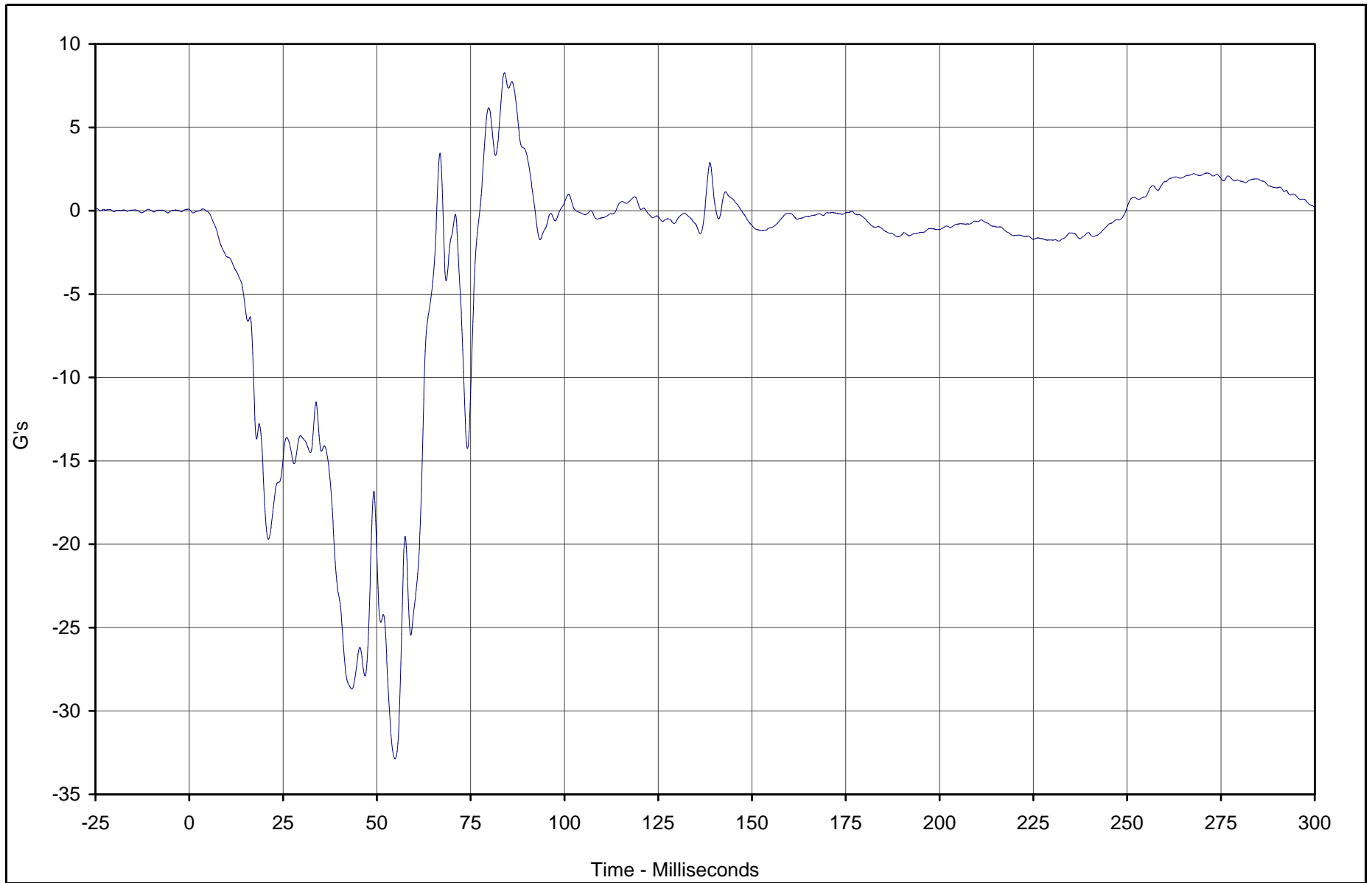
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Foot Aft X	035	FIL	G's	8.3	84.0	-32.9	54.9	180

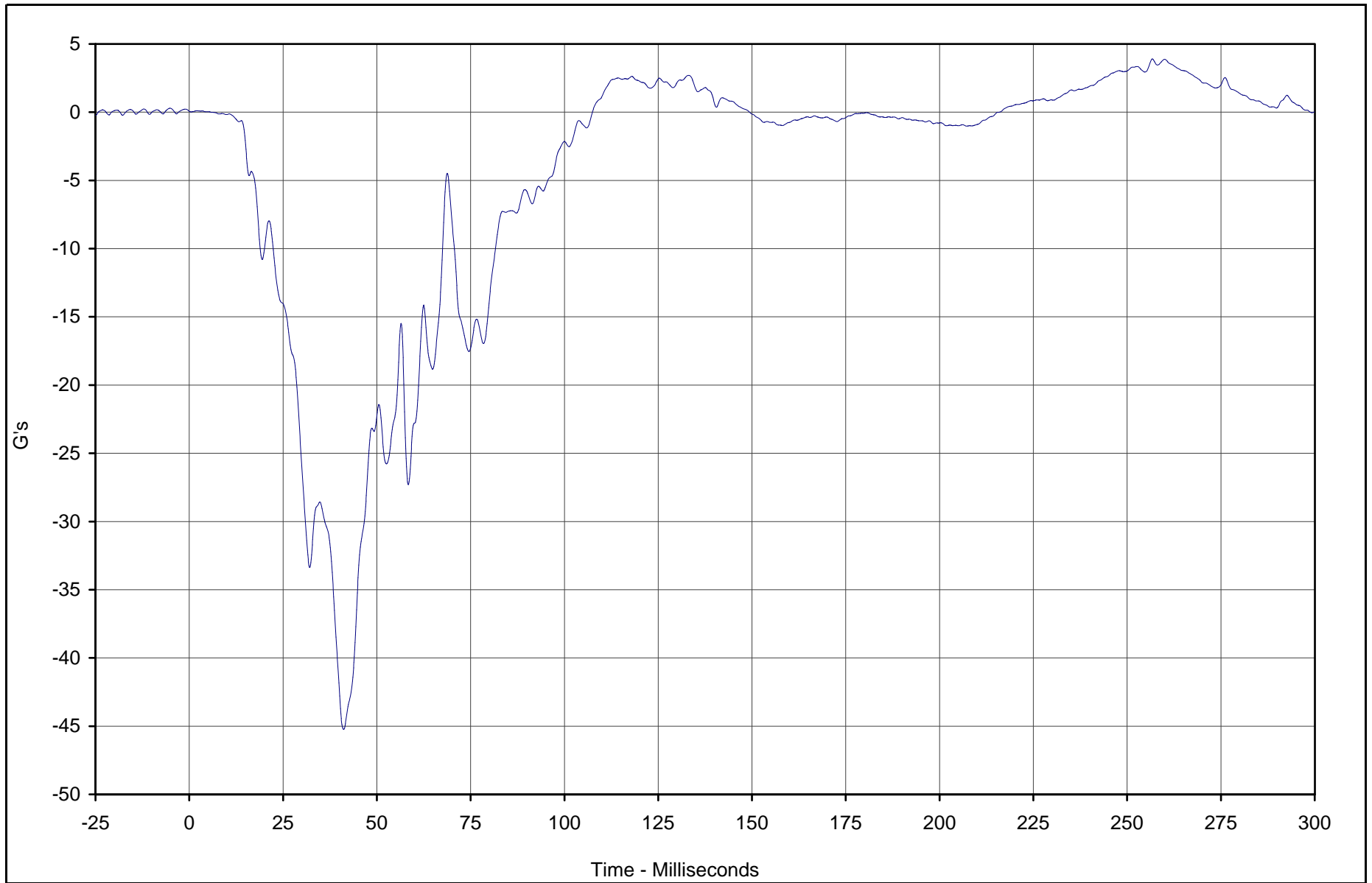


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Foot Aft Z	036	FIL	G's	3.9	256.7	-45.2	41.2	180

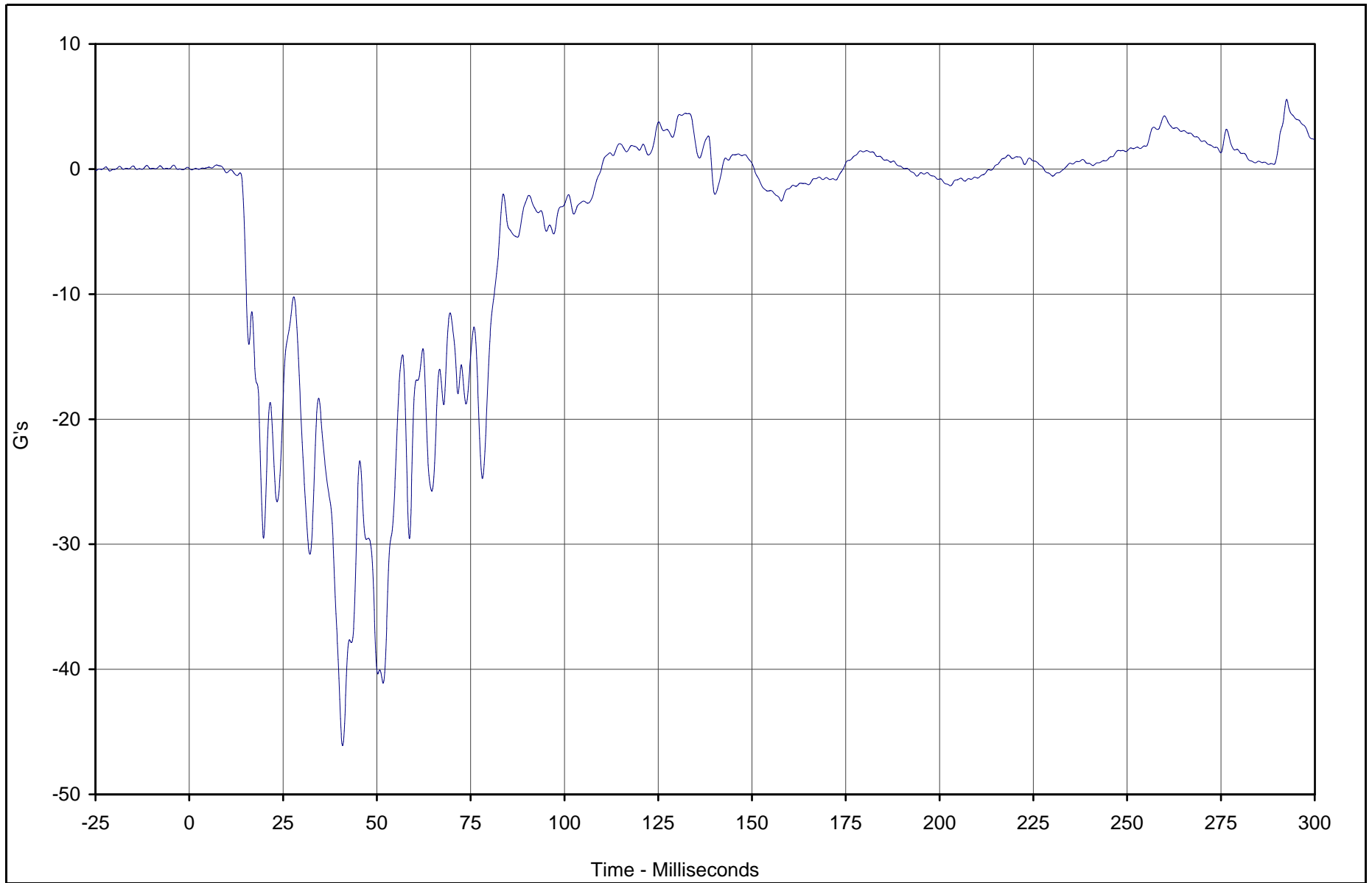


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Foot Fore Z	037	FIL	G's	5.6	292.5	-46.1	40.9	180



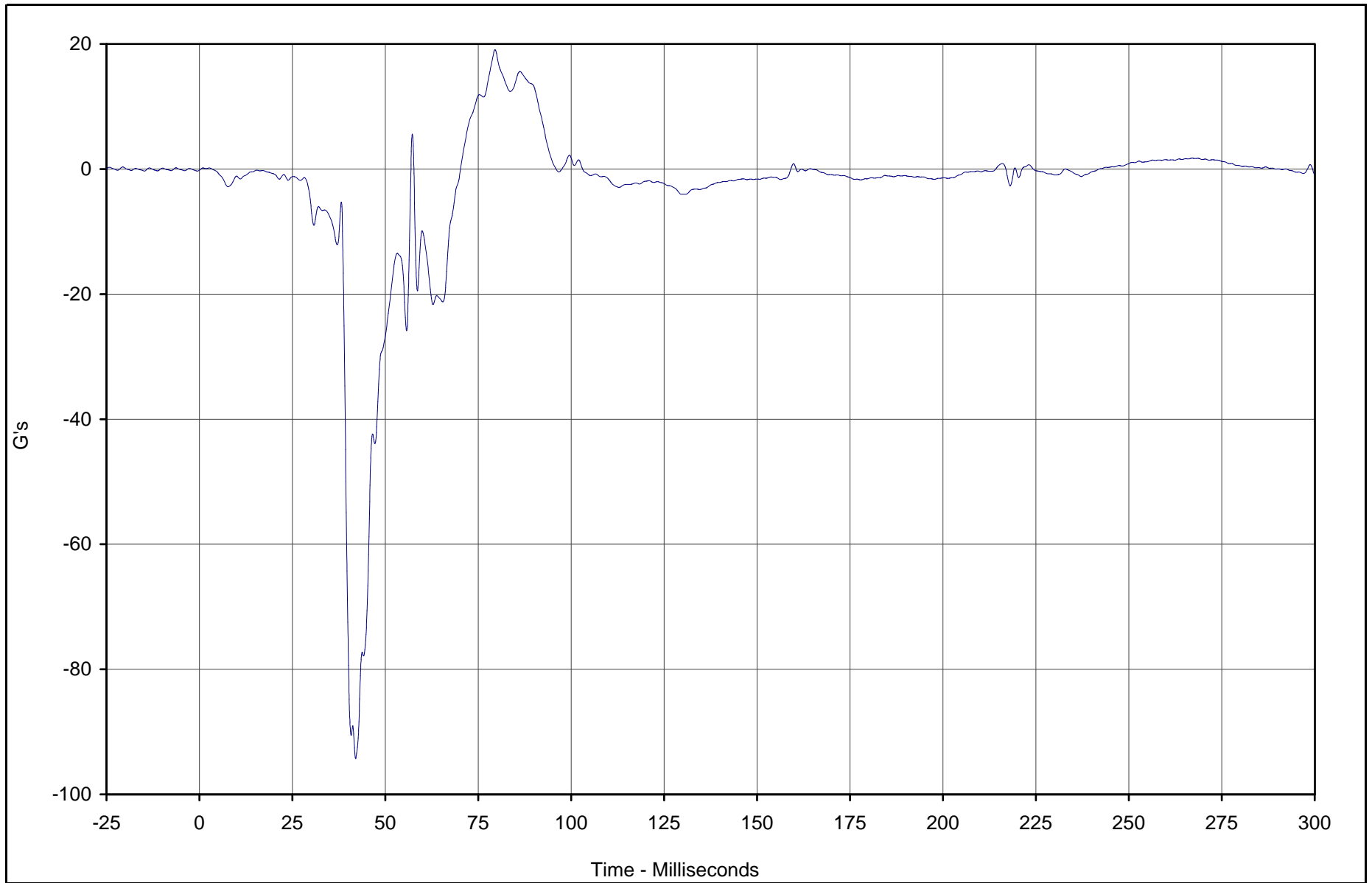
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Foot Aft X	038	FIL	G's	19.1	79.5	-94.3	42.0	180



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

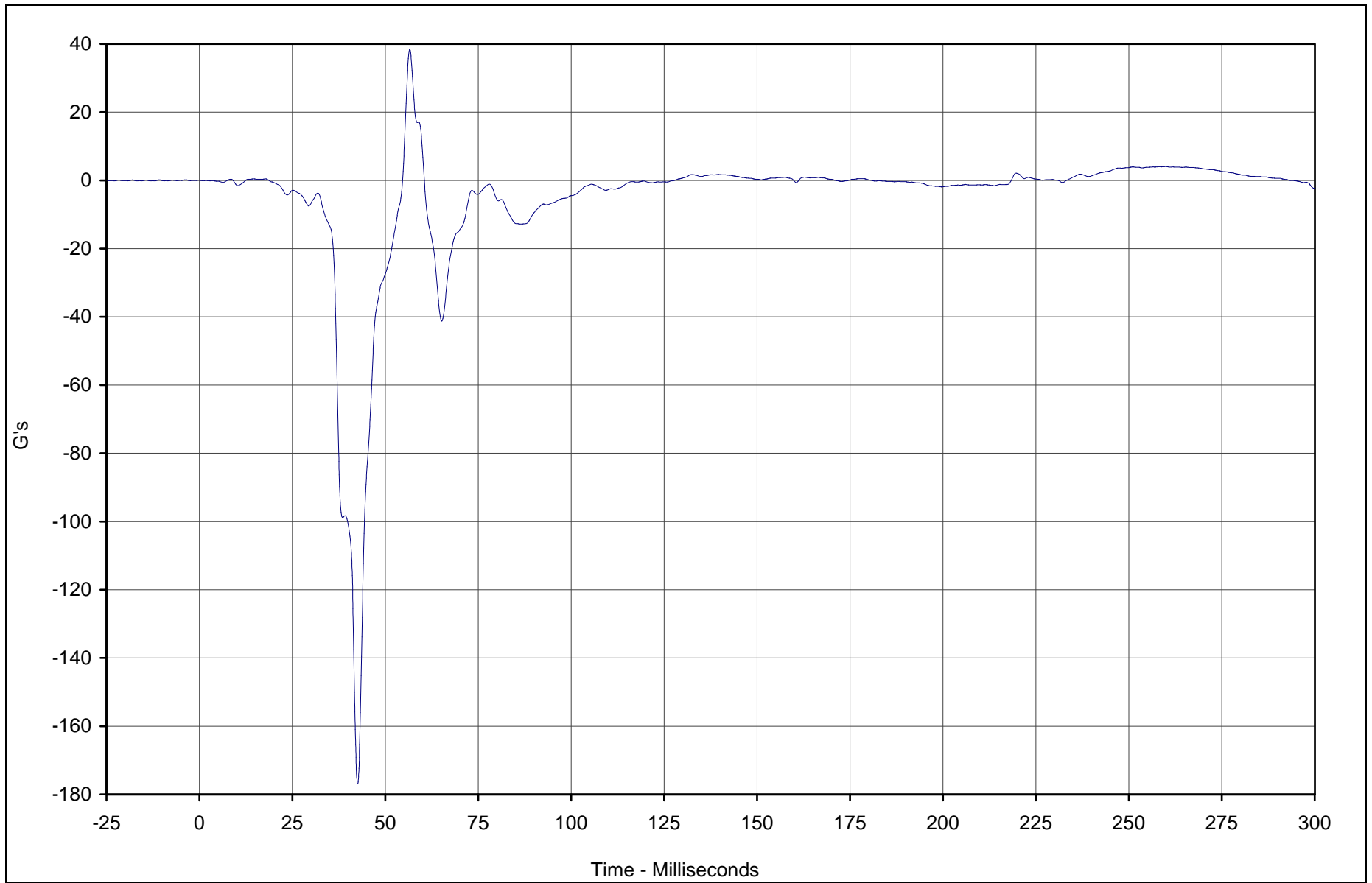
Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Foot Aft Z	039	FIL	G's	38.4	56.6	-177.0	42.6	180

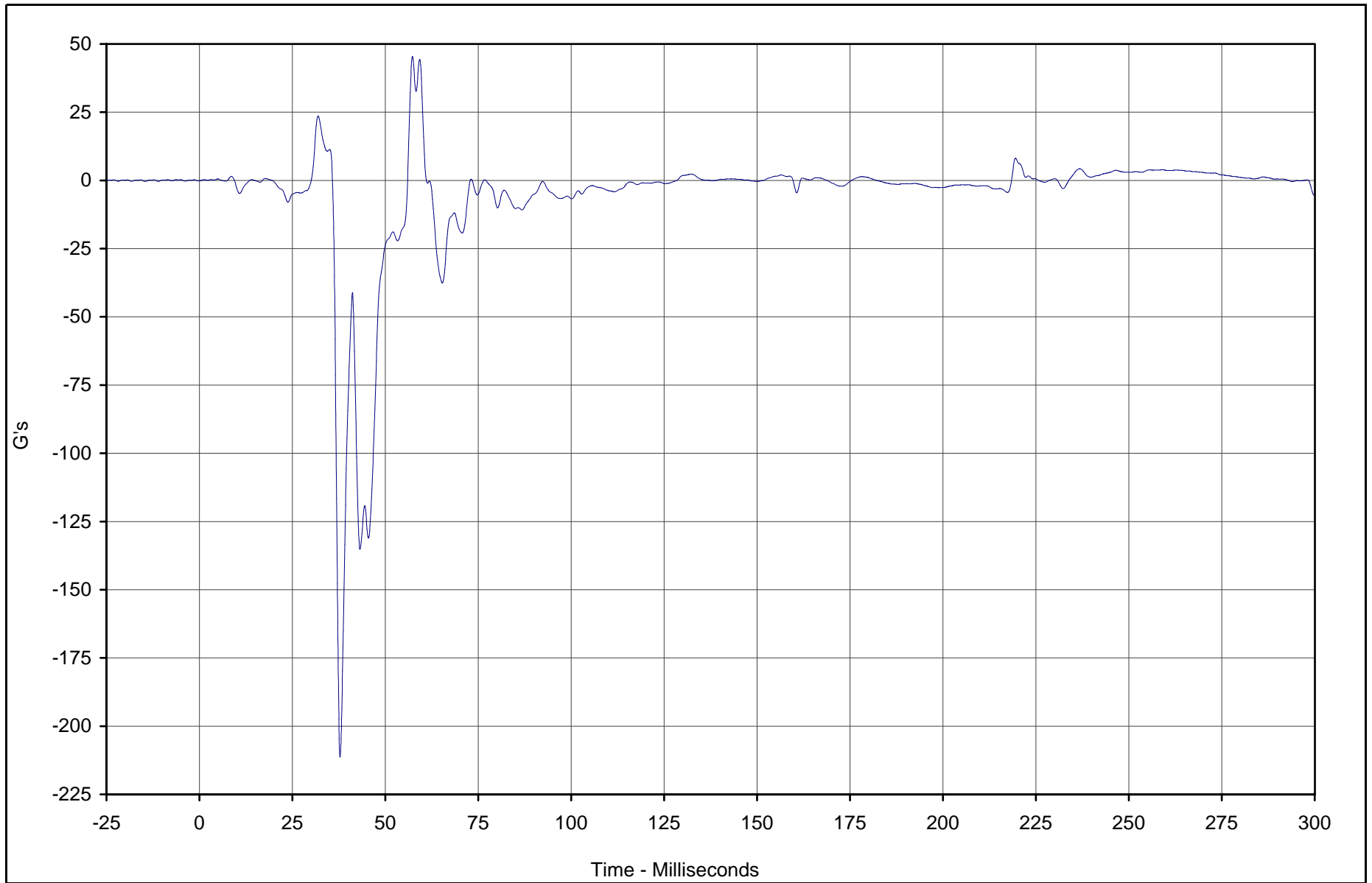


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Foot Fore Z	040	FIL	G's	45.4	57.3	-211.3	37.8	180

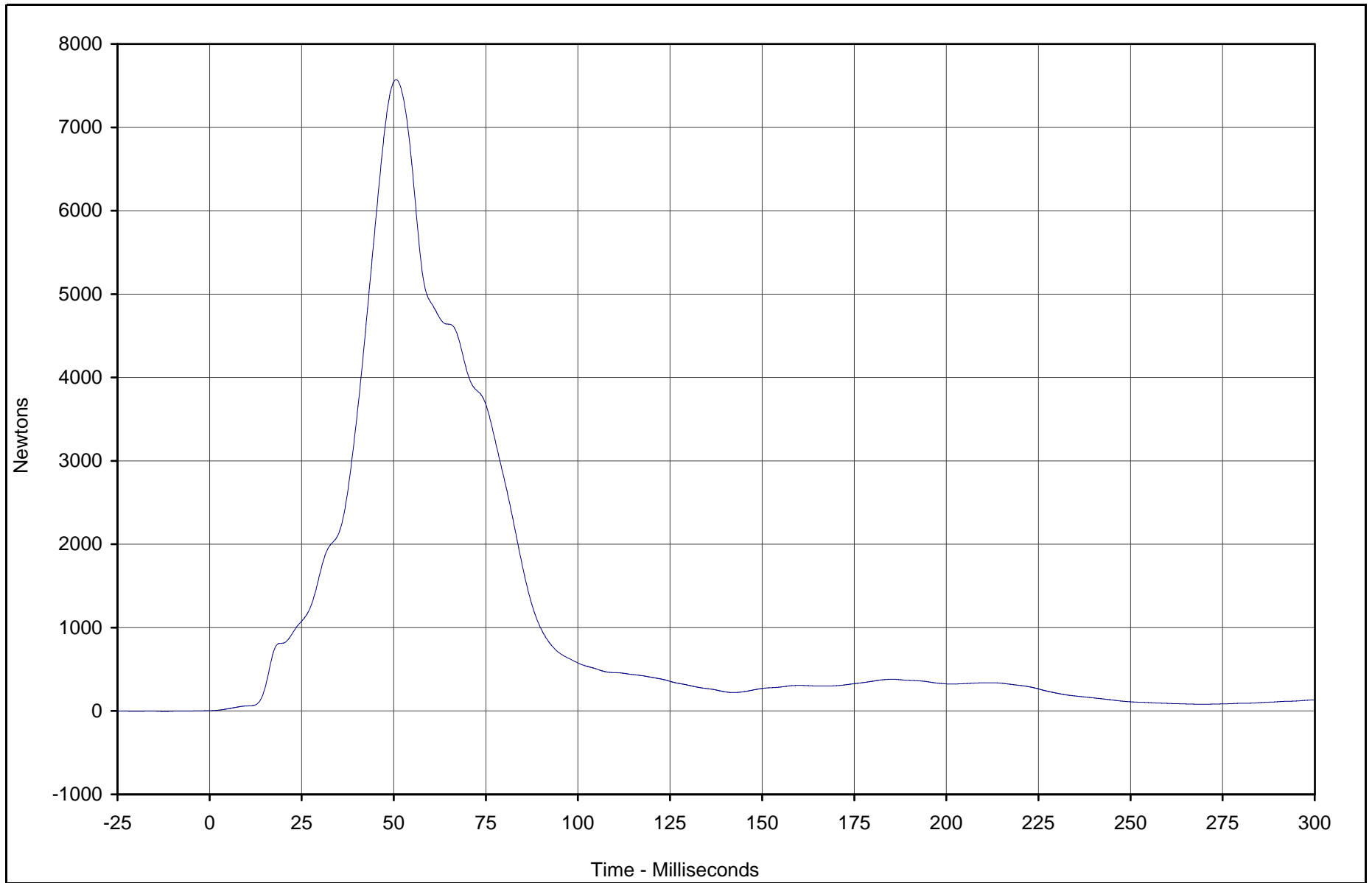


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Lap Belt Force	041	FIL	Newtons	7572.5	50.6	3.2	0.0	60

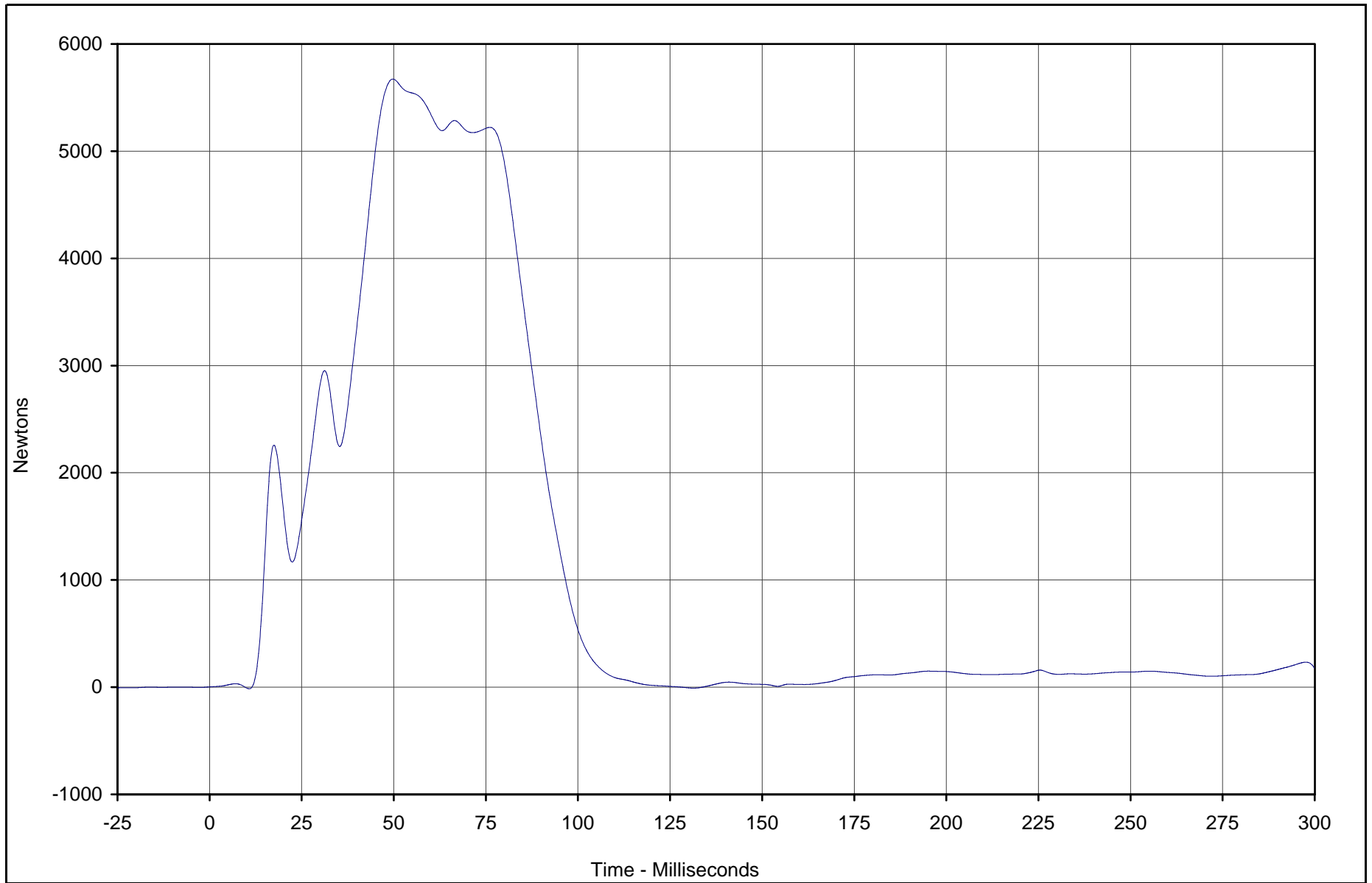


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Shoulder Belt Force	042	FIL	Newtons	5672.8	49.7	-15.3	10.7	60



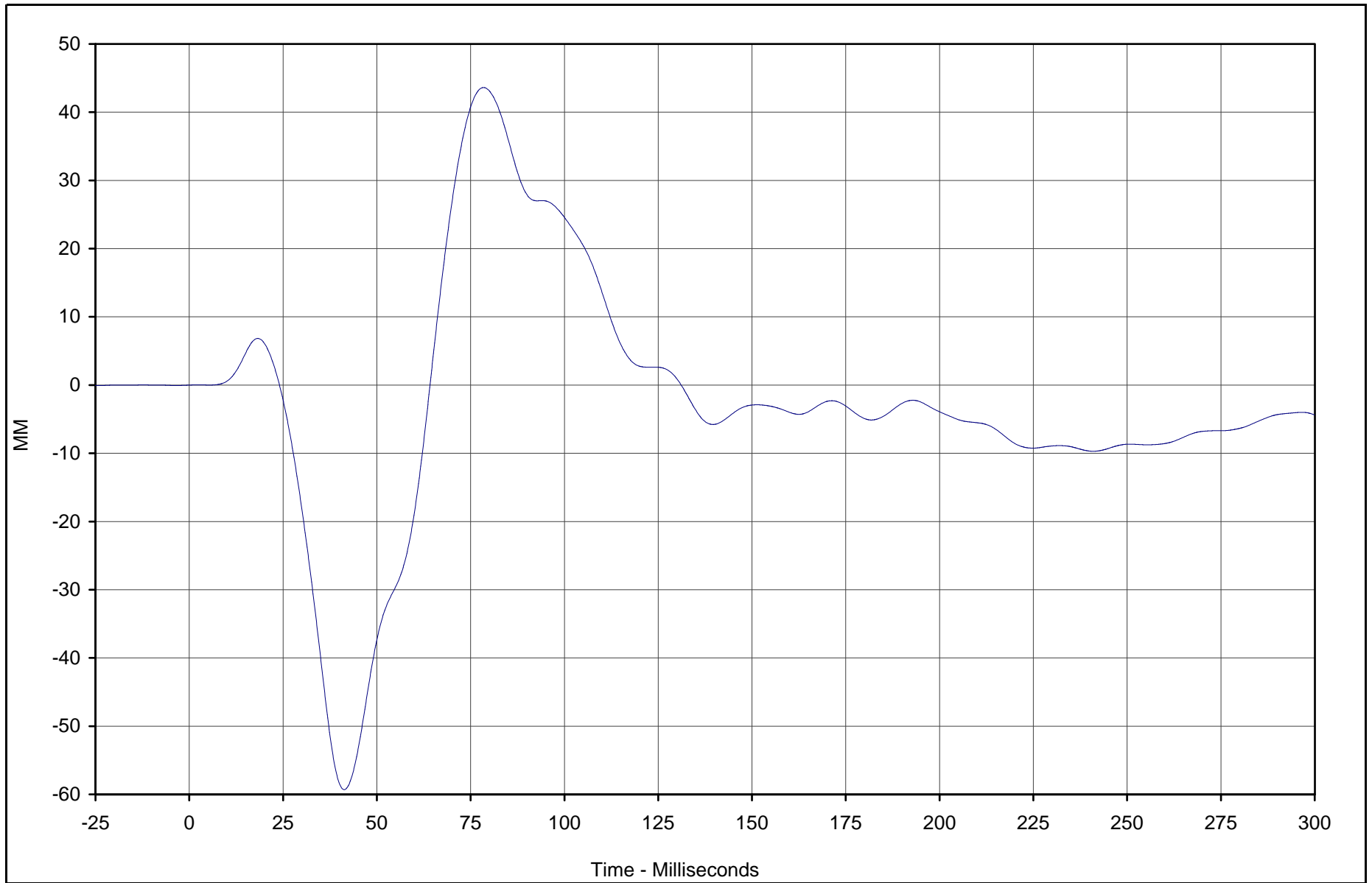
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Shoulder Belt Pullout	043	FIL	MM	43.6	78.4	-59.3	41.3	60



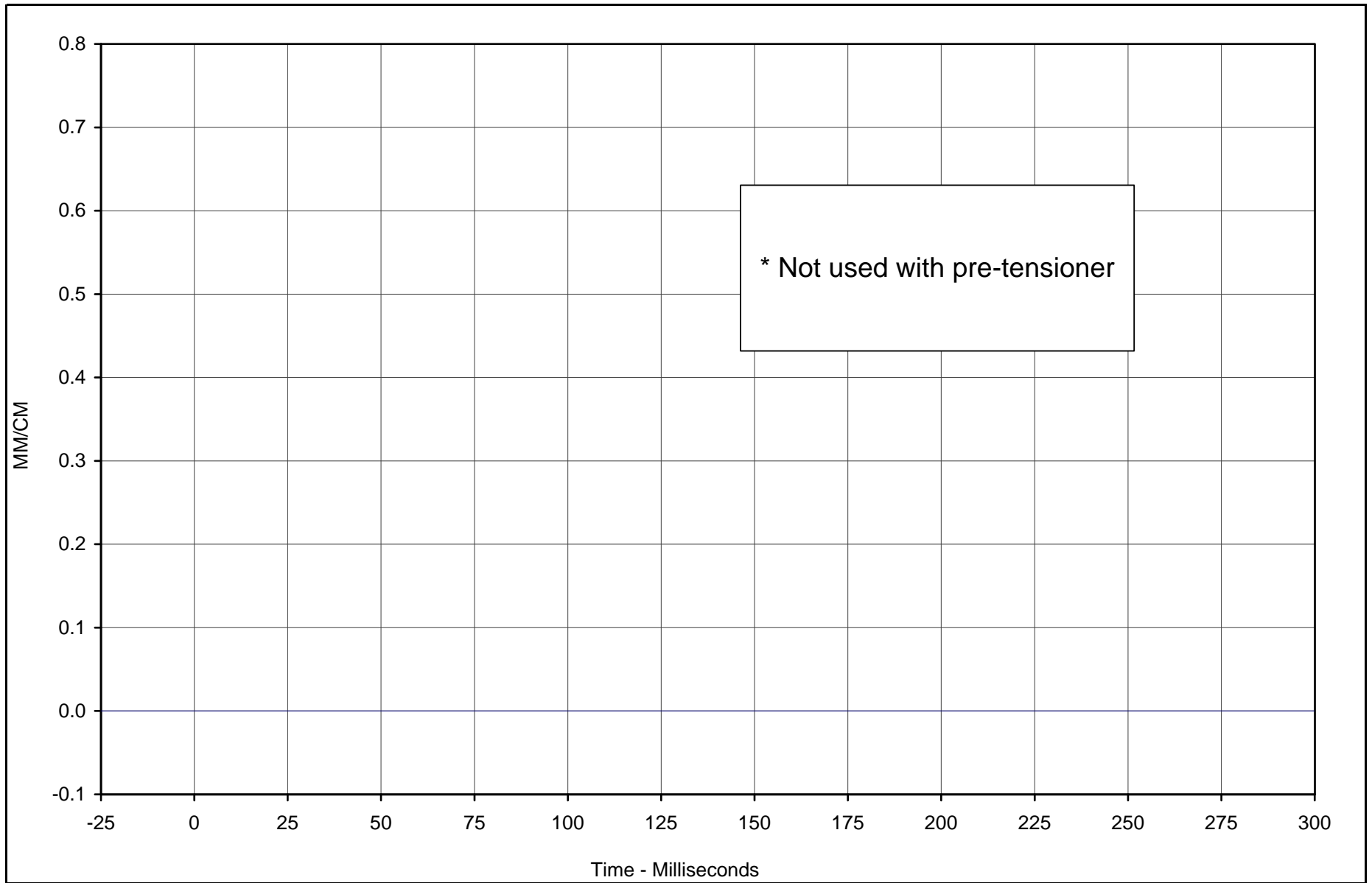
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC



* Not used with pre-tensioner

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Shoulder Belt Elongation	044	FIL	MM/CM	0.00	0.0	0.00	0.0	60



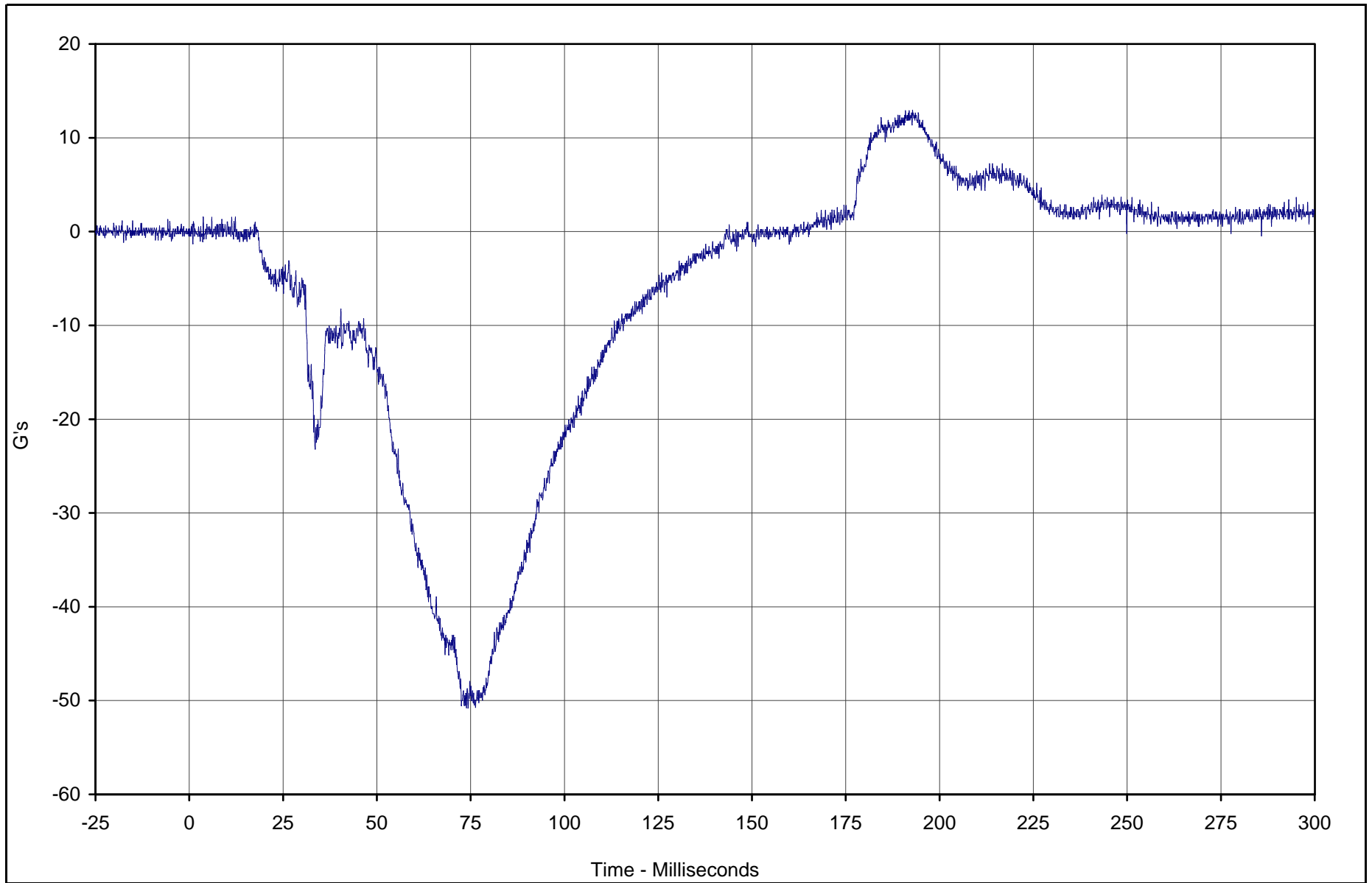
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

B-62



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Primary X	045	FIL	G's	12.9	190.9	-50.8	73.9	1000



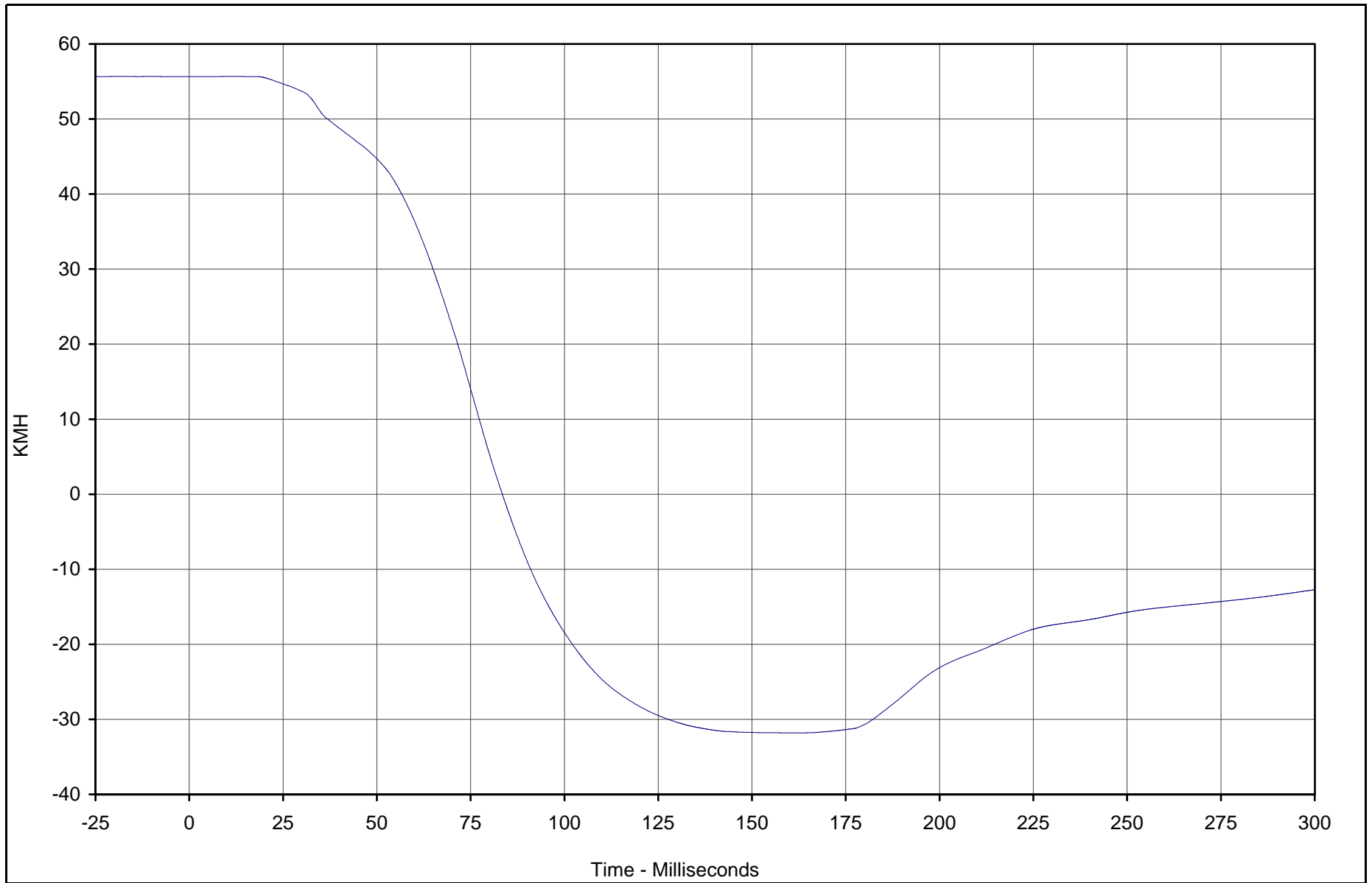
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Primary X Velocity	045	IN1	KMH	55.7	12.5	-31.8	161.1	180



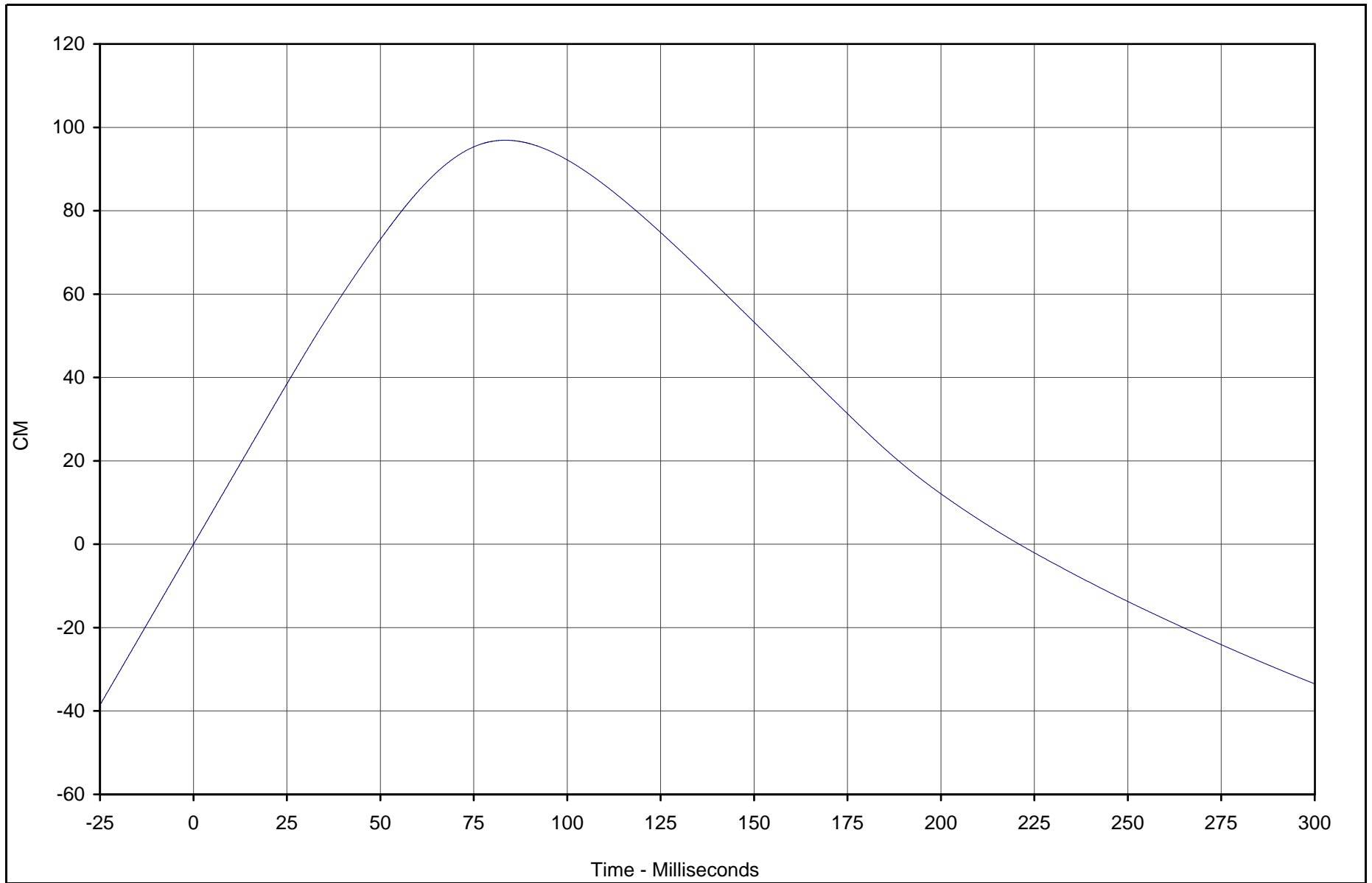
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Primary X Displ.	045	IN2	CM	96.9	83.5	-33.4	299.9	180



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

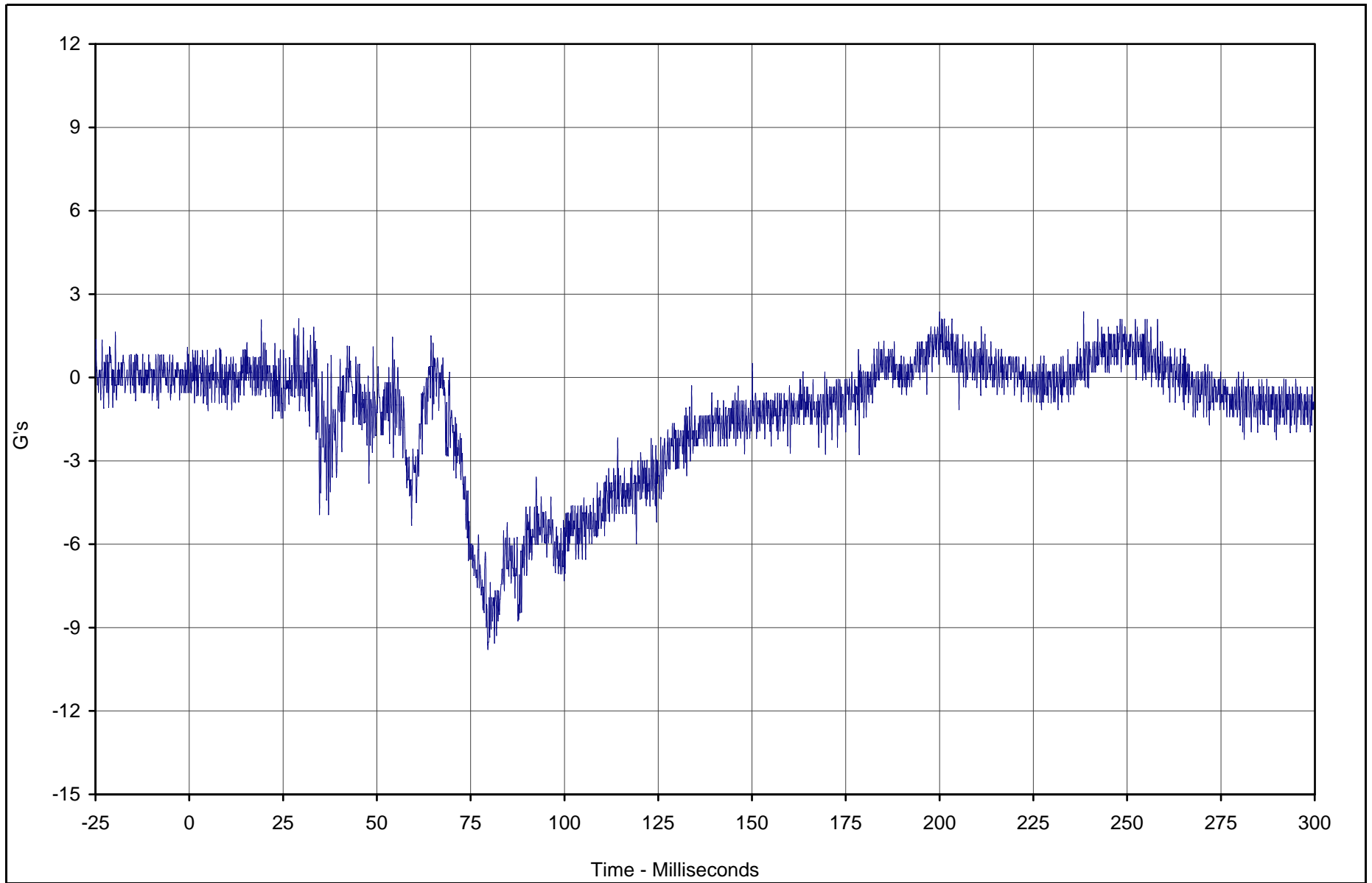
Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Primary Y	046	FIL	G's	2.4	200.0	-9.8	79.6	1000

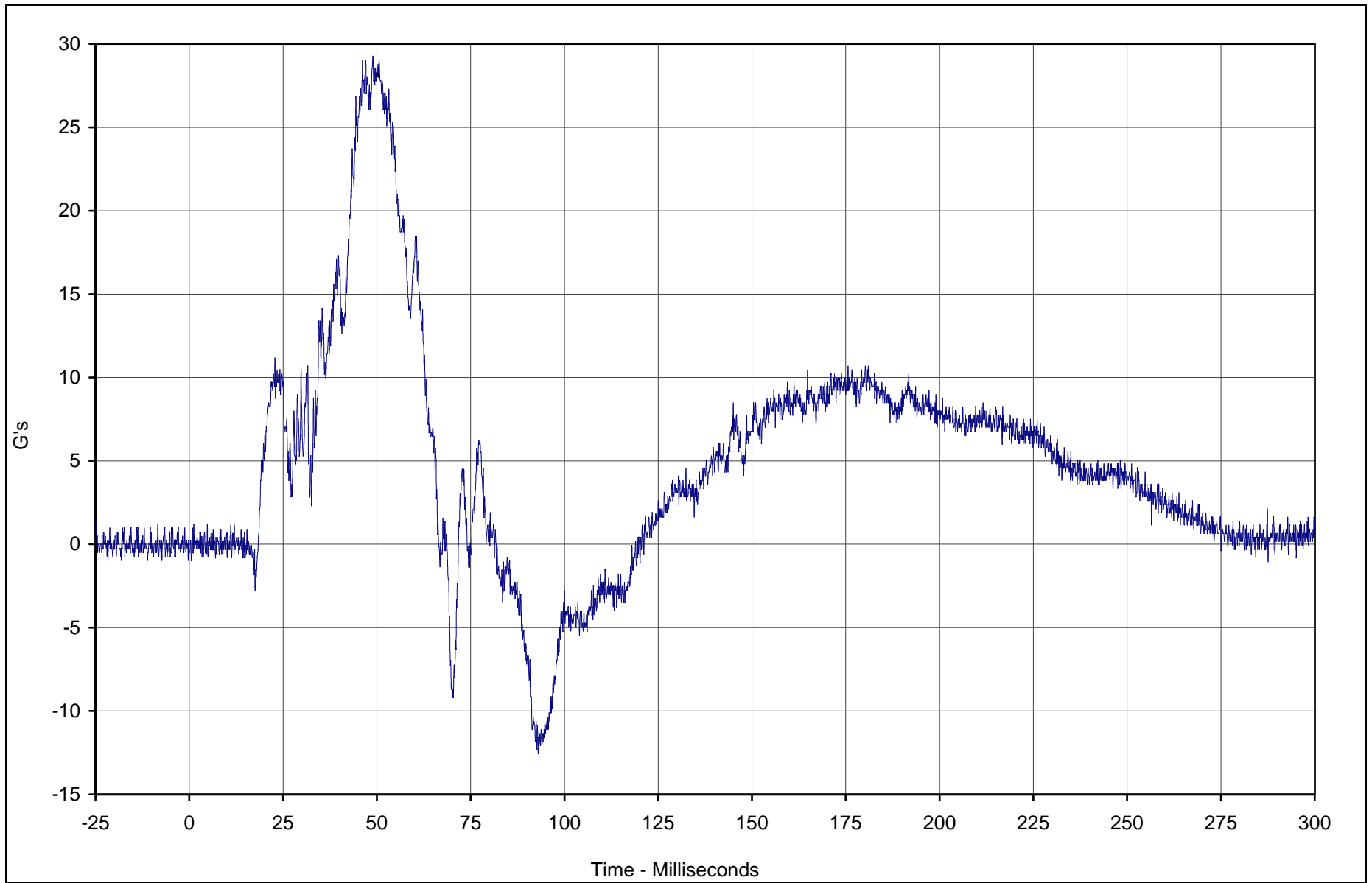


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Primary Z	047	FIL	G's	29.3	48.9	-12.6	93.0	1000

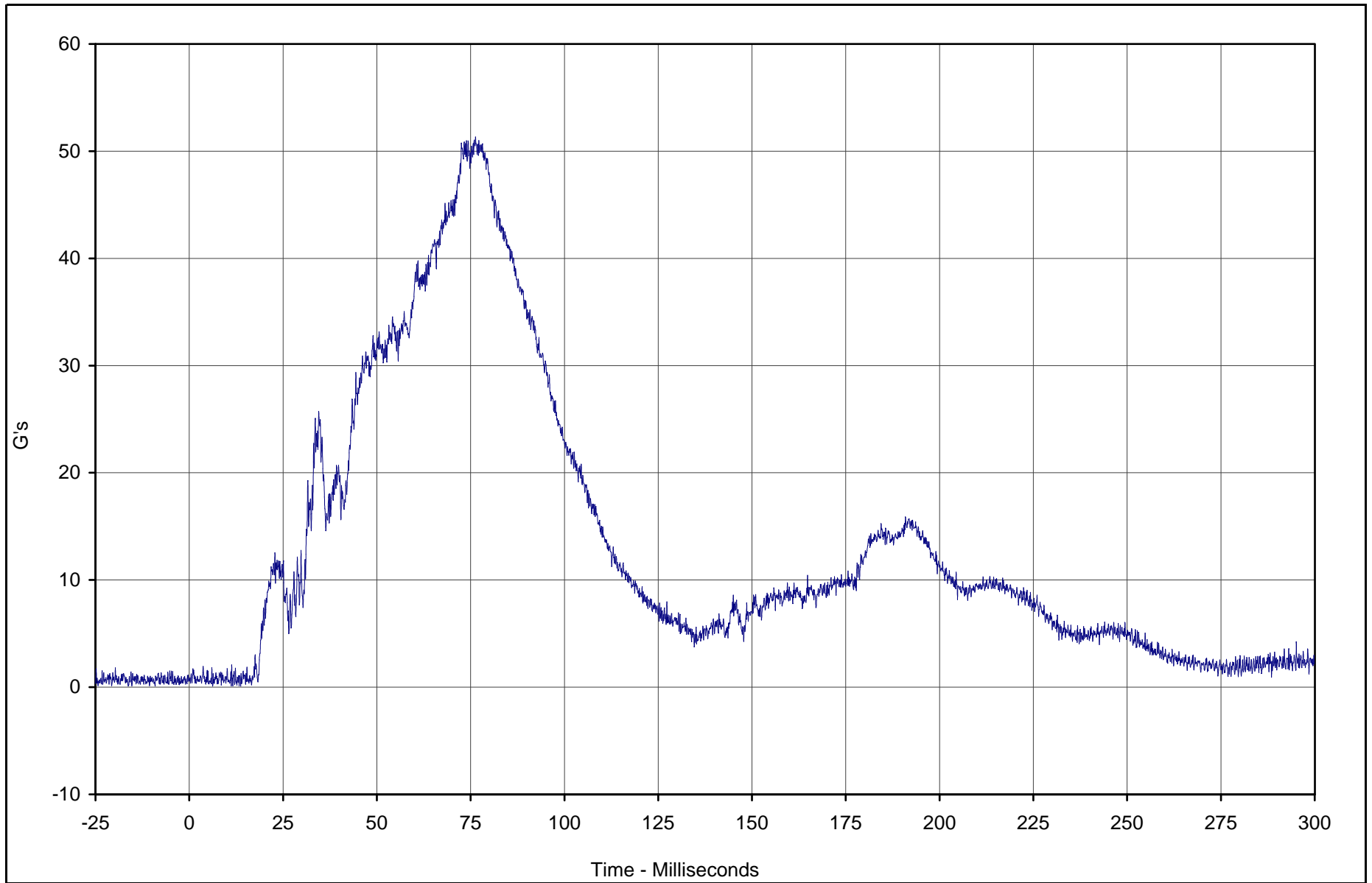


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Resultant Primary	045	RES	G's	51.3	76.3	0.1	6.2	1000



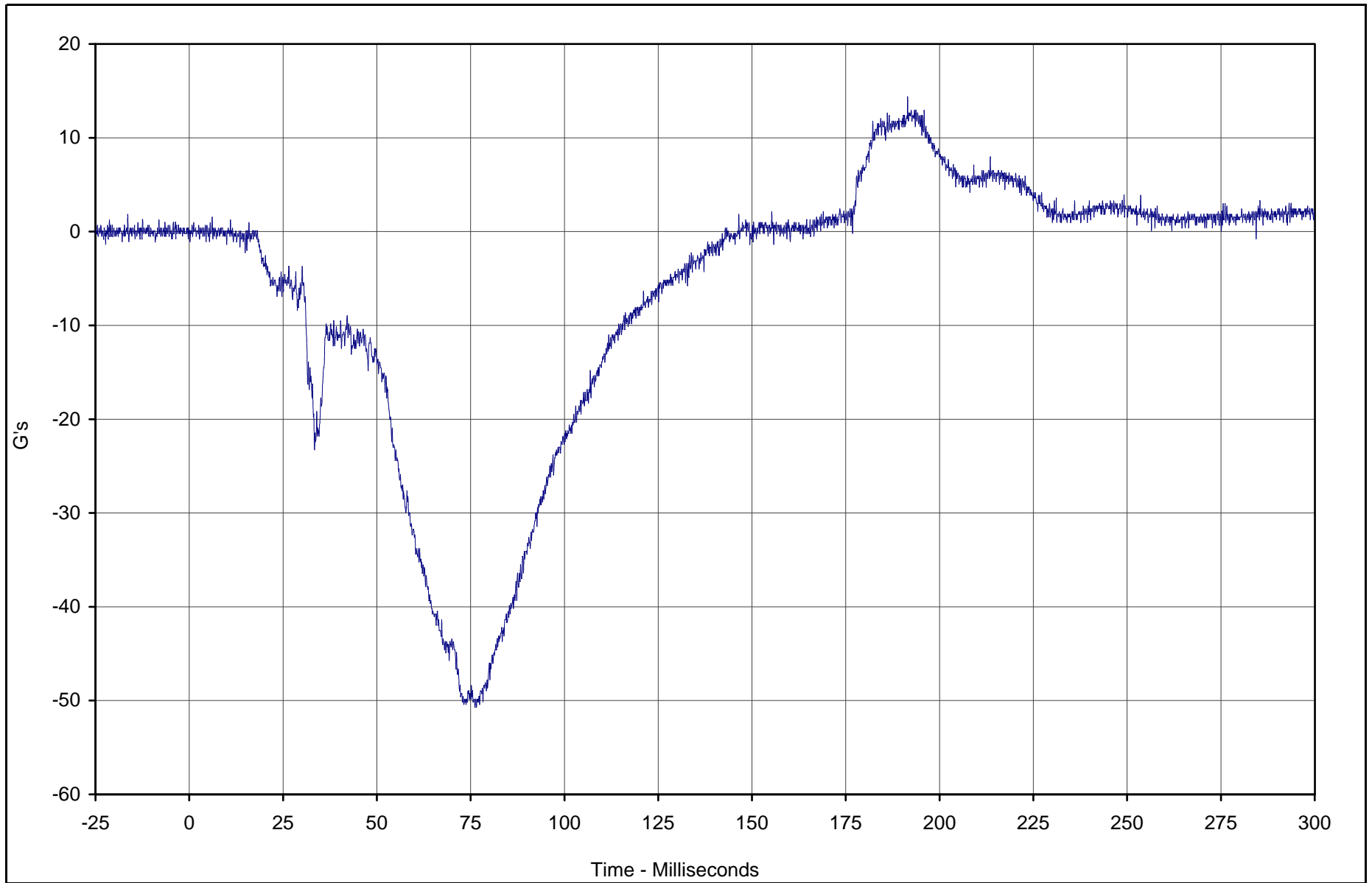
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Redundant X	048	FIL	G's	14.4	191.5	-50.7	76.2	1000



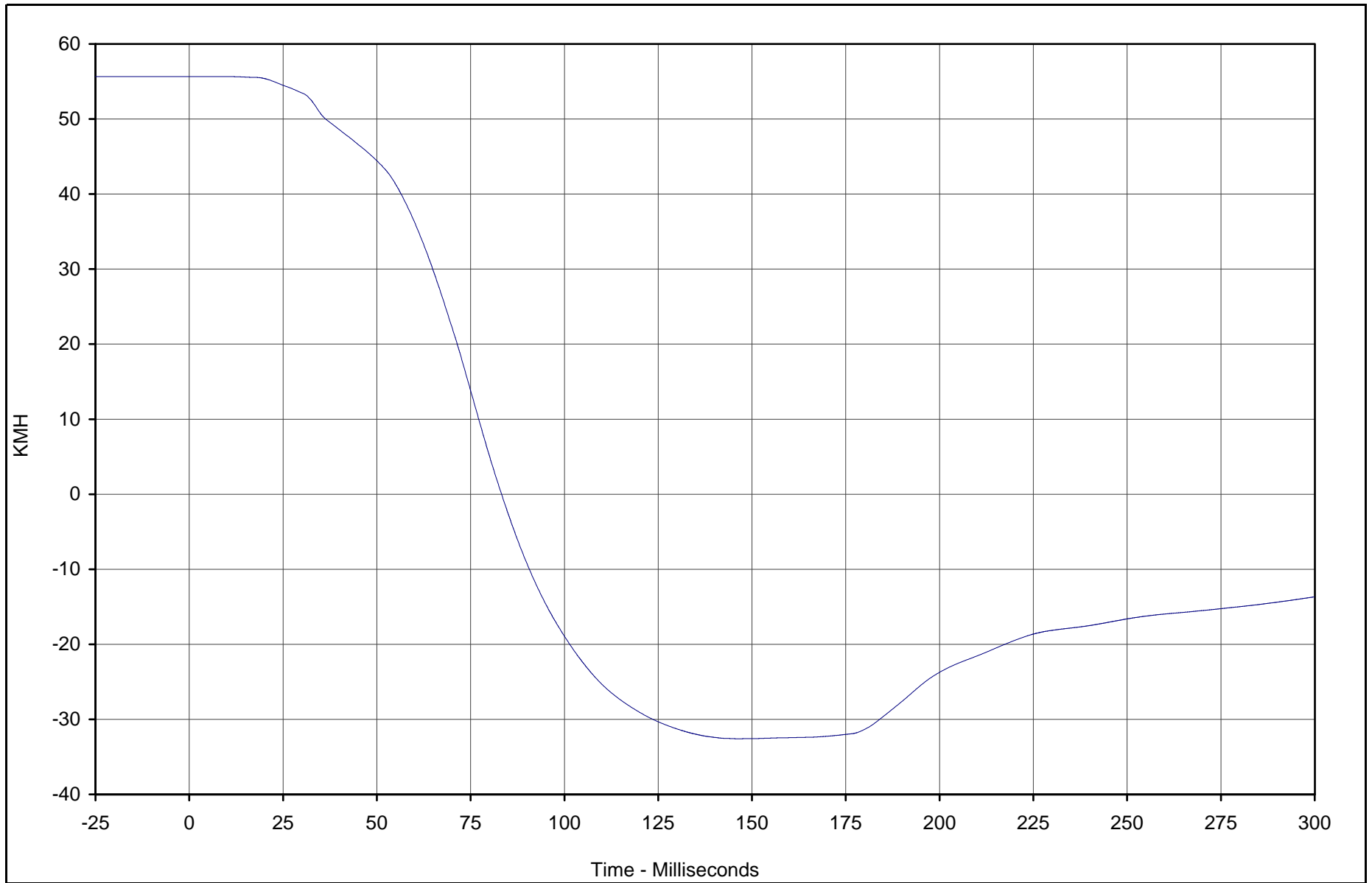
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Redundant X Velocity	048	IN1	KMH	55.7	6.7	-32.6	146.4	180



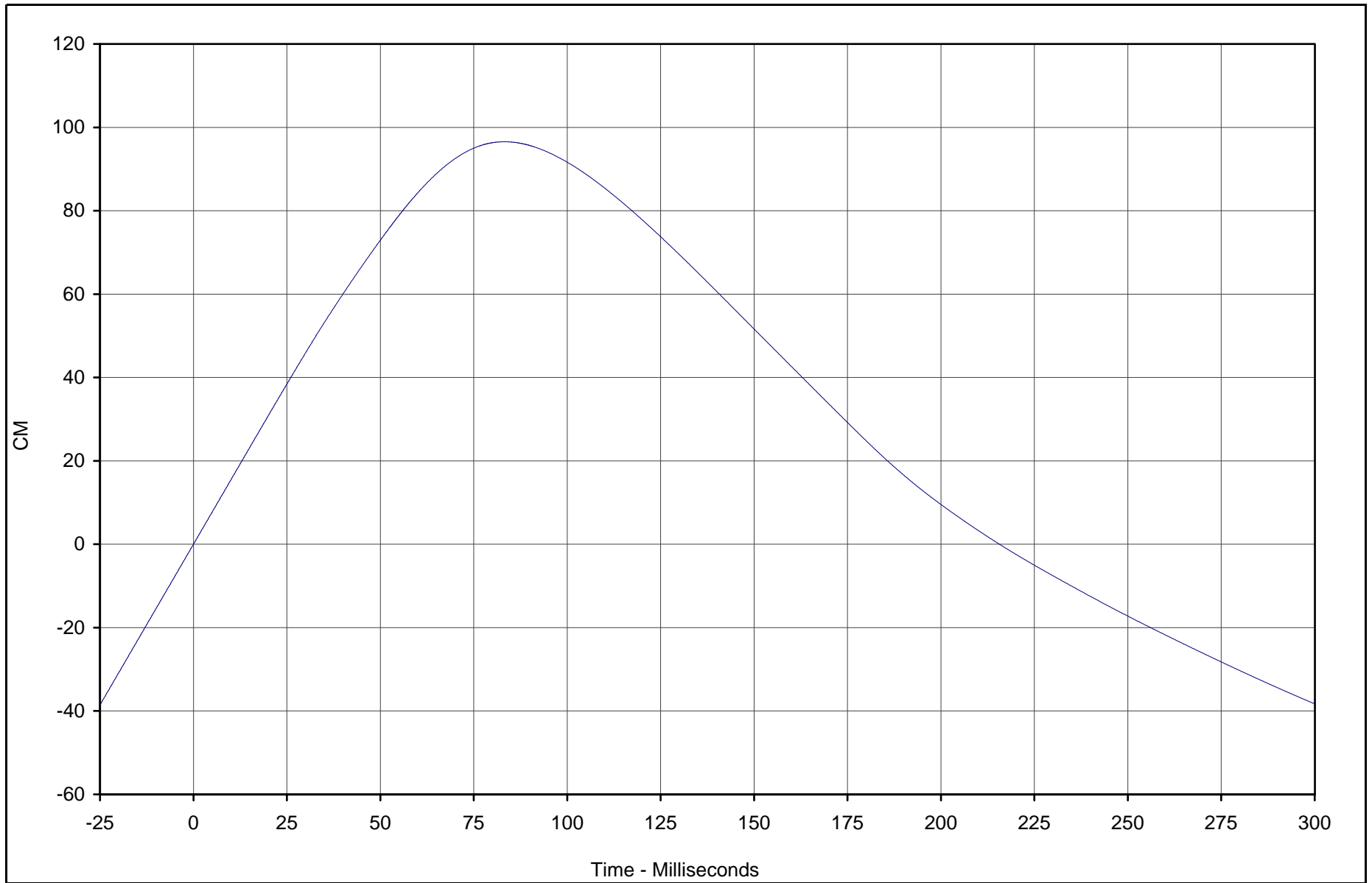
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Redundant X Displ.	048	IN2	CM	96.5	83.2	-38.2	299.9	180



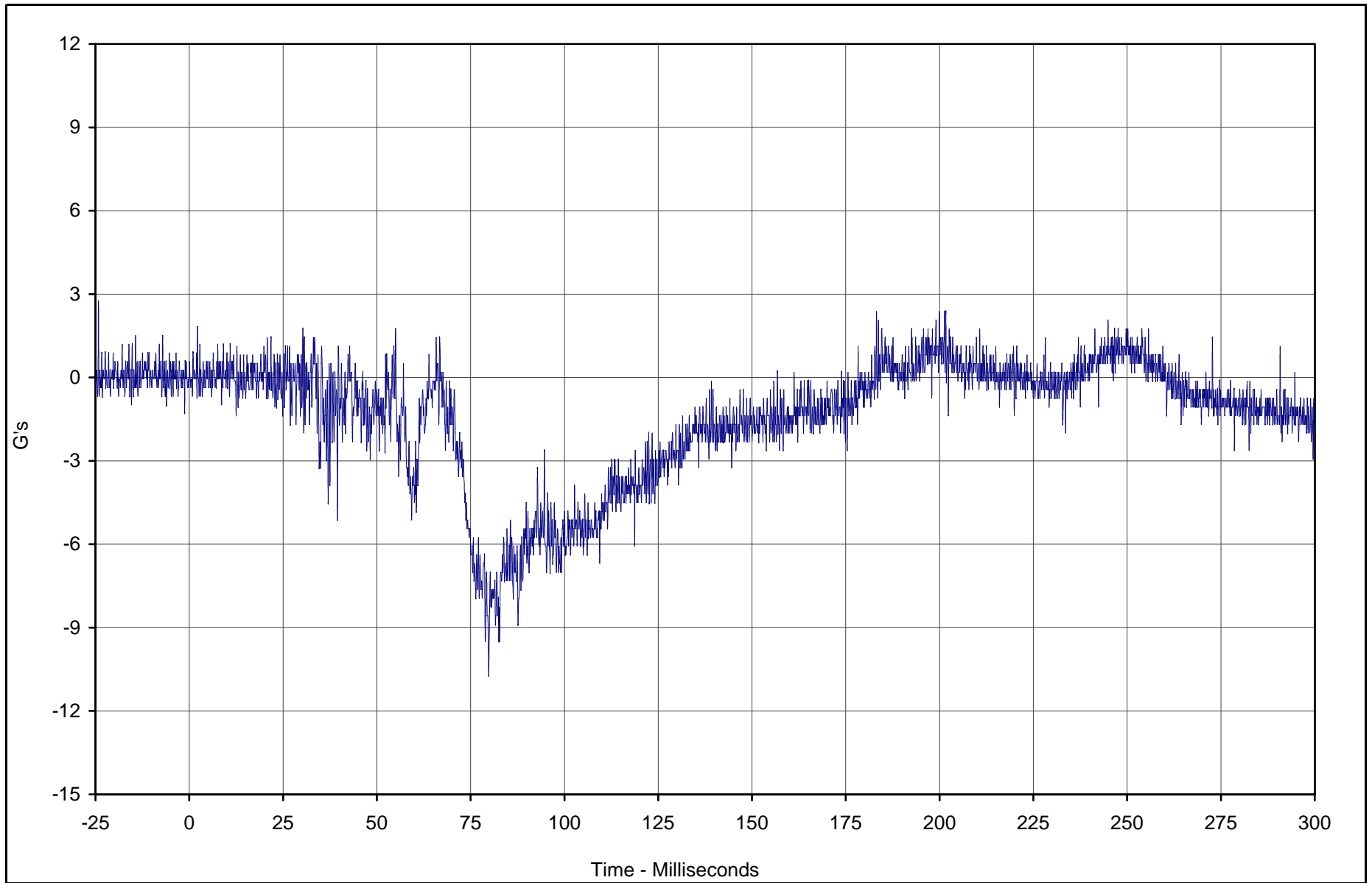
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Redundant Y	049	FIL	G's	2.4	183.2	-10.8	79.8	1000



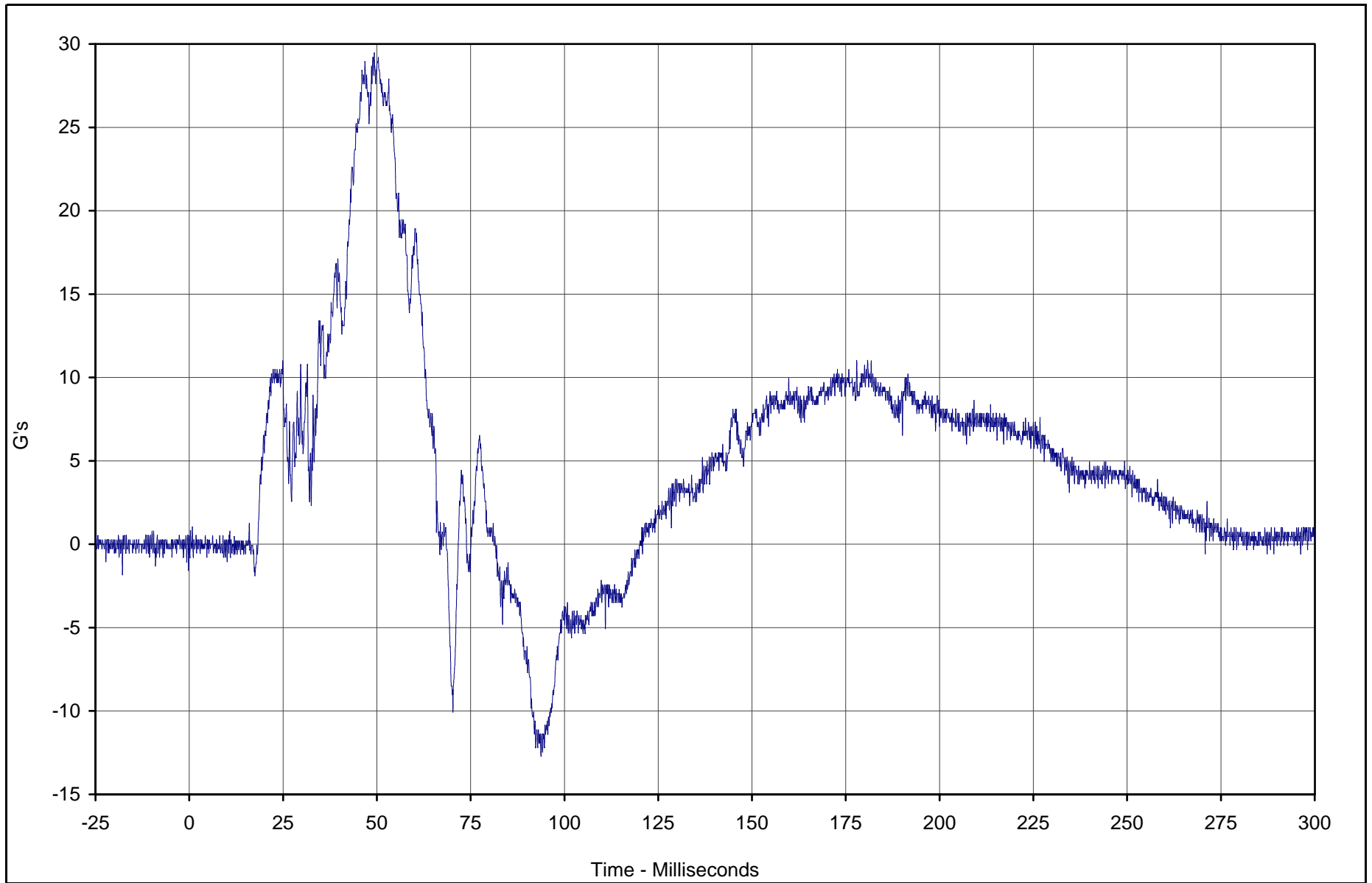
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Redundant Z	050	FIL	G's	29.5	49.3	-12.7	93.8	1000



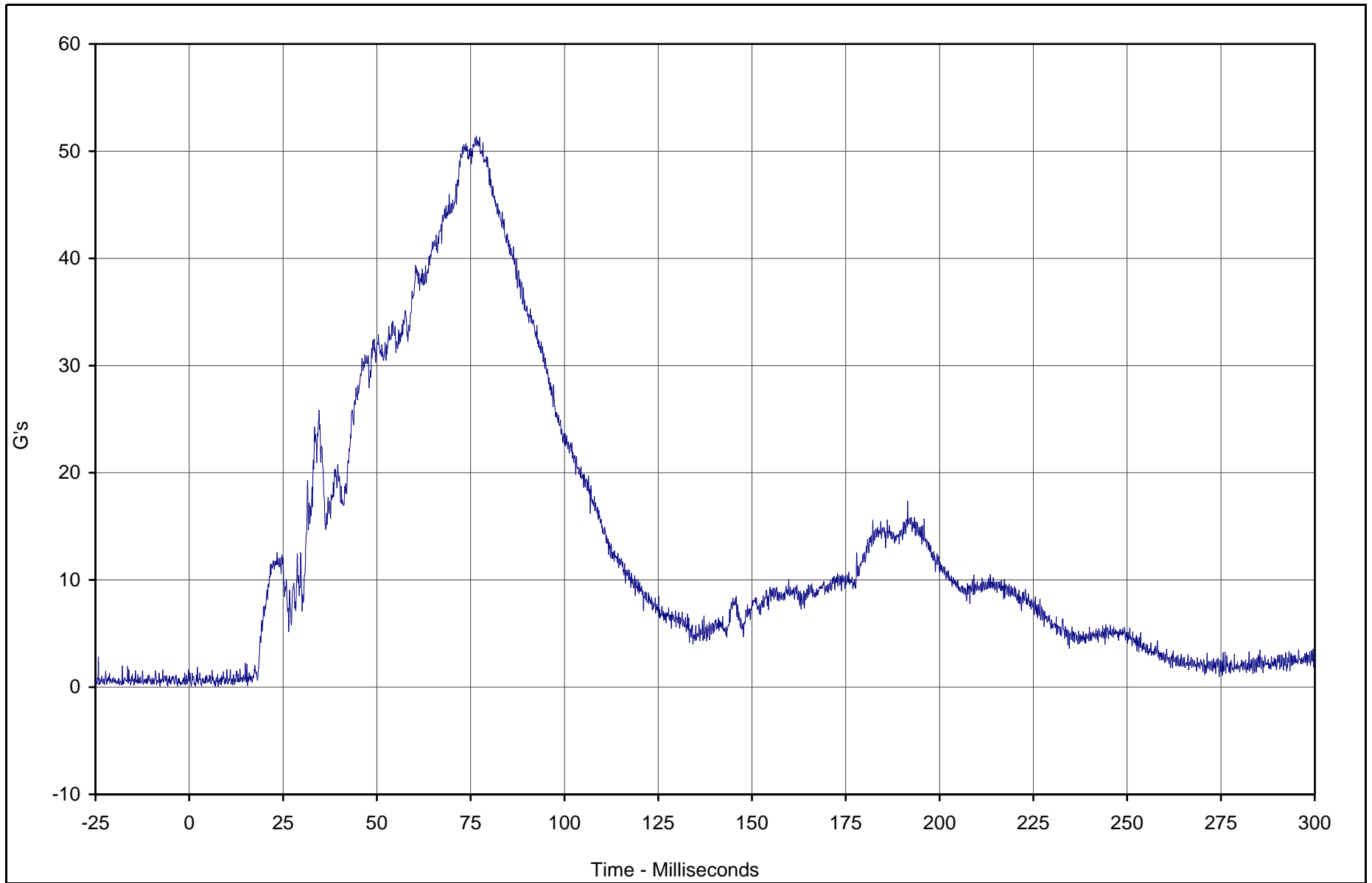
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Resultant Redundant	048	RES	G's	51.4	76.5	0.1	0.5	1000



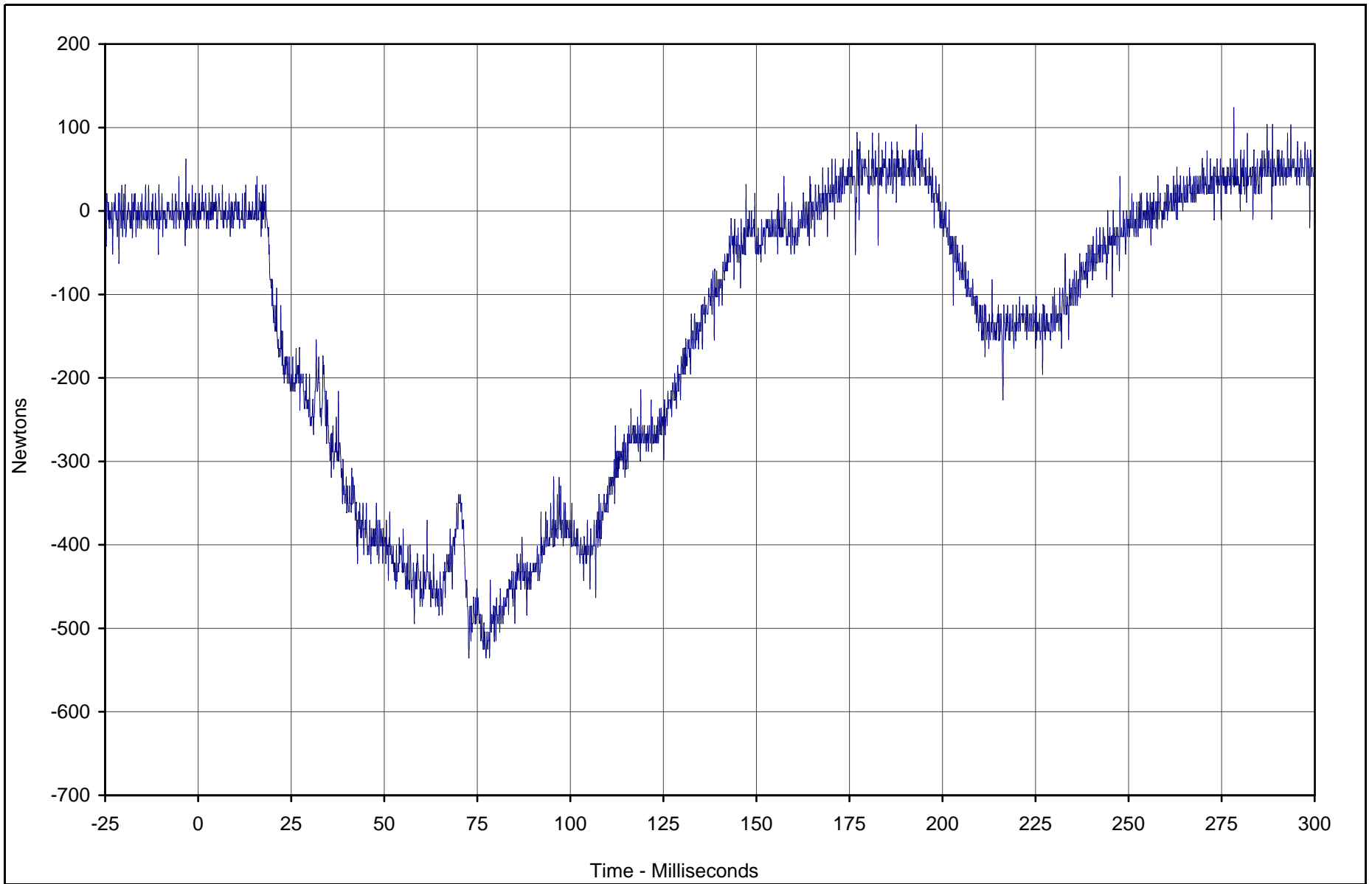
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

B-74



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Force X	051	FIL	Newtons	123.9	278.3	-535.4	72.7	1000



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

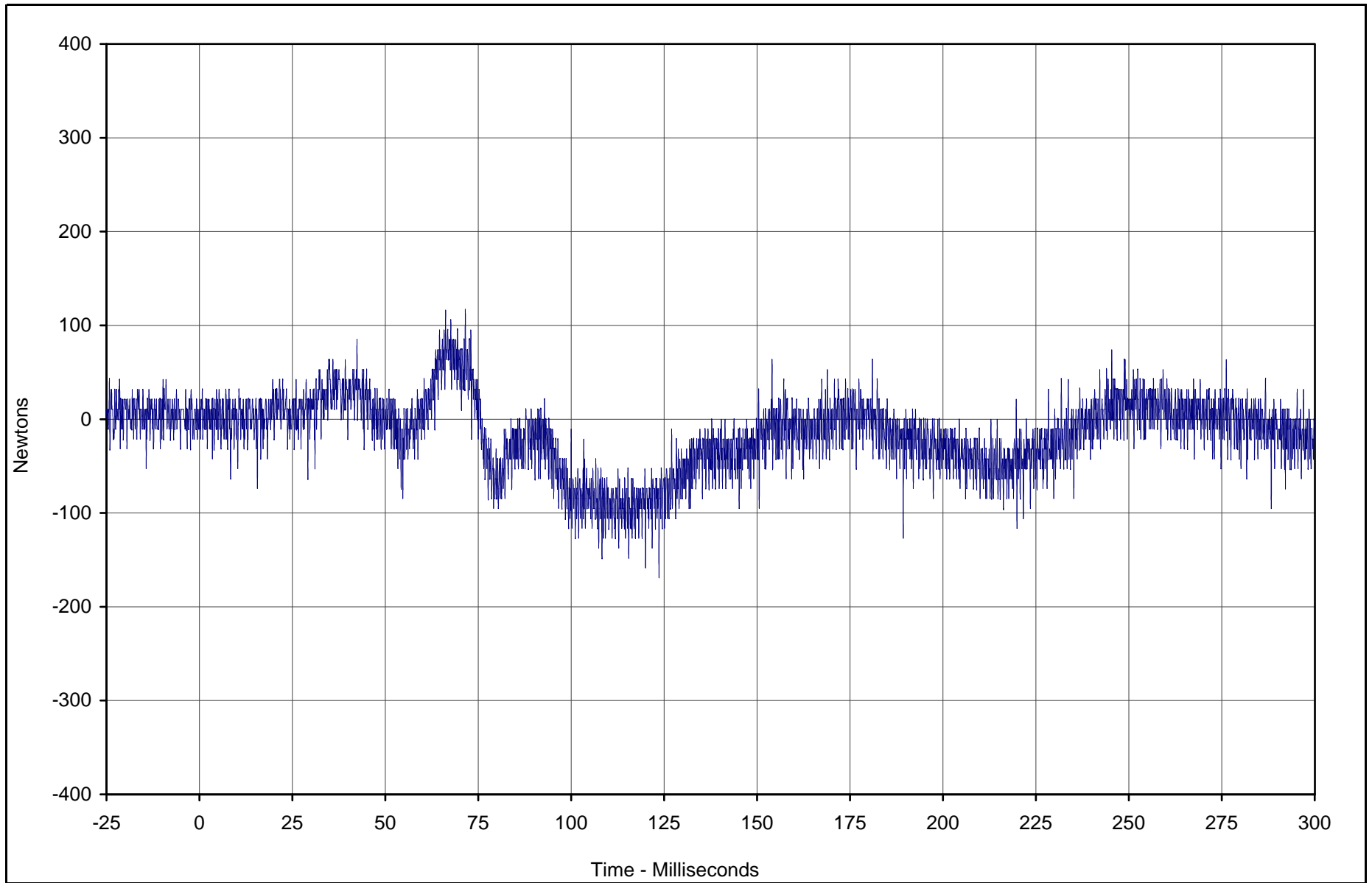
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Force Y	052	FIL	Newtons	116.4	66.2	-169.3	123.6	1000



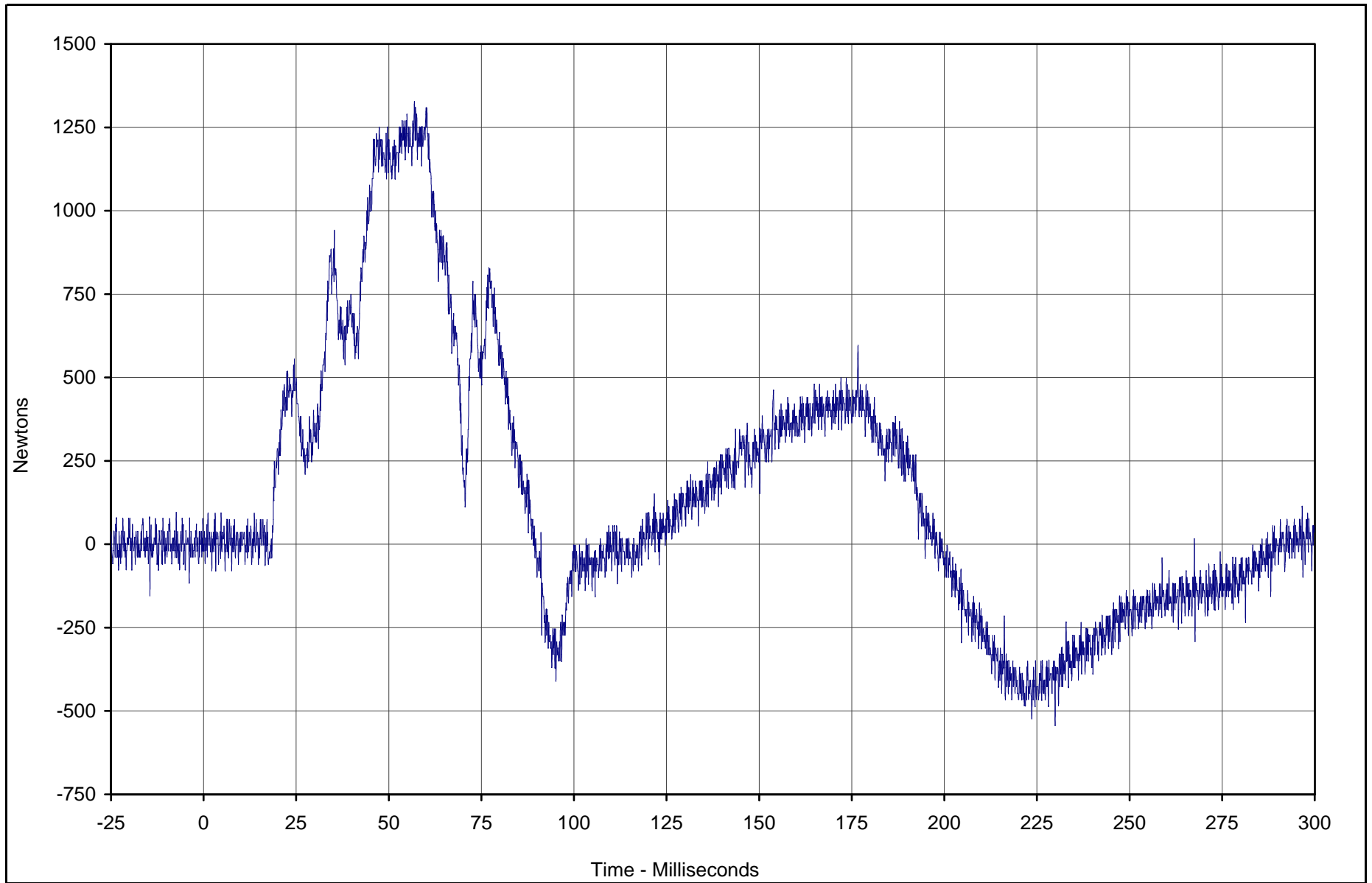
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Force Z	053	FIL	Newtons	1327.8	56.9	-543.0	229.9	1000

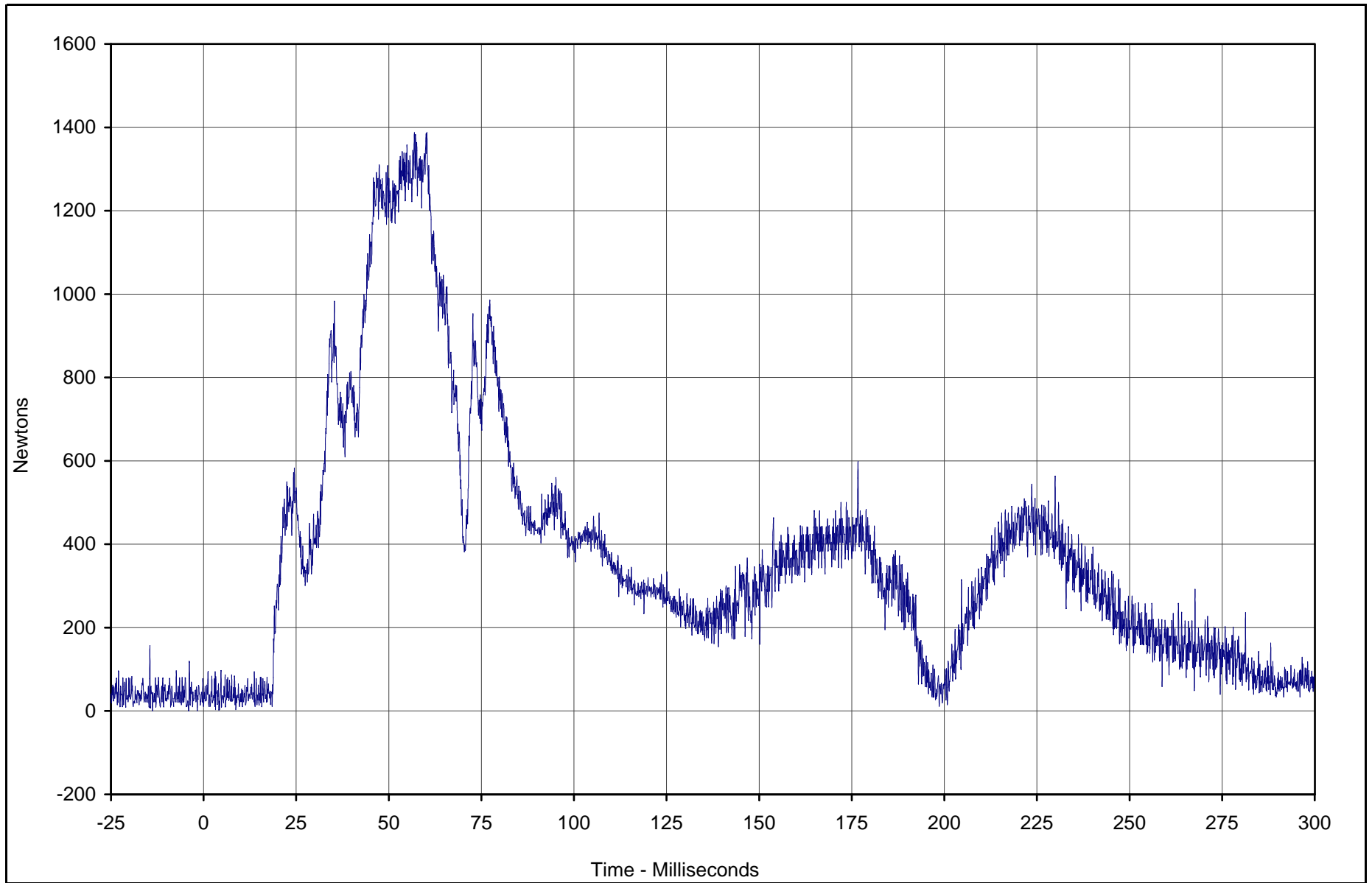


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Force Resultant	051	RES	Newtons	1388.1	60.3	3.0	3.2	1000

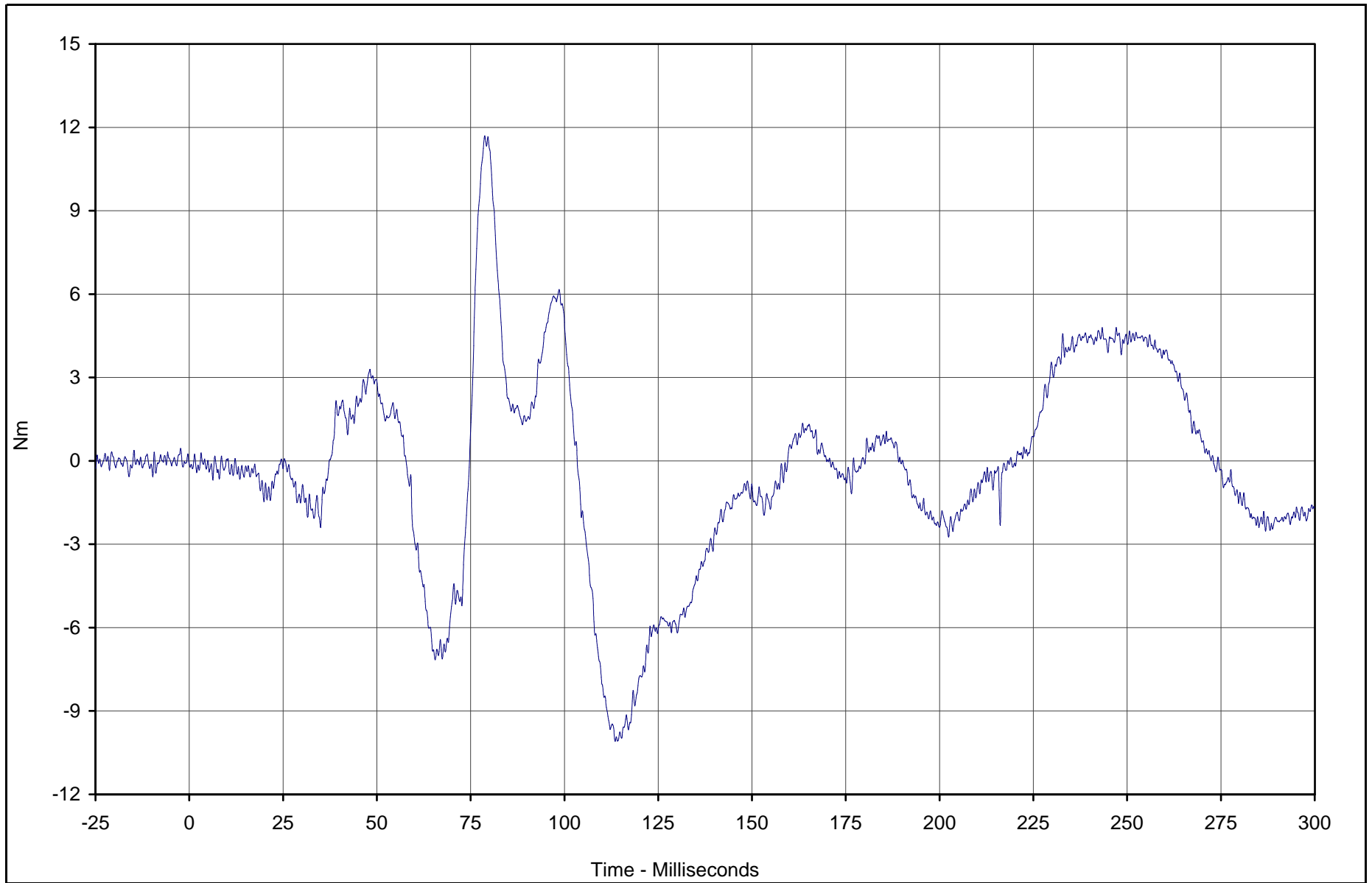


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Moment X	054	FIL	Nm	11.7	78.7	-10.1	113.5	600



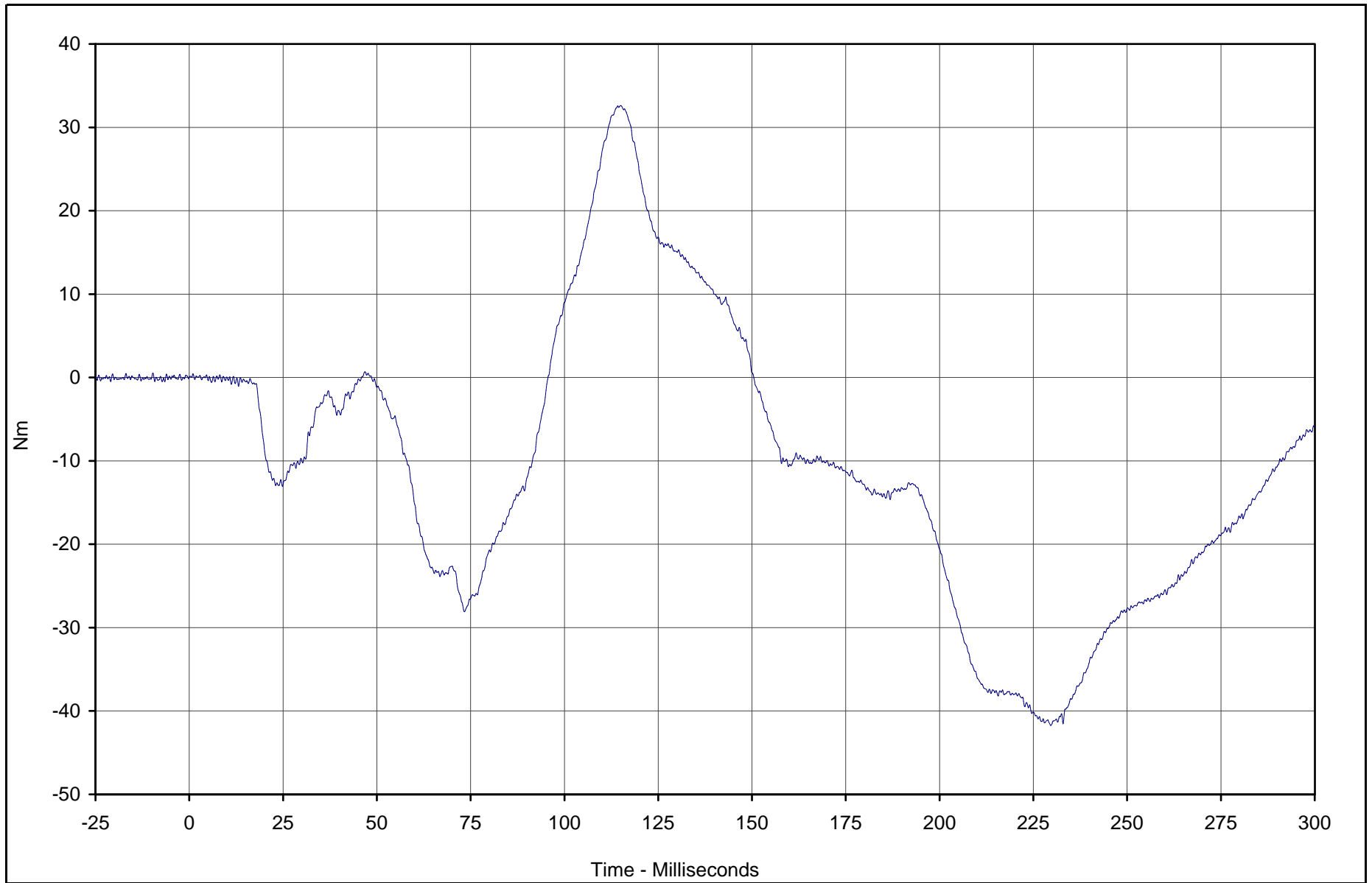
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Moment Y	055	FIL	Nm	32.6	115.0	-41.7	229.6	600



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

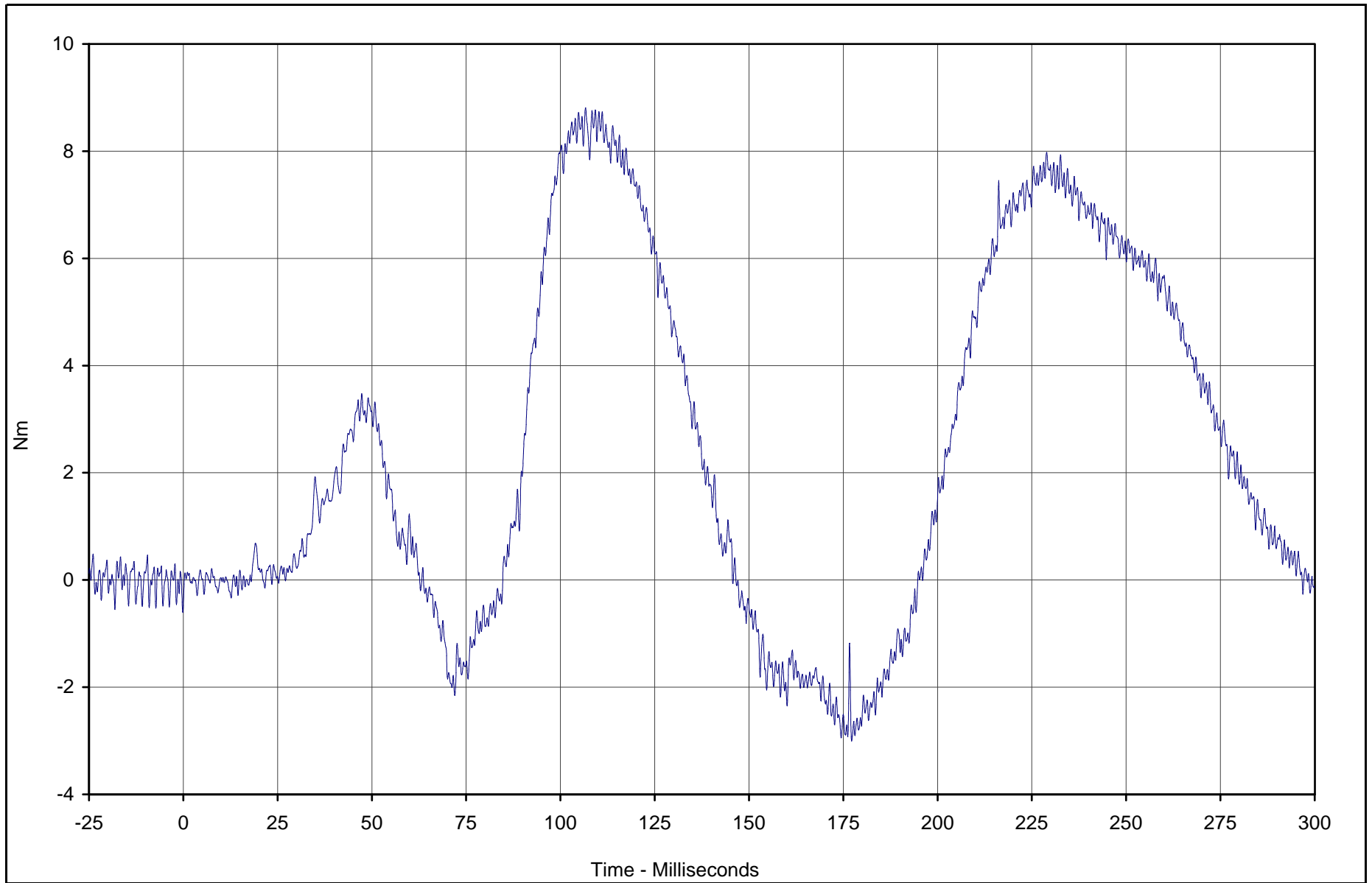
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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B-80



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Moment Z	056	FIL	Nm	8.8	106.7	-3.0	177.2	600



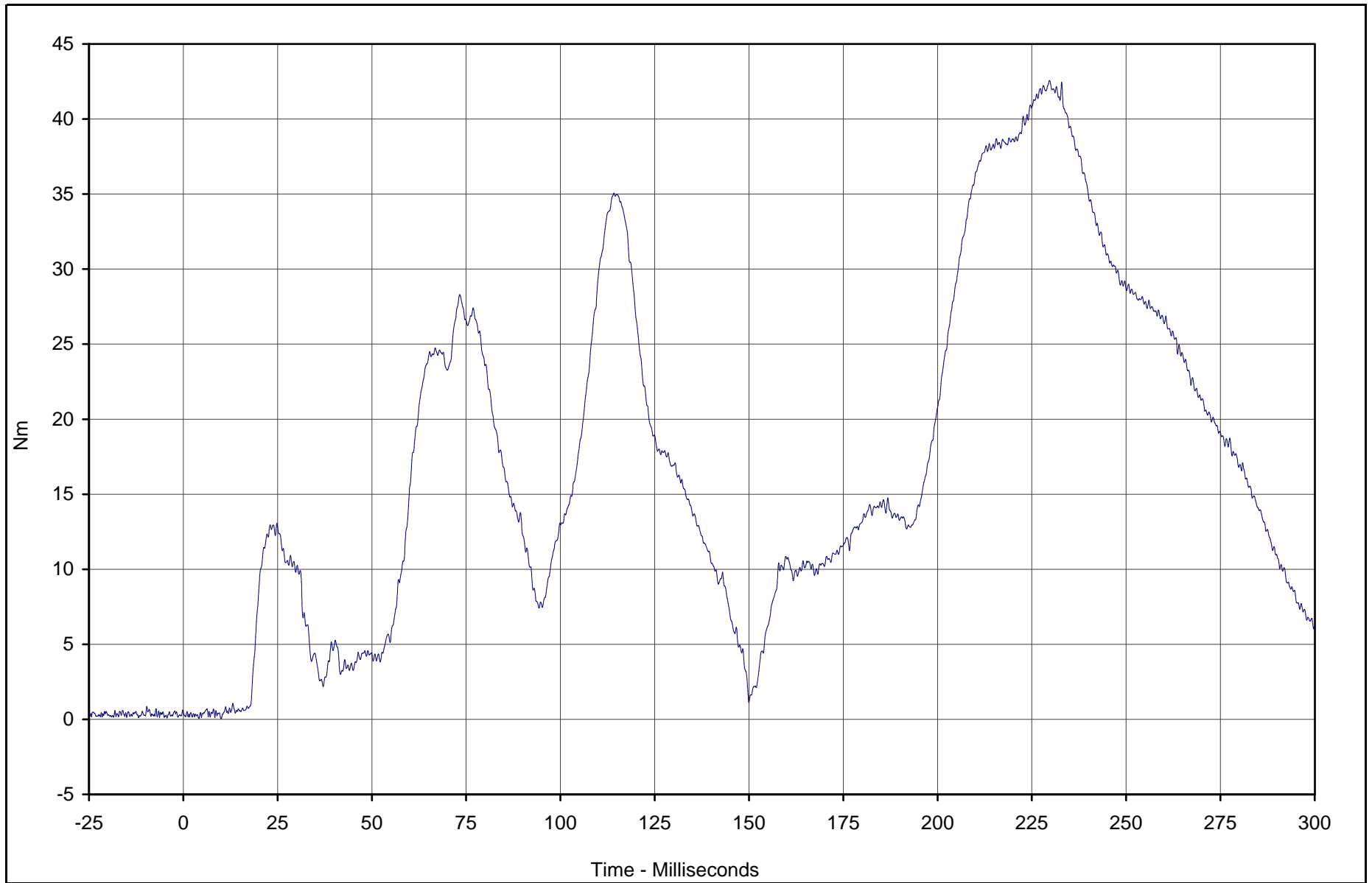
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Moment Resultant	054	RES	Nm	42.6	229.7	0.0	10.1	600



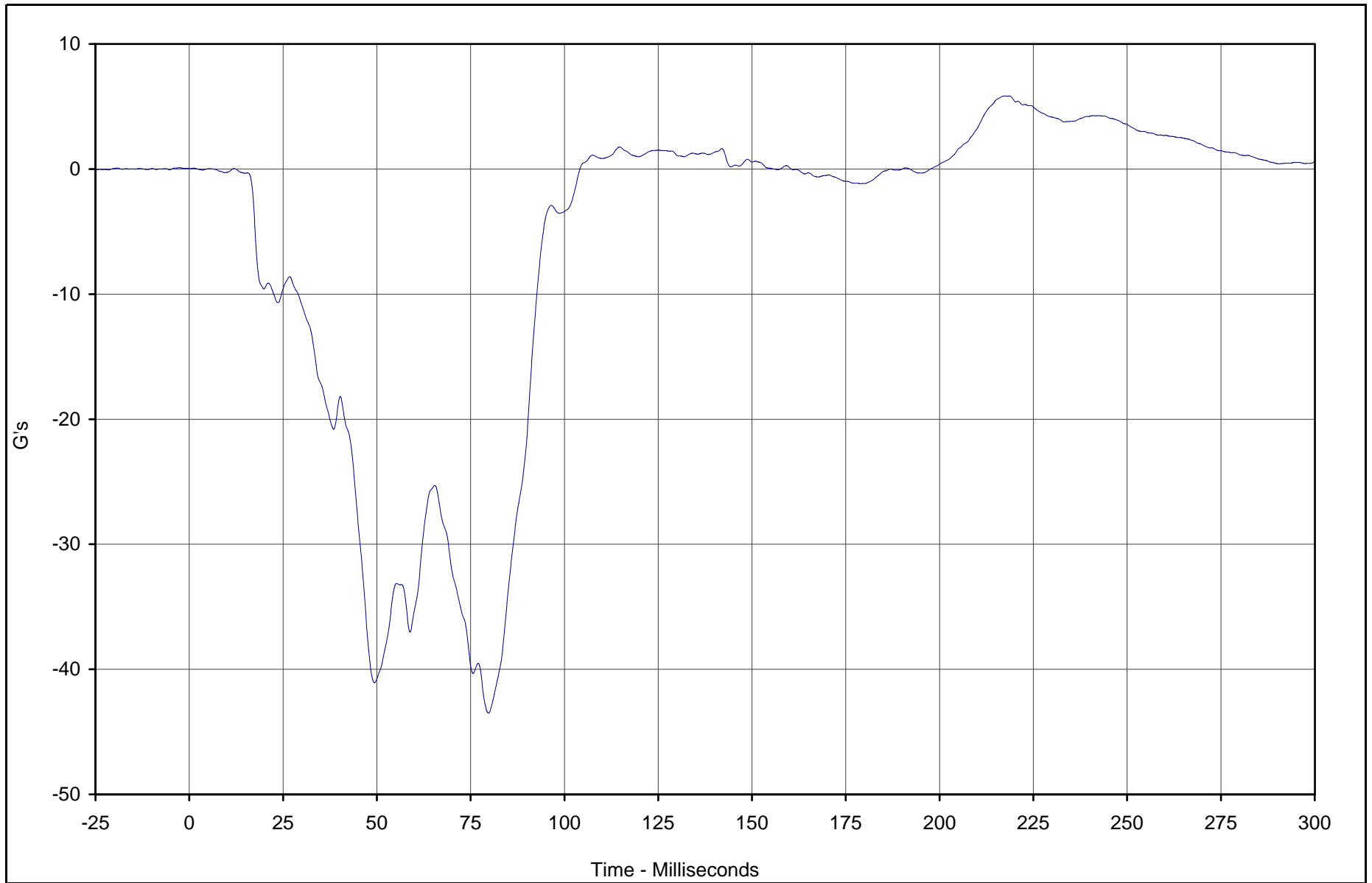
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Primary X	057	FIL	G's	5.8	217.3	-43.5	79.8	180



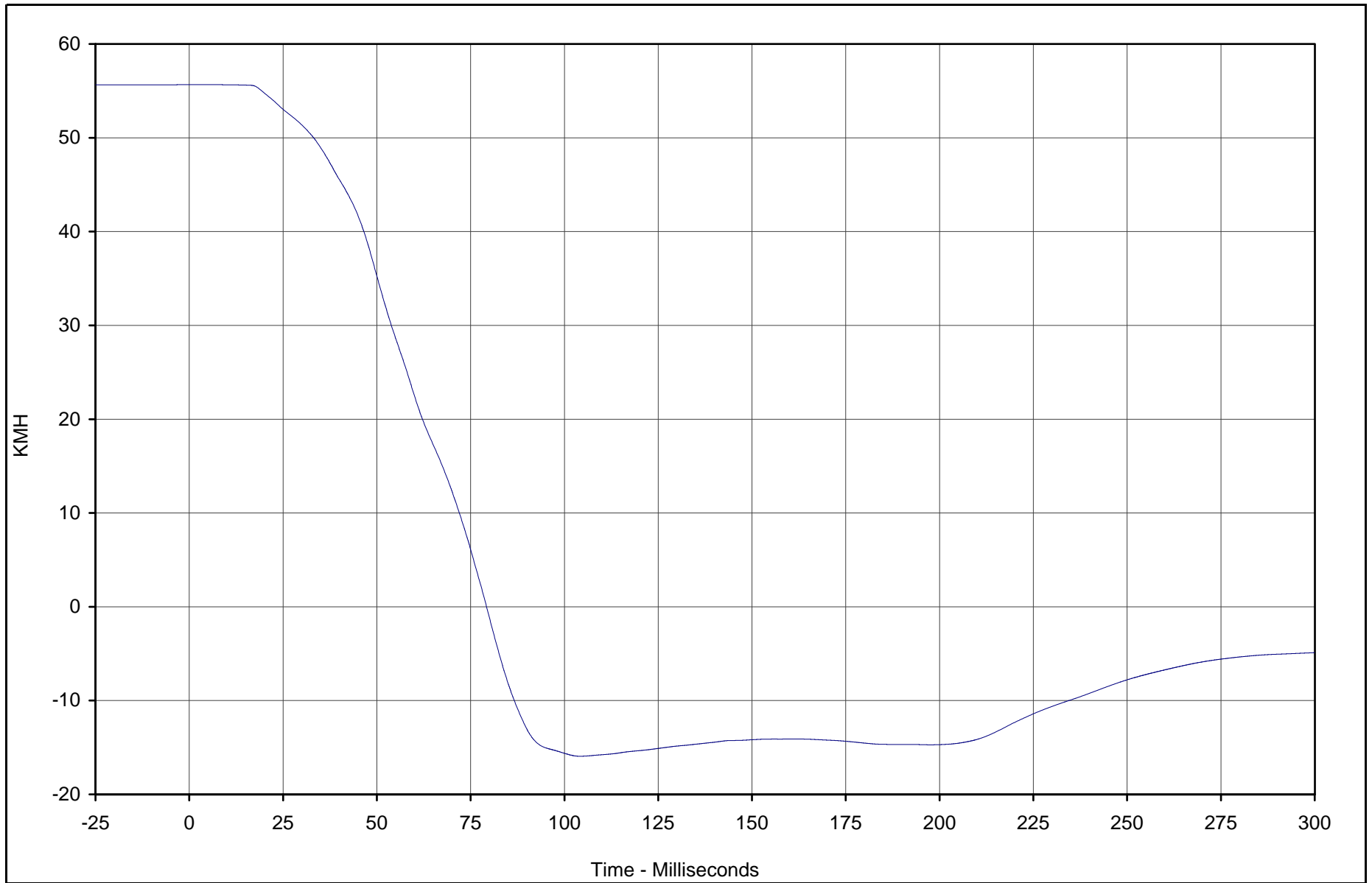
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Primary X Velocity	057	IN1	KMH	55.7	2.2	-15.9	104.1	180



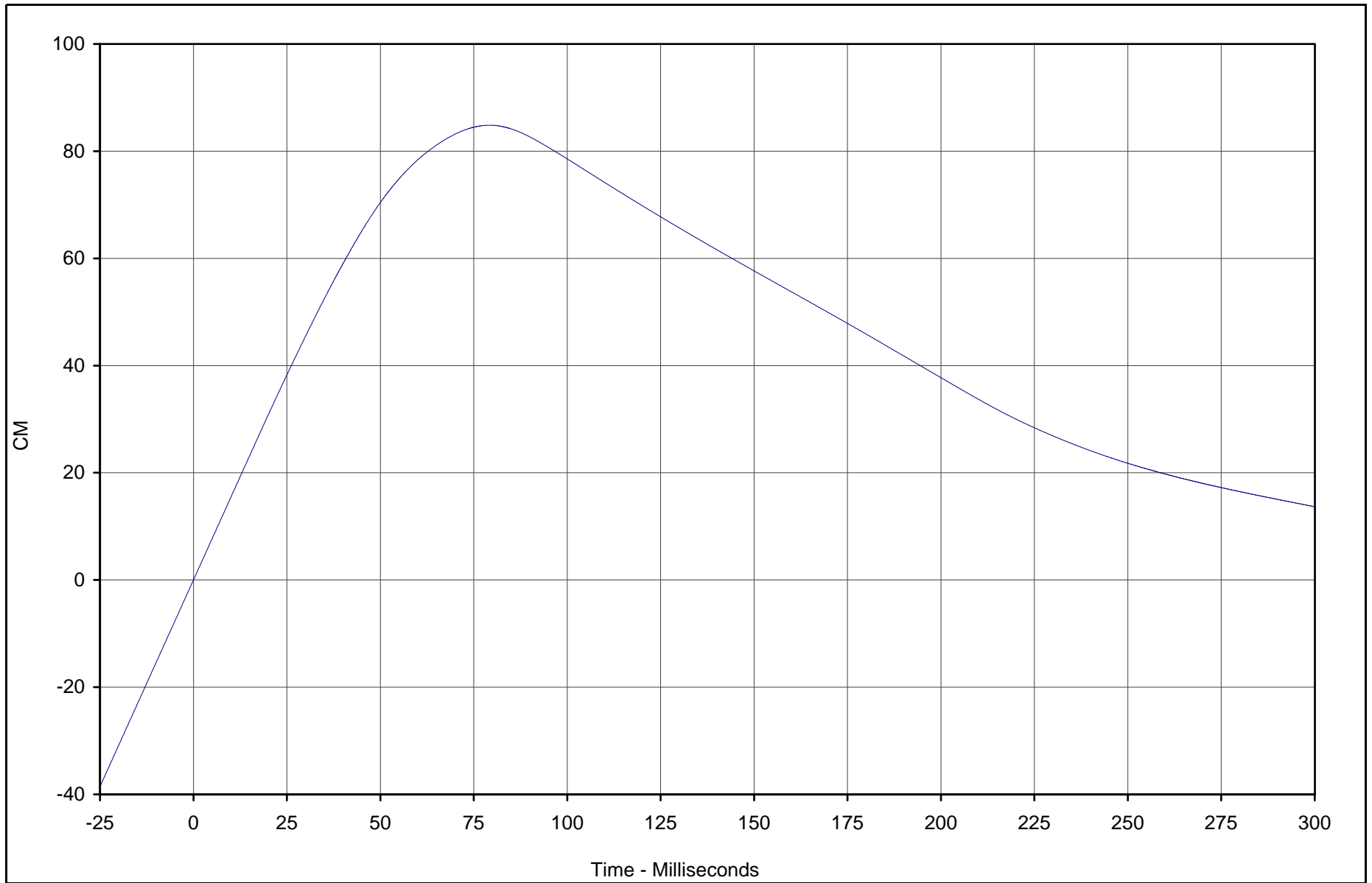
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

B-84



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Primary X Displ.	057	IN2	CM	84.8	79.2	0.0	0.0	180



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

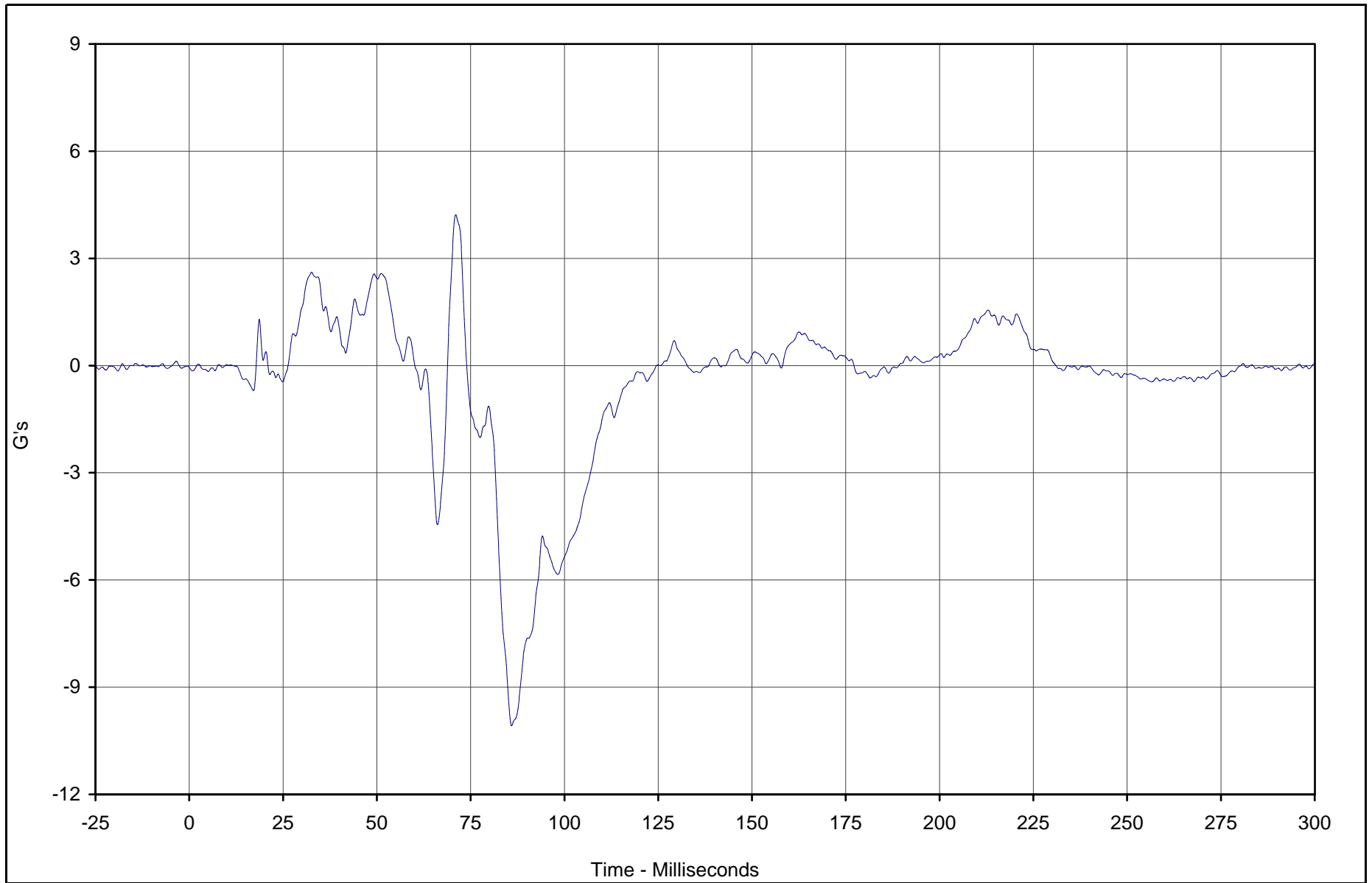
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC

B-85



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Primary Y	058	FIL	G's	4.2	71.0	-10.1	85.9	180



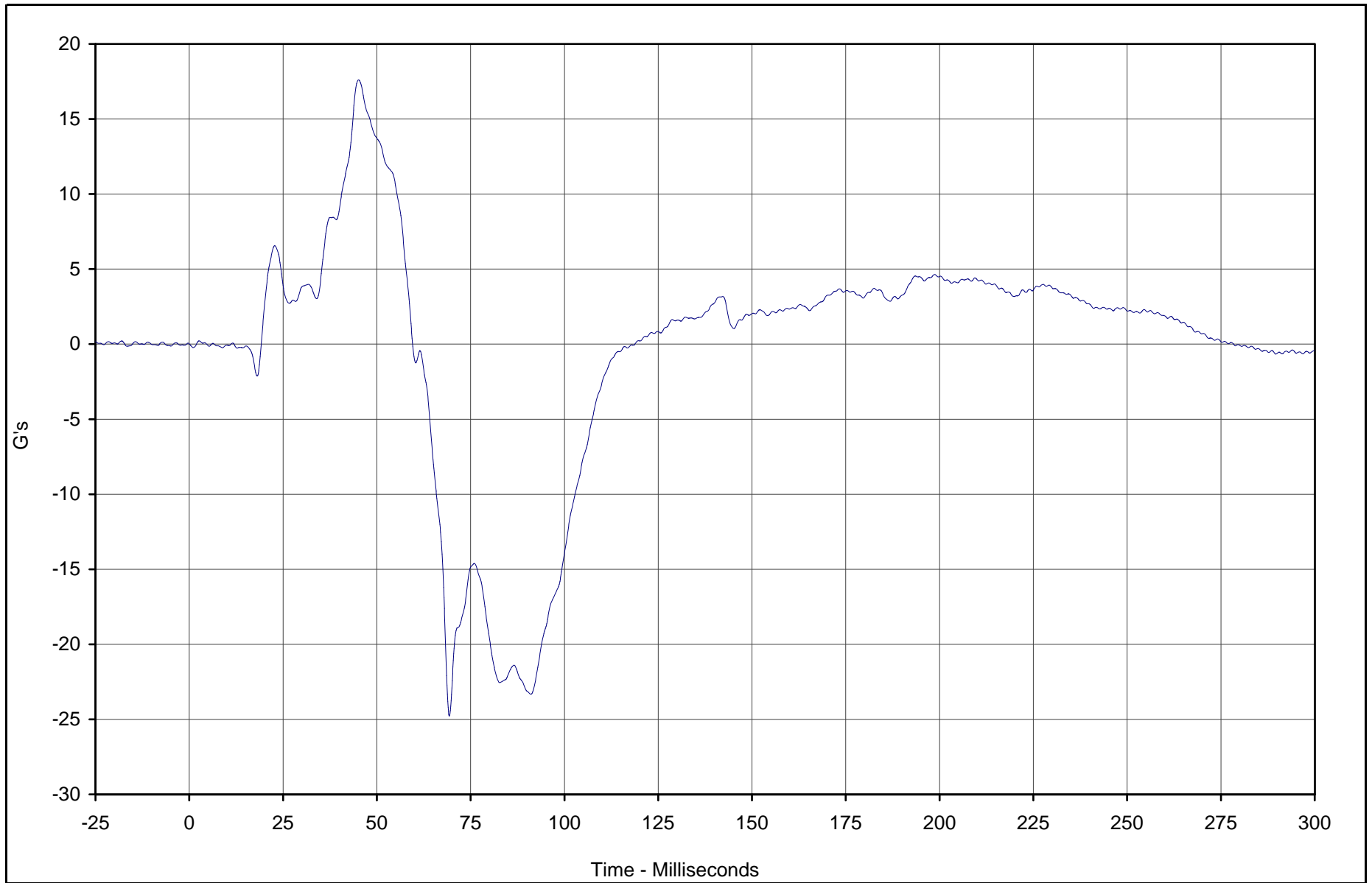
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Primary Z	059	FIL	G's	17.6	45.1	-24.8	69.3	180



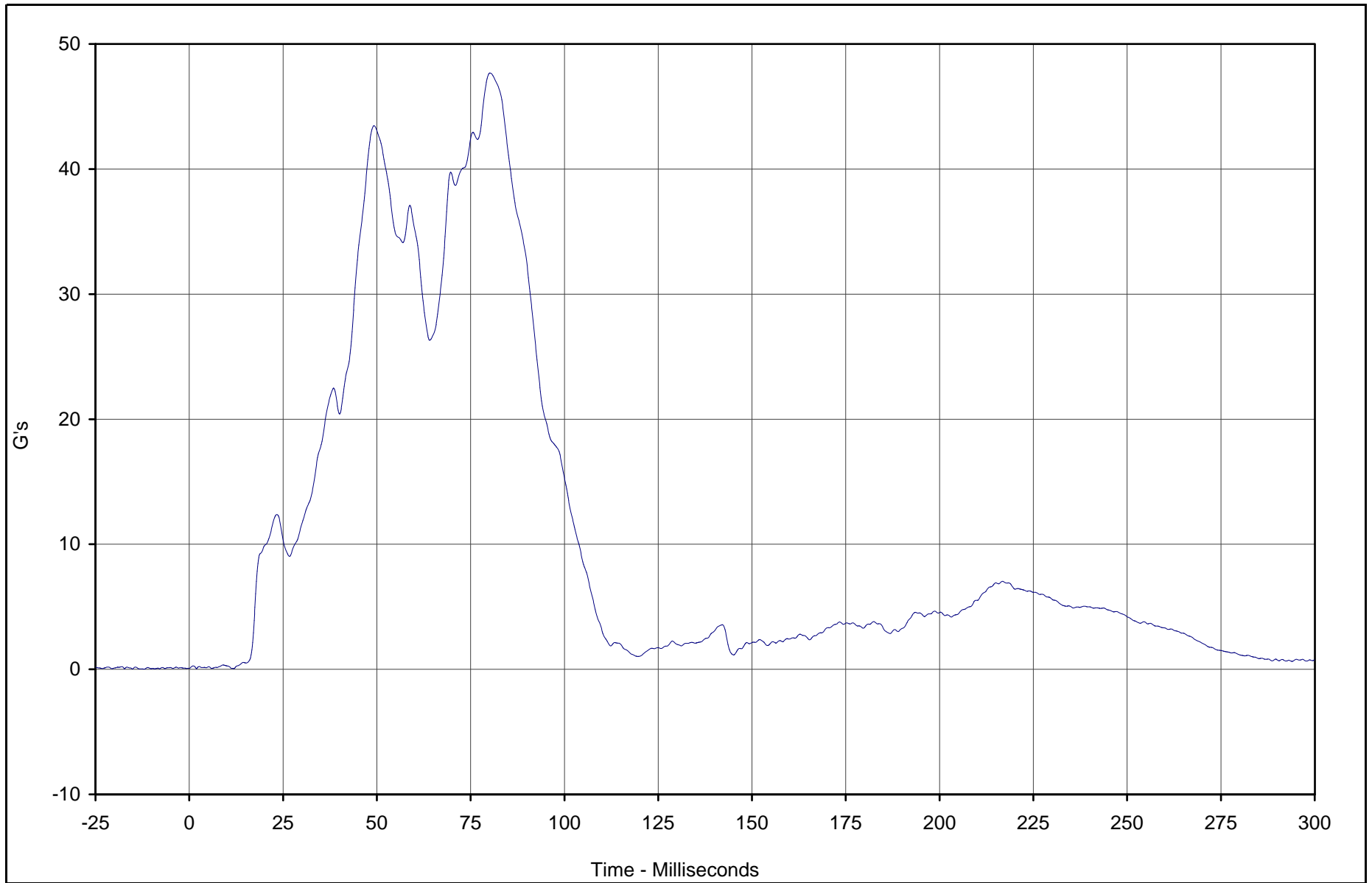
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

B-87



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Resultant Primary	057	RES	G's	47.7	80.2	0.0	1.9	180



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

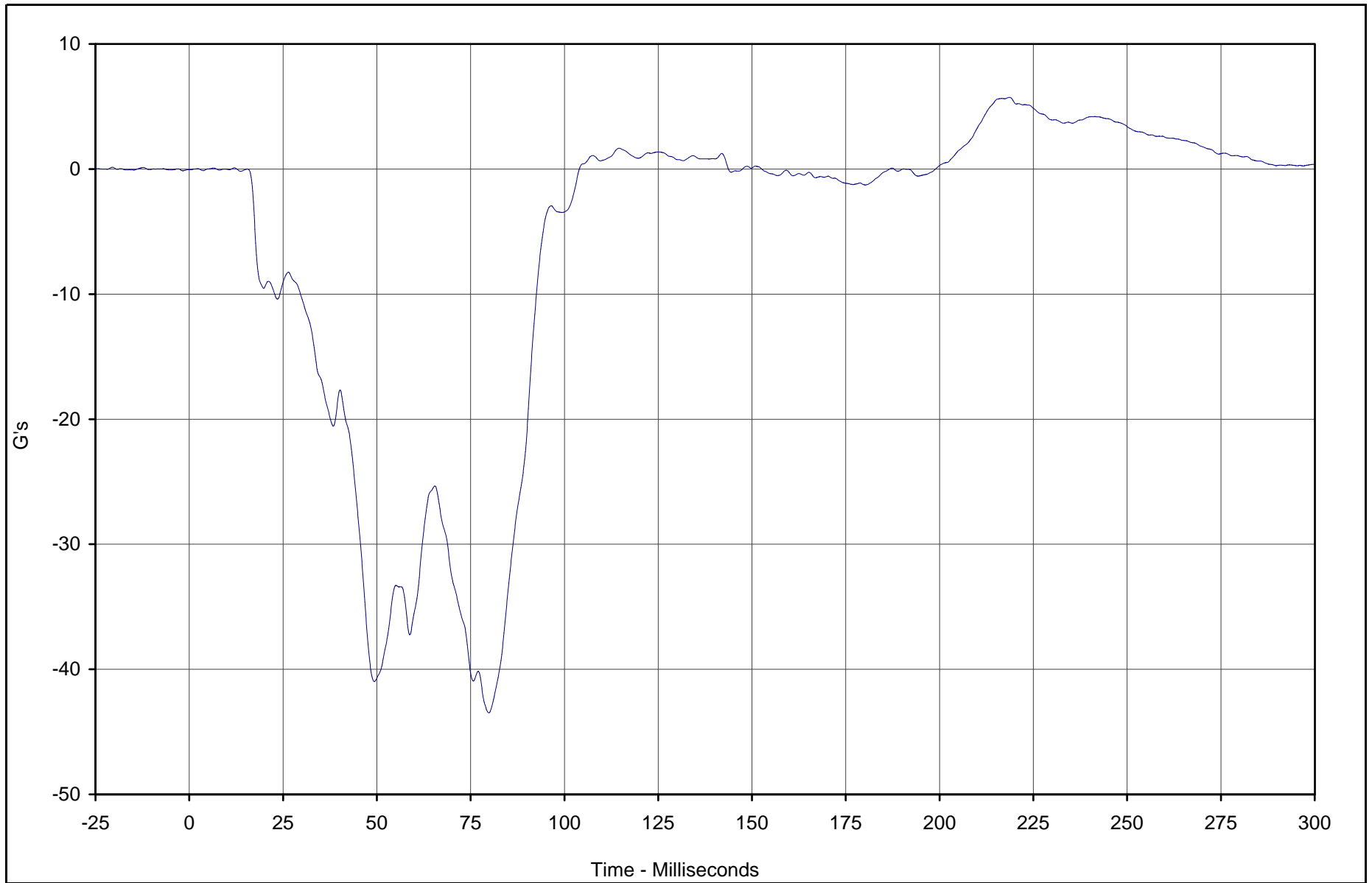
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC

B-88



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Redundant X	060	FIL	G's	5.7	218.6	-43.5	79.8	180



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

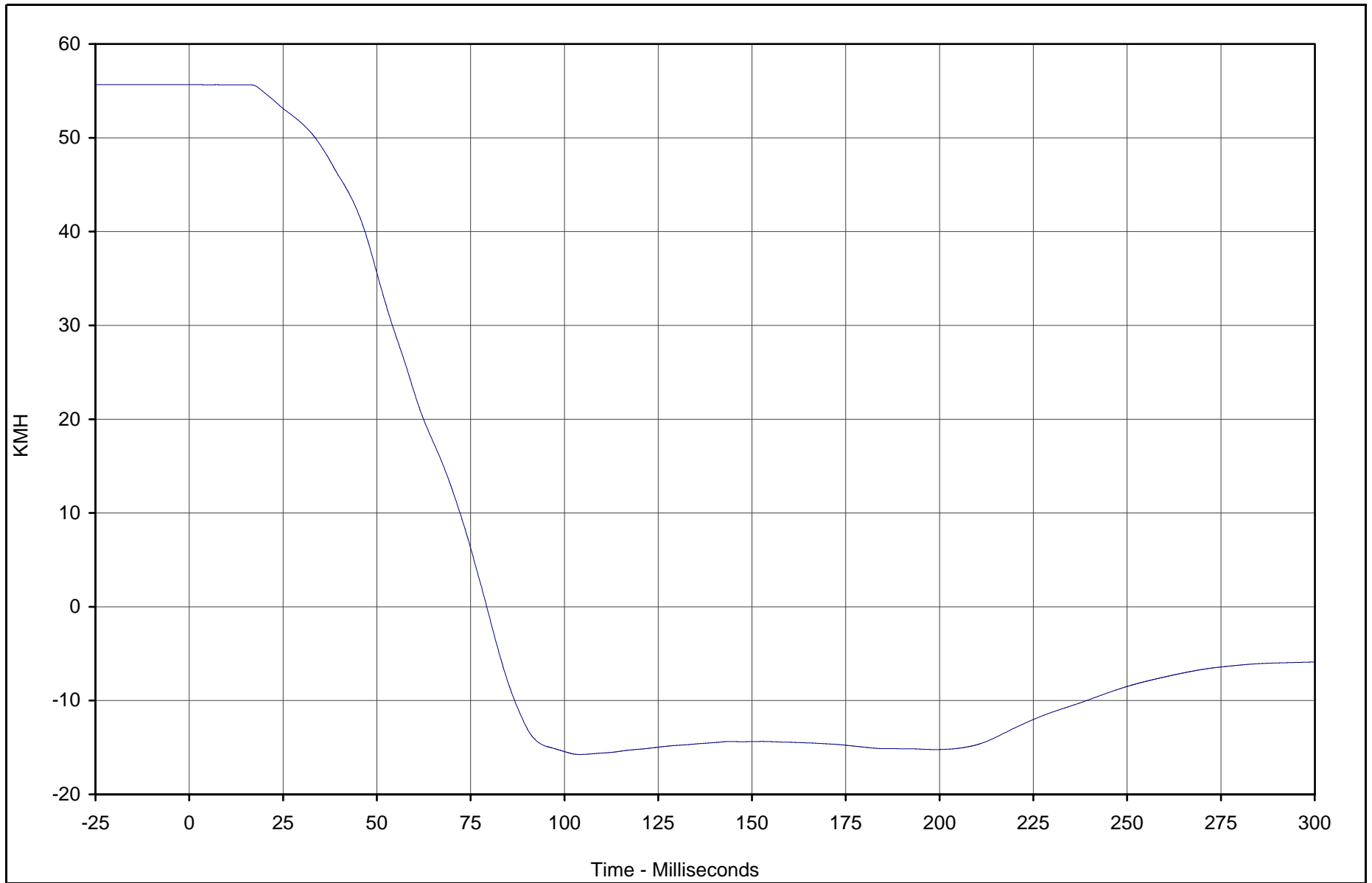
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC

B-89



TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Redundant X Velocity	060	IN1	KMH	55.7	0.0	-15.7	104.0	180



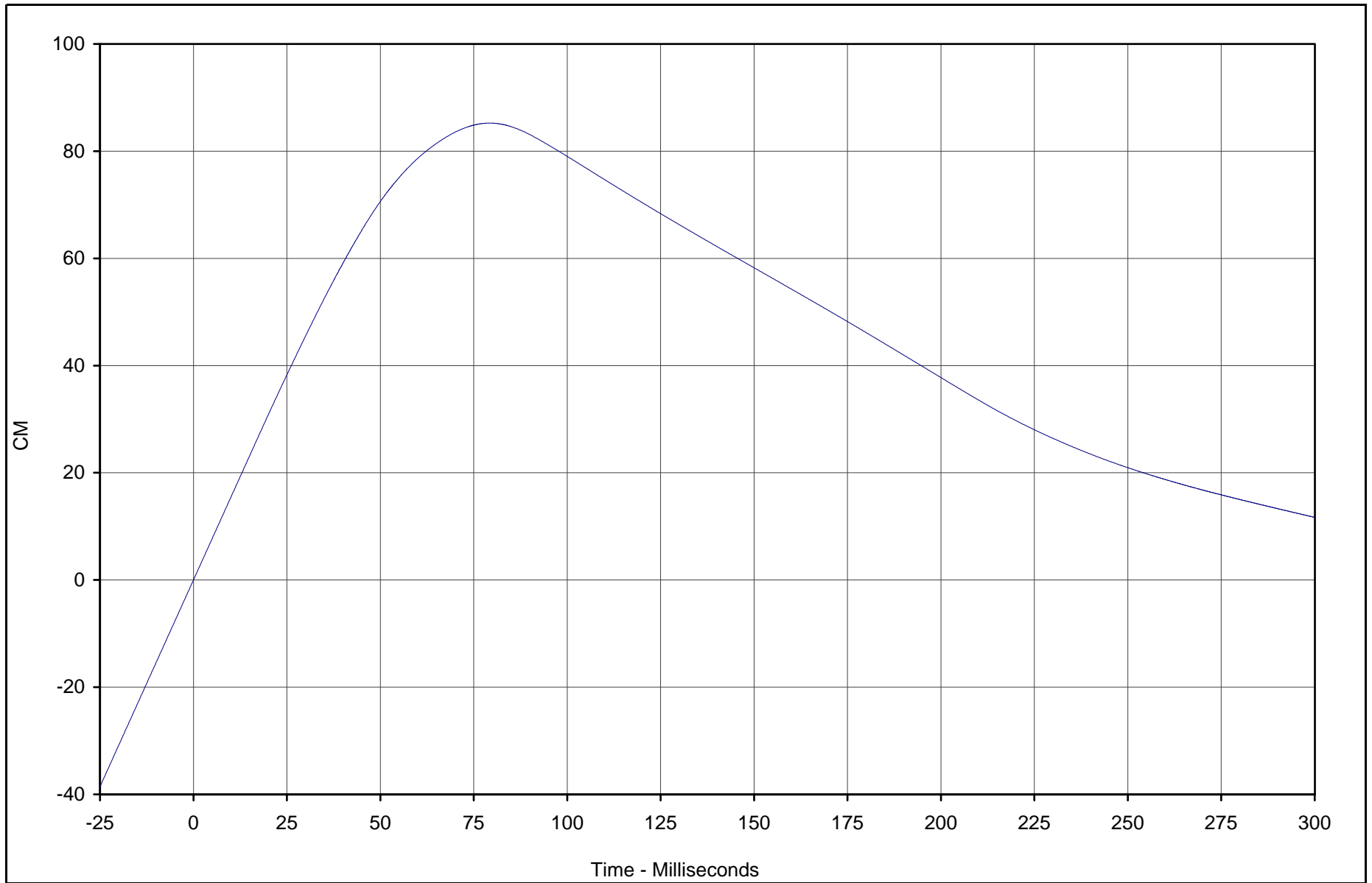
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

B-90



TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Redundant X Displ.	060	IN2	CM	85.2	79.3	0.0	0.0	180



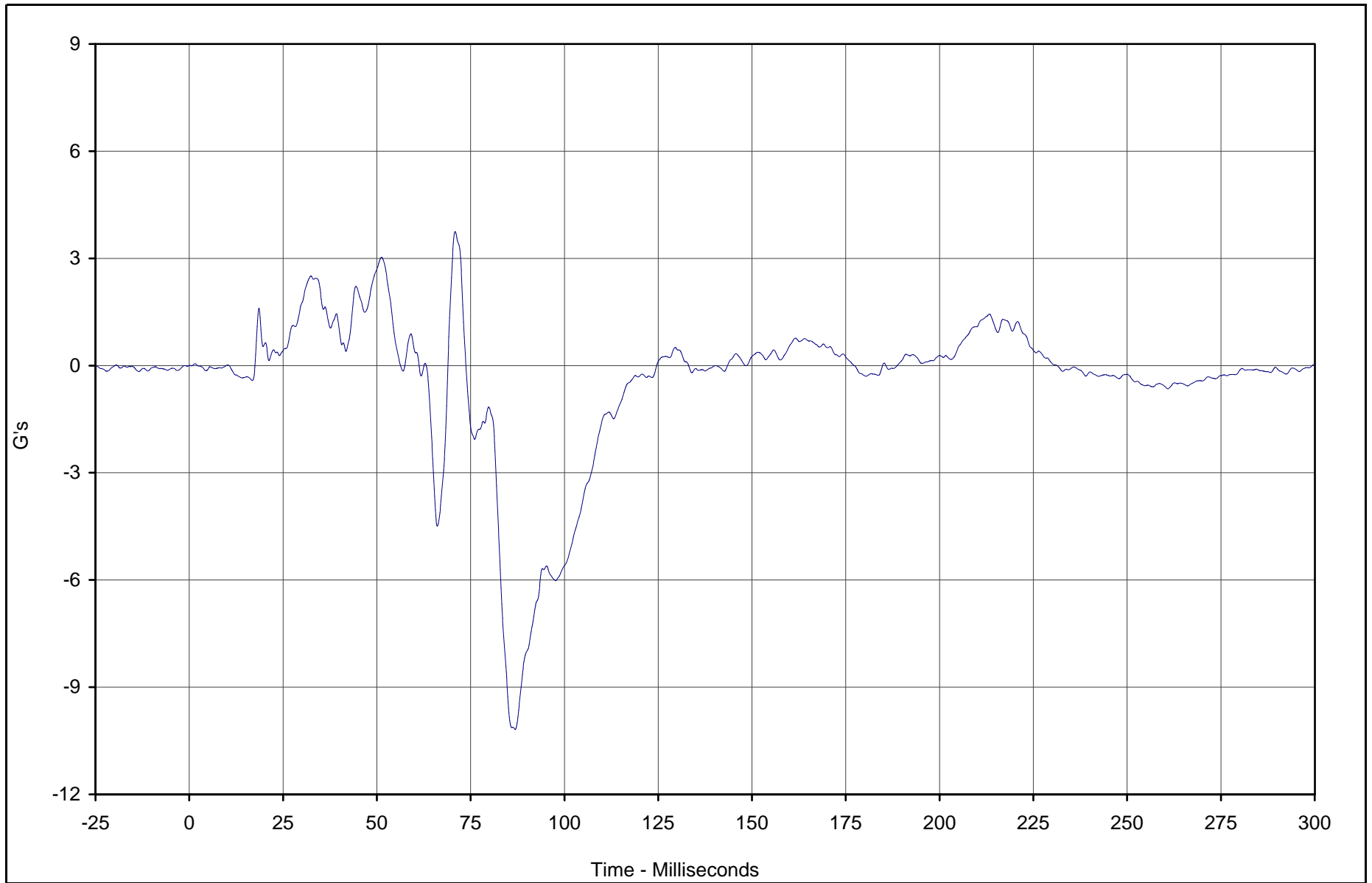
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

B-91



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Redundant Y	061	FIL	G's	3.7	70.9	-10.2	86.9	180



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

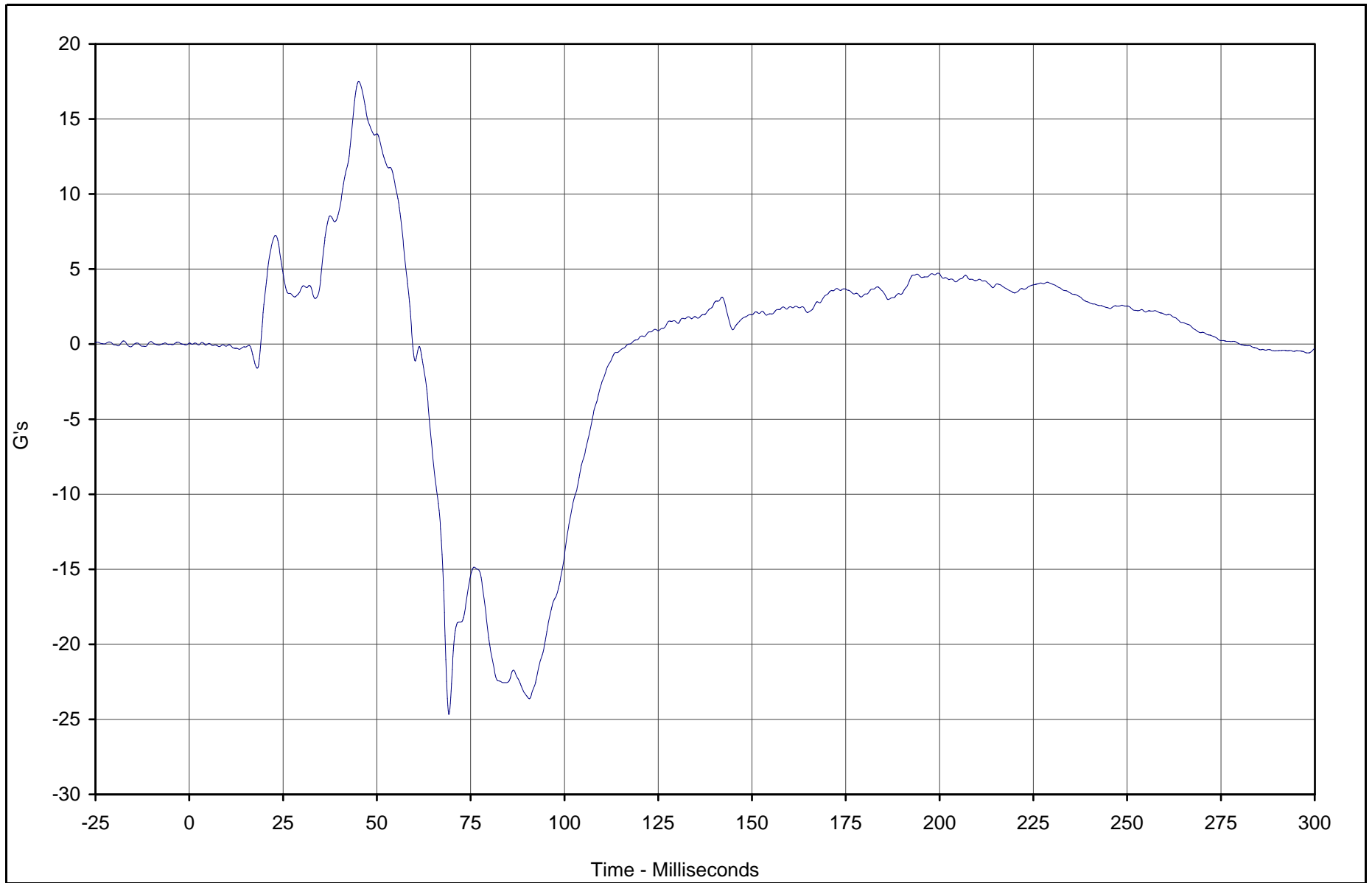
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC

B-92



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Redundant Z	062	FIL	G's	17.5	45.2	-24.7	69.2	180



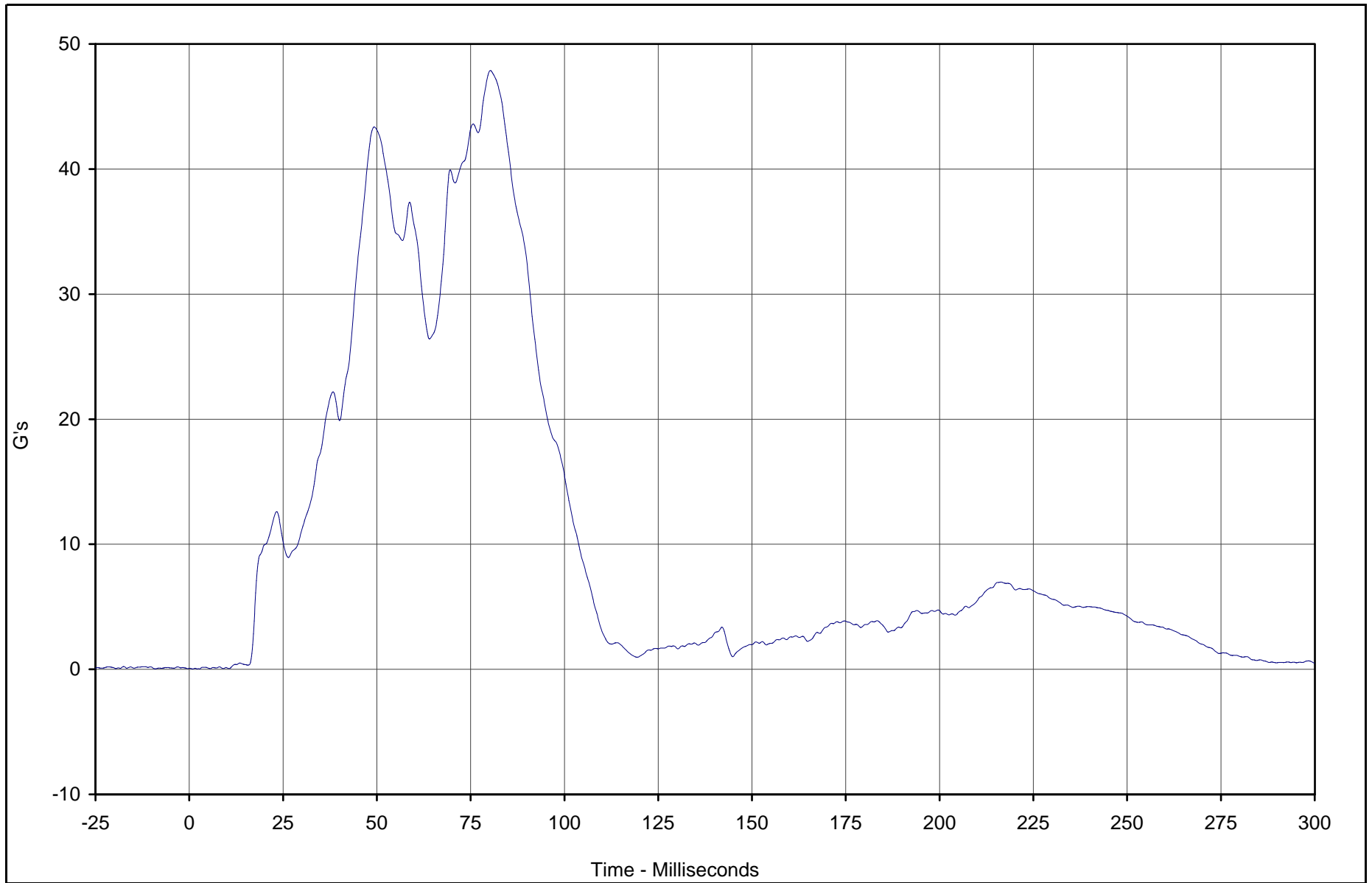
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Resultant Redundant	060	RES	G's	47.9	80.3	0.0	1.0	180



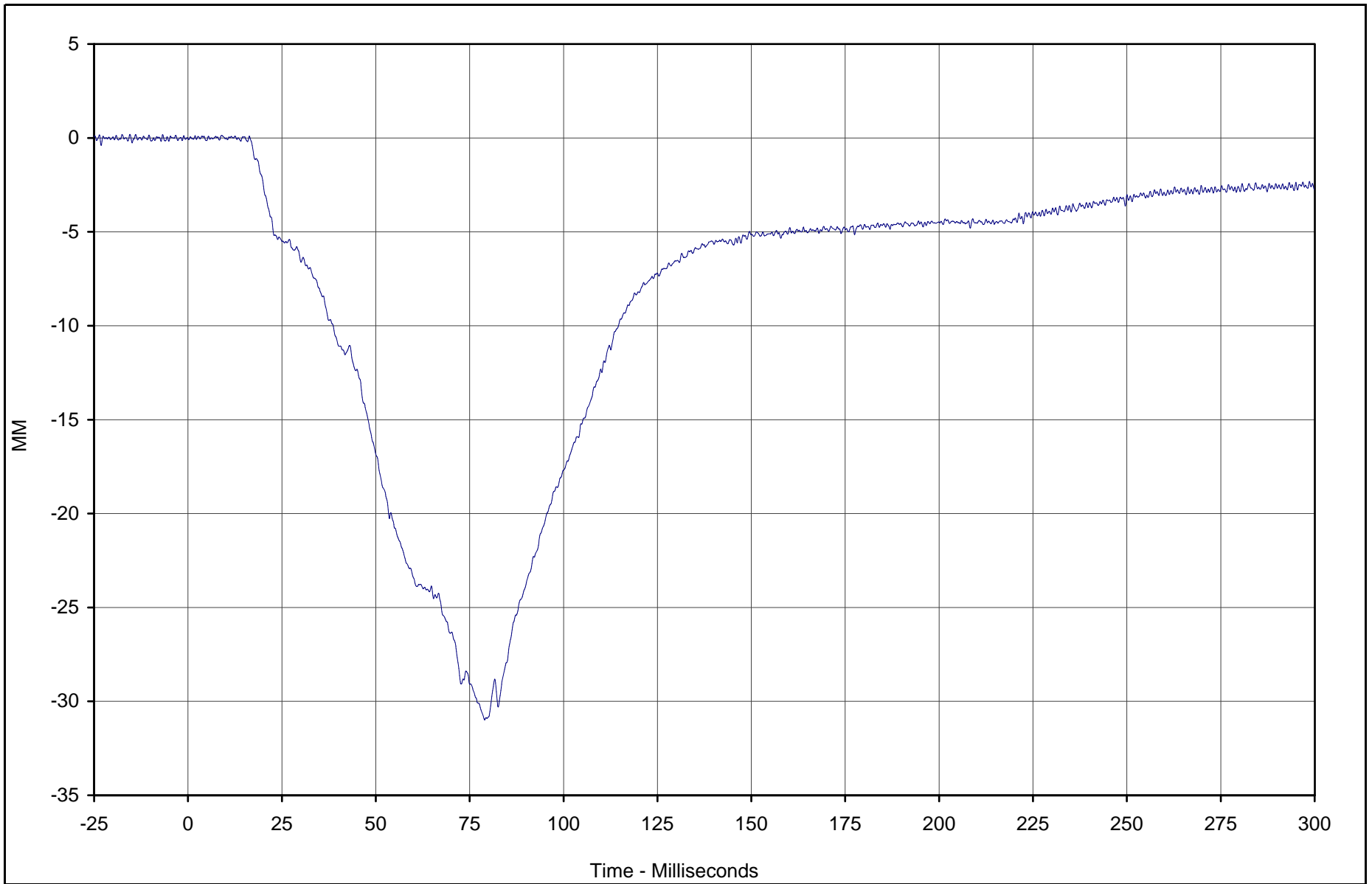
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

B-94



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Displacement X	063	FIL	MM	0.1	9.0	-31.0	79.0	600



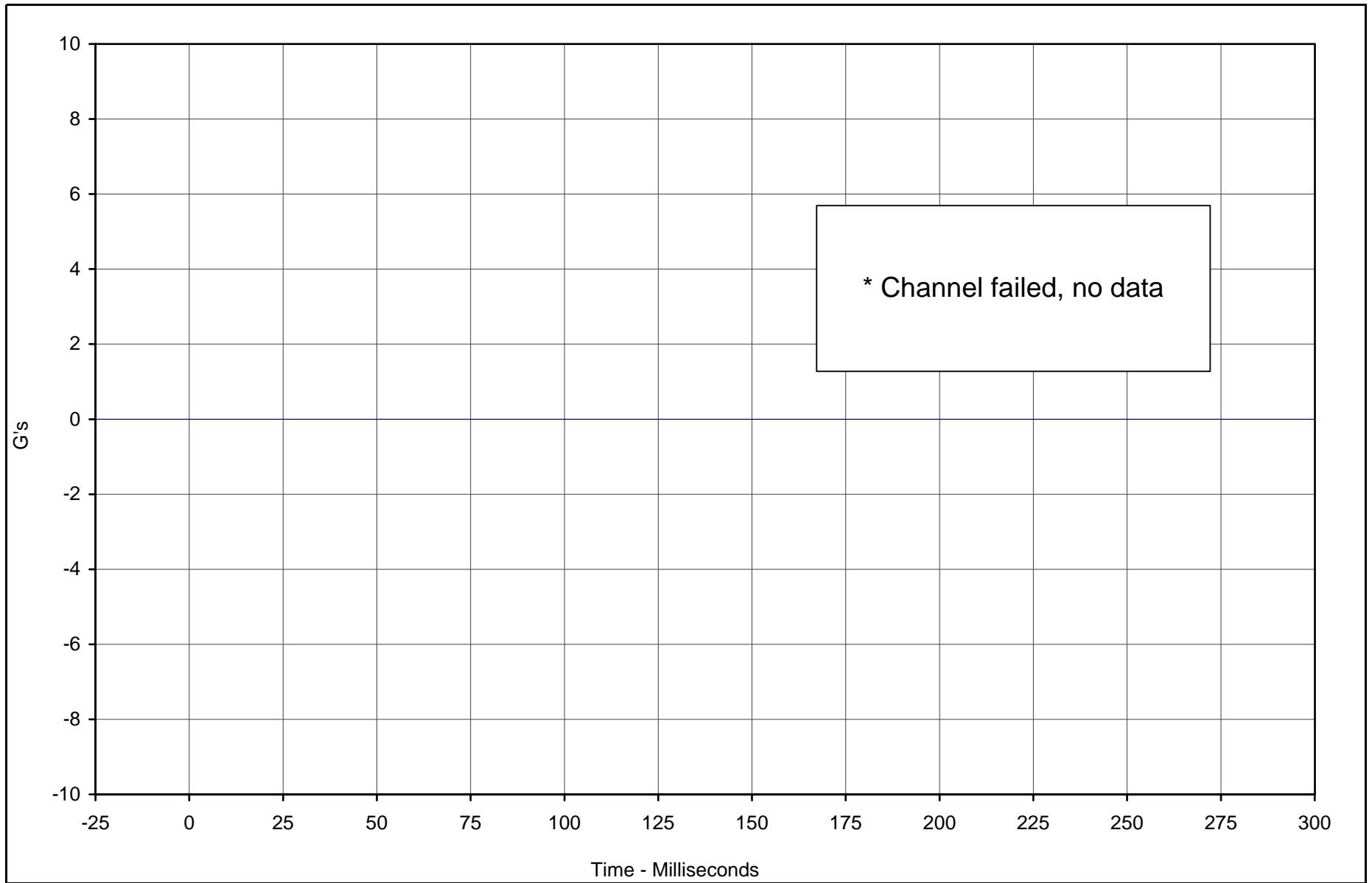
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC



* Channel failed, no data

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Pelvis X	064	FIL	G's	0.0	0.0	0.0	0.0	1000

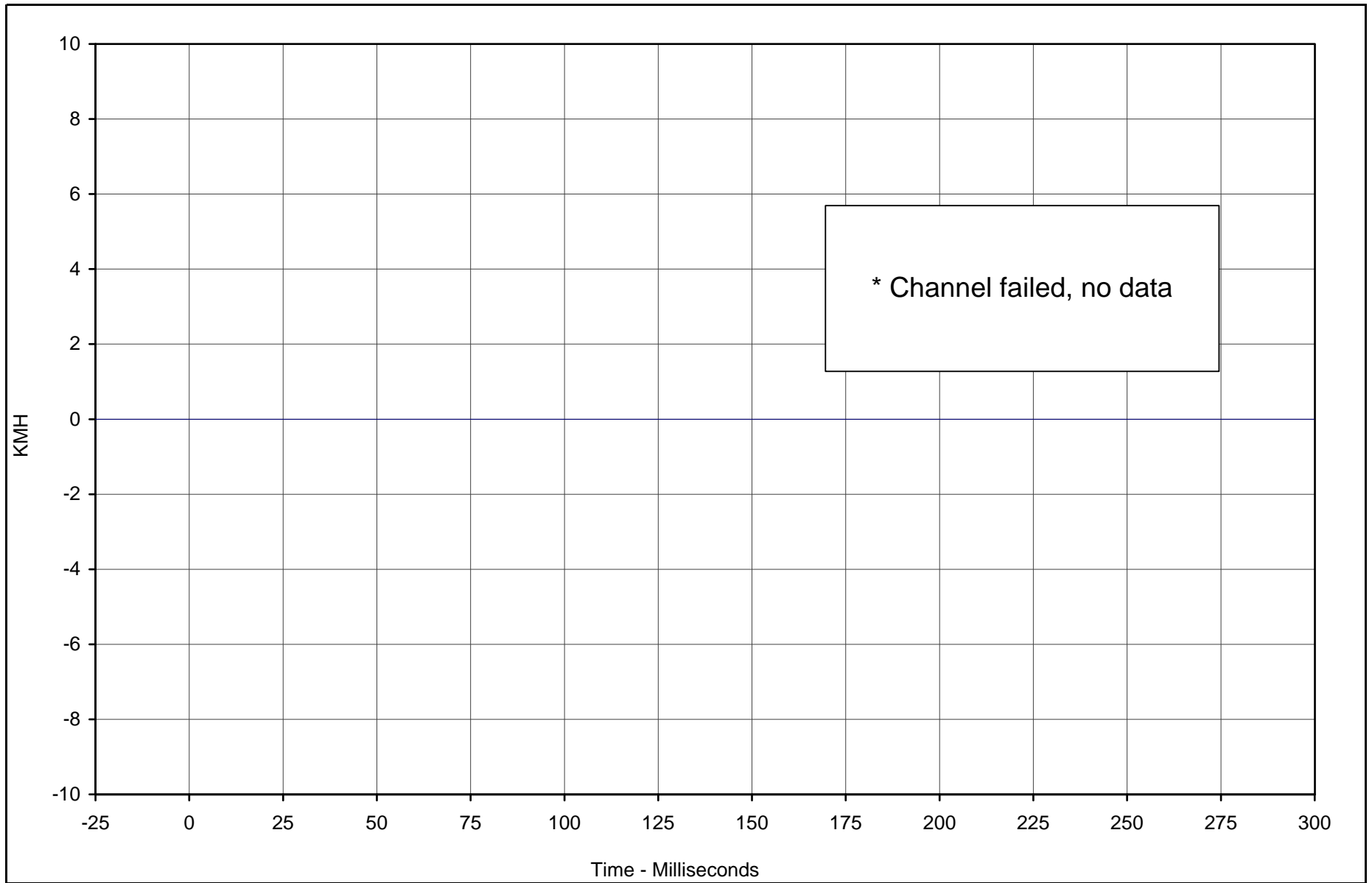


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



* Channel failed, no data

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Pelvis X Velocity	064	IN1	KMH	0.0	0.0	0.0	0.0	180

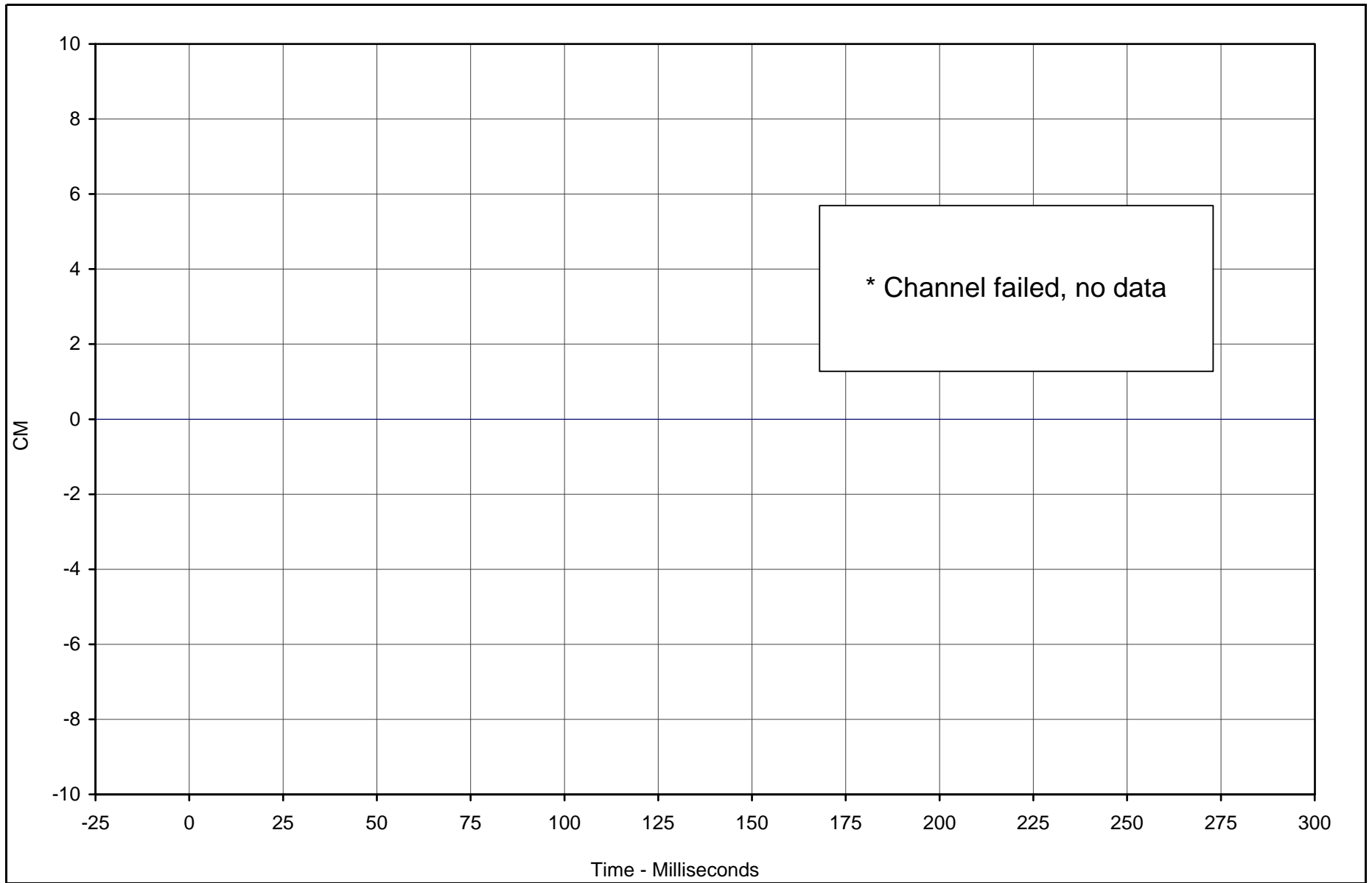


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



* Channel failed, no data

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Pelvis X Displ.	064	IN2	CM	0.0	0.0	0.0	0.0	180

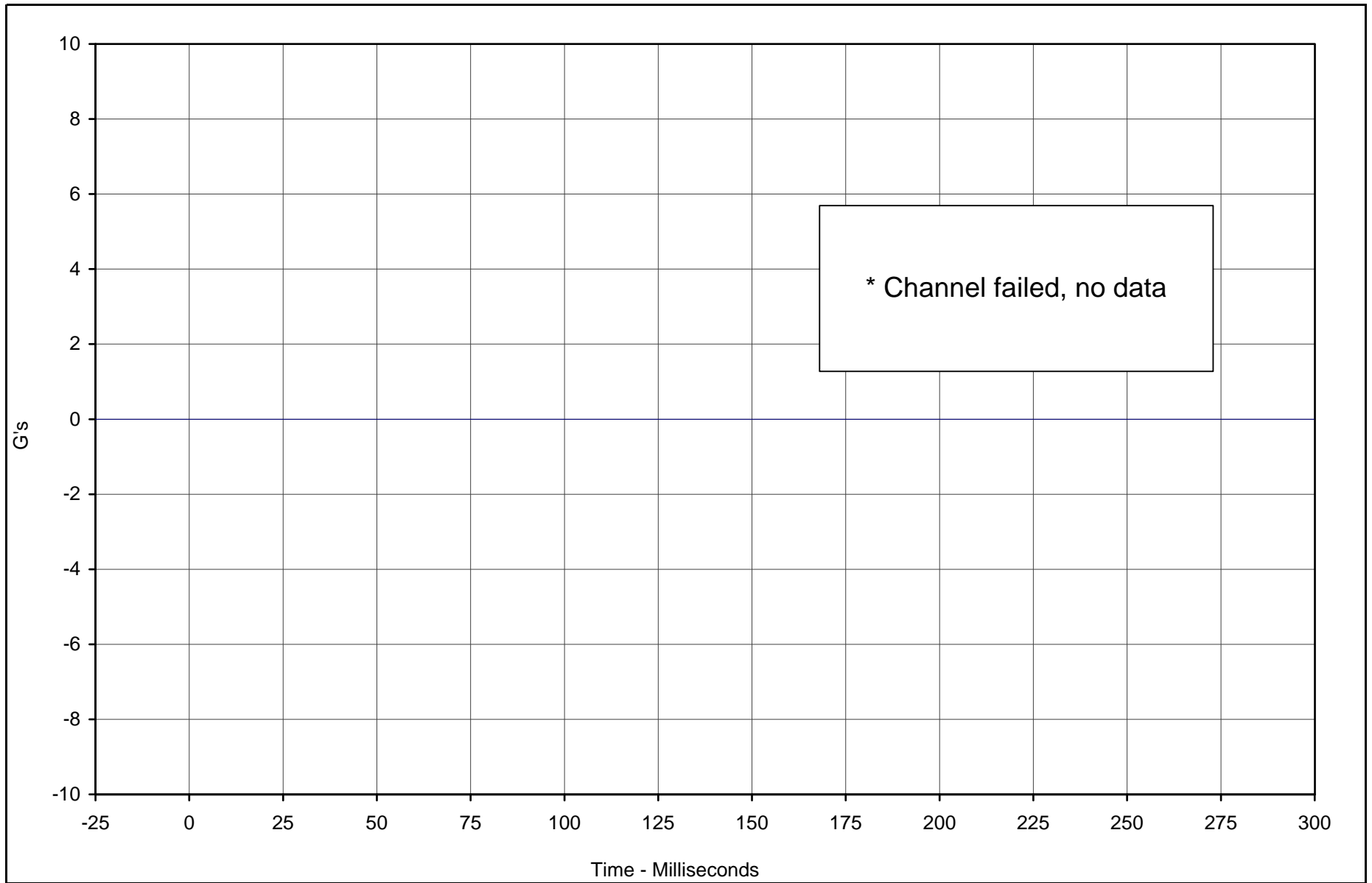


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



* Channel failed, no data

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Pelvis Y	065	FIL	G's	0.0	0.0	0.0	0.0	1000

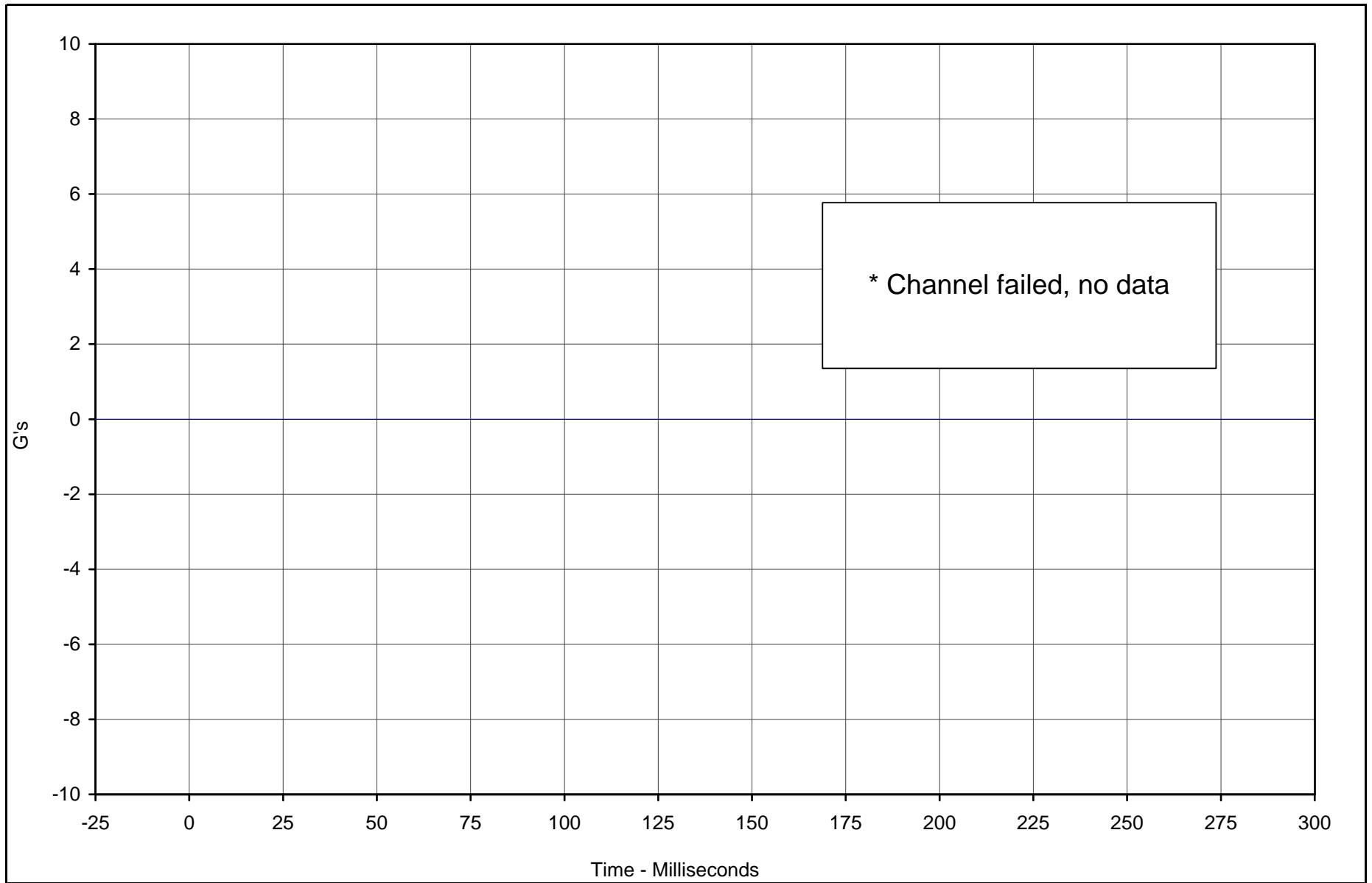


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



* Channel failed, no data

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Pelvis Z	066	FIL	G's	0.0	0.0	0.0	0.0	1000

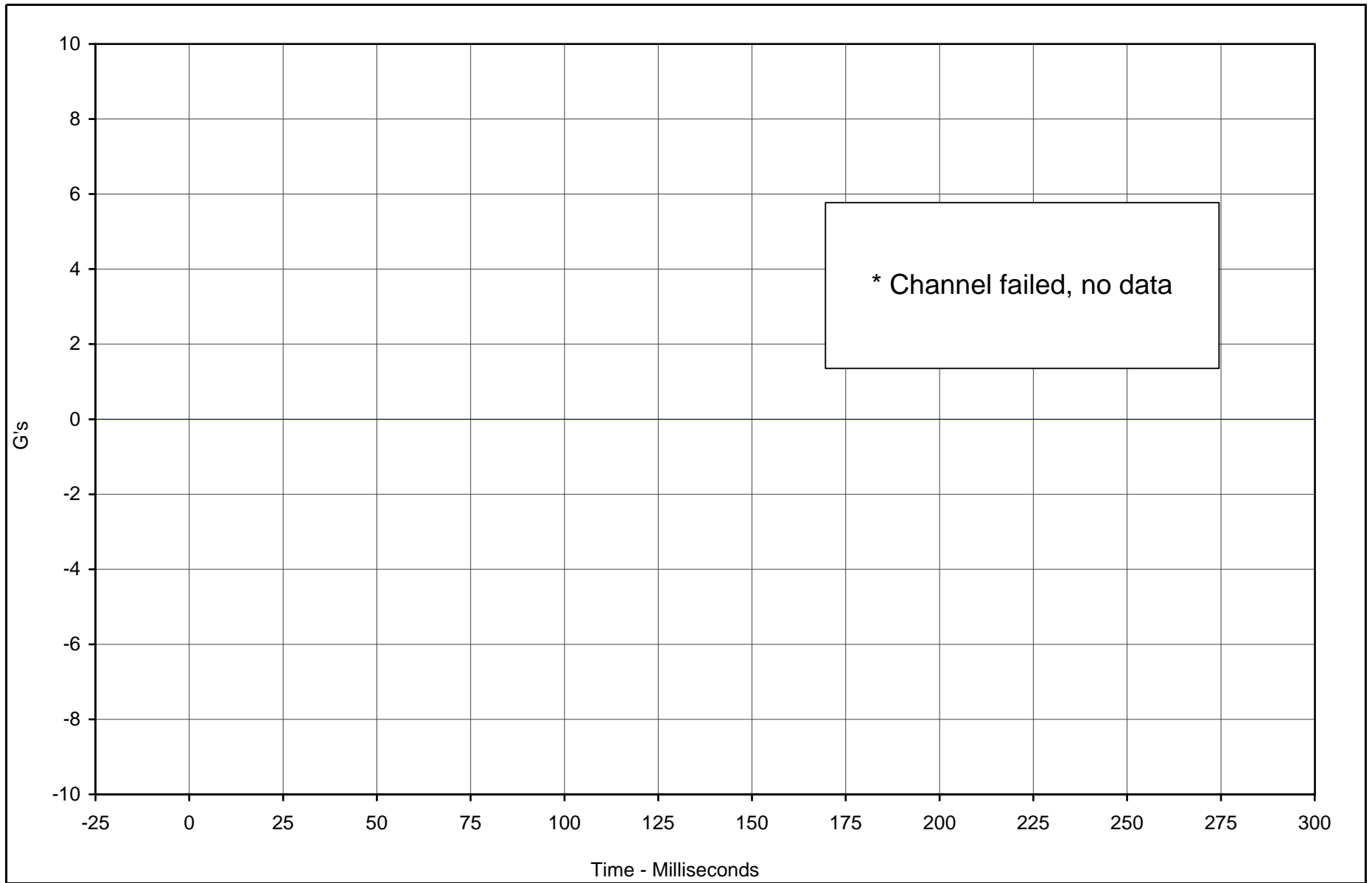


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



* Channel failed, no data

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Pelvis Resultant	066	RES	G's	0.0	0.0	0.0	0.0	1000



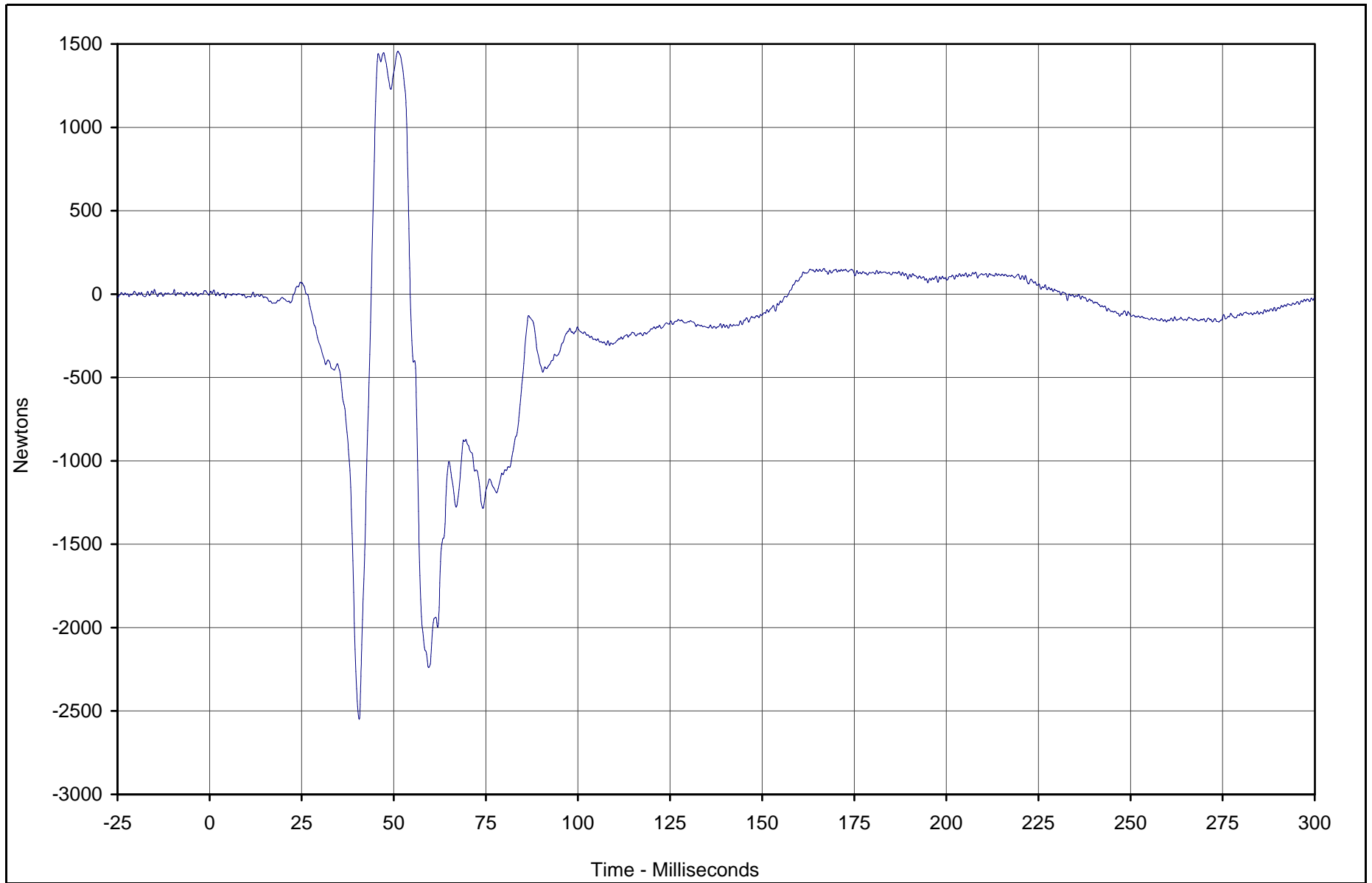
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

B-101



TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Femur Force	067	FIL	Newtons	1455.9	51.1	-2504.4	40.6	600



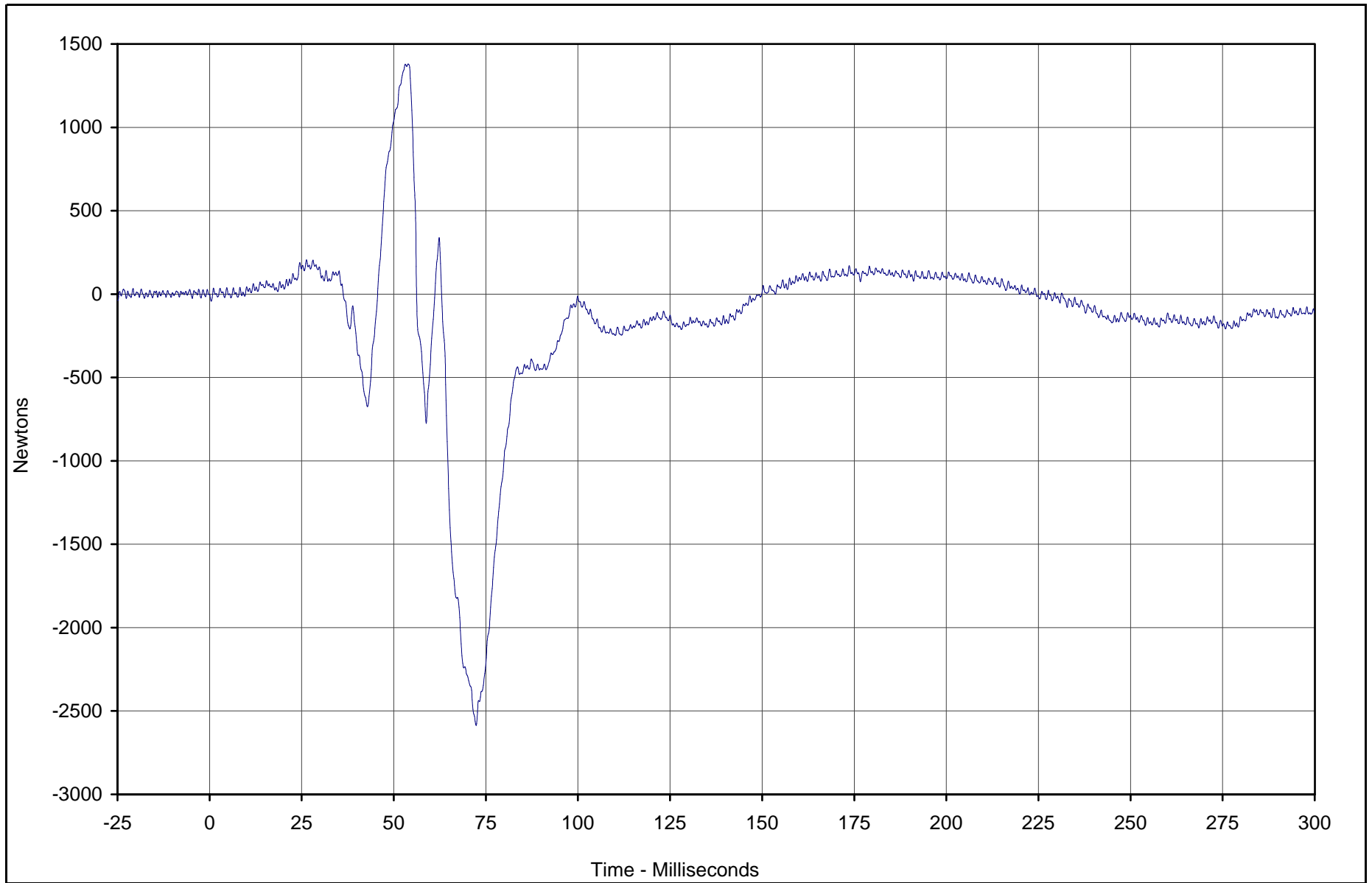
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

B-102



TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Femur Force	068	FIL	Newtons	1379.8	53.9	-2586.1	72.4	600



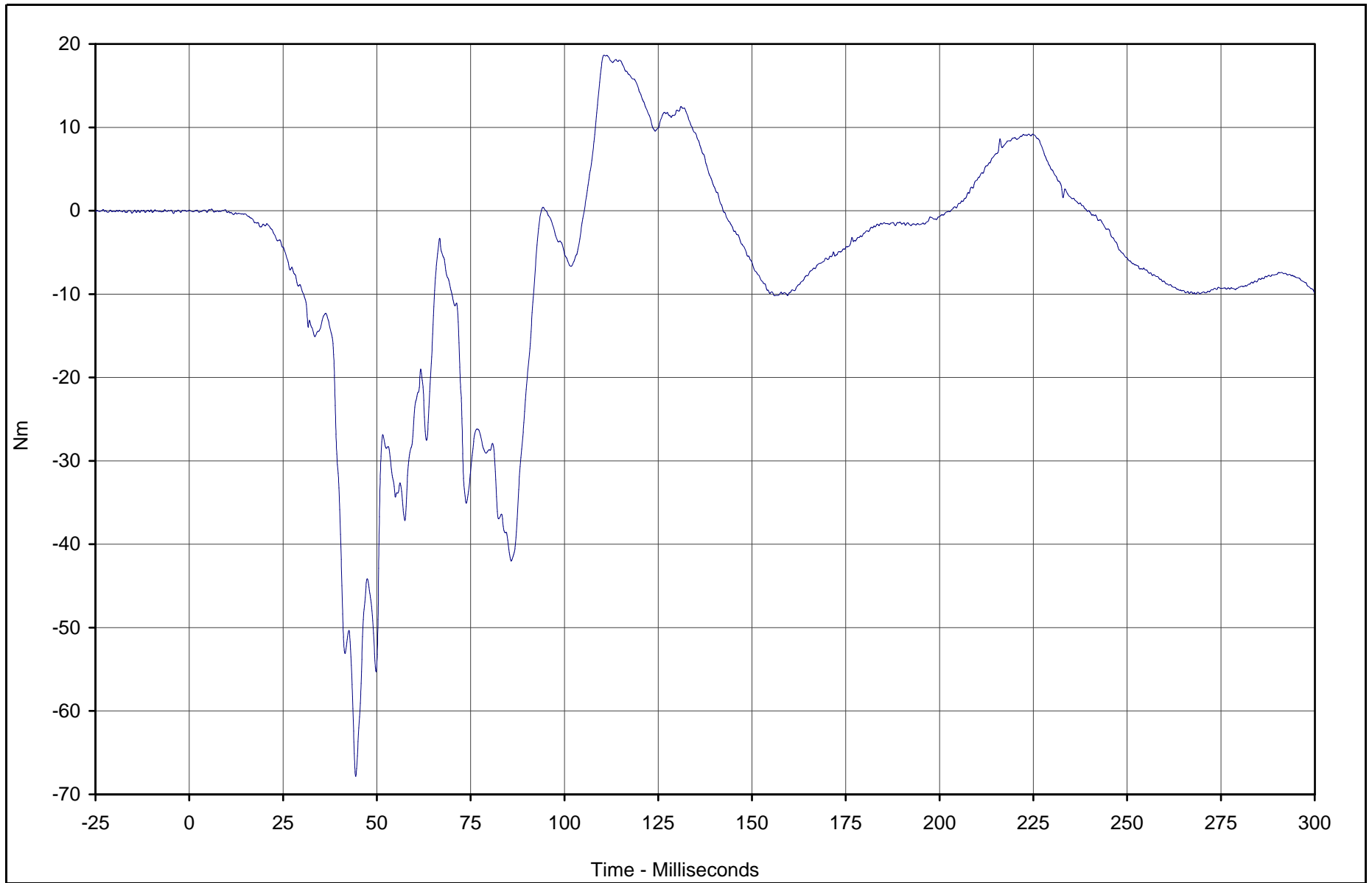
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

B-103



TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Upper Tibia Moment X	069	FIL	Nm	18.7	110.5	-67.8	44.4	600



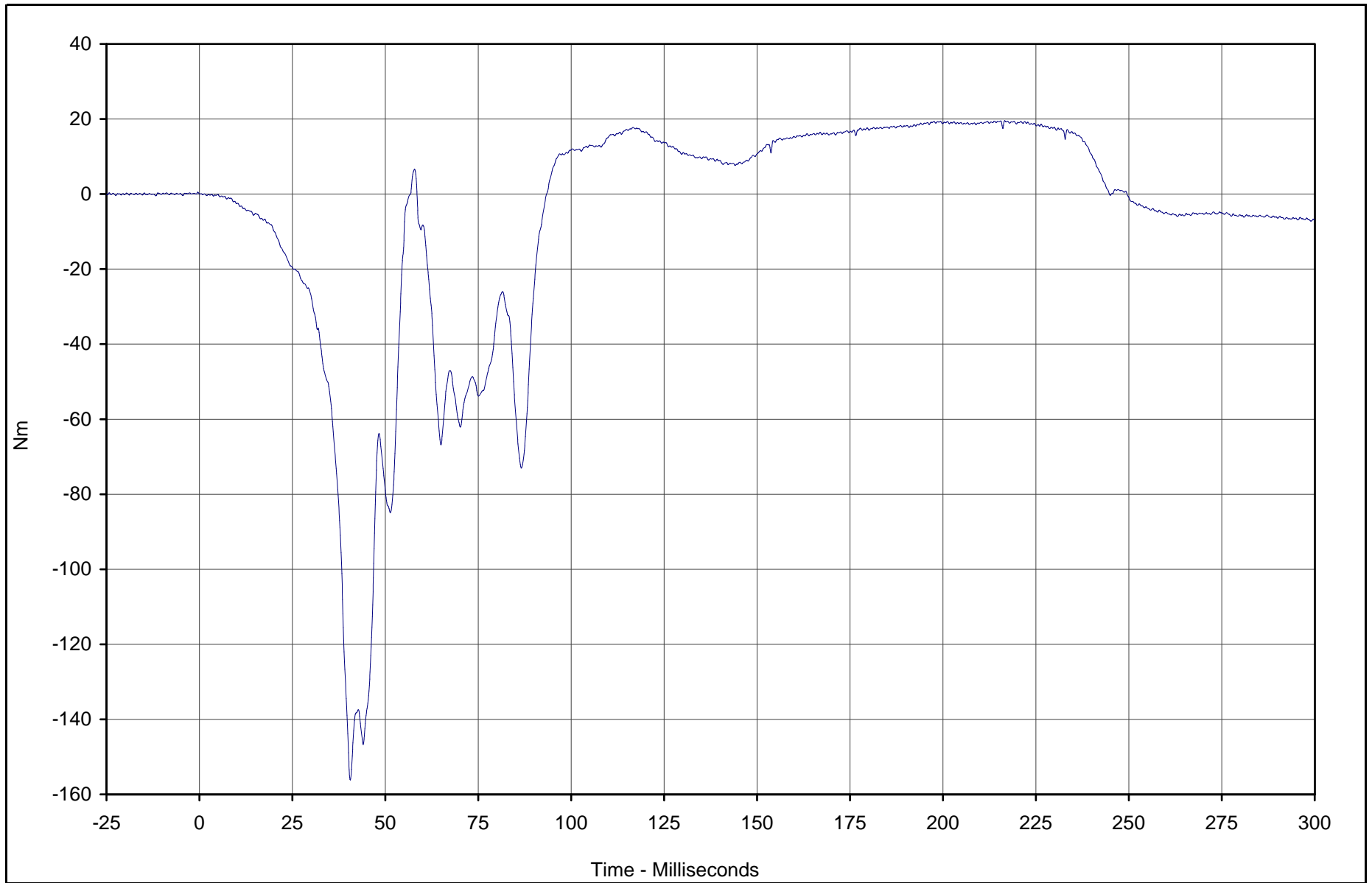
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

B-104



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Upper Tibia Moment Y	070	FIL	Nm	19.6	216.6	-156.2	40.6	600



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

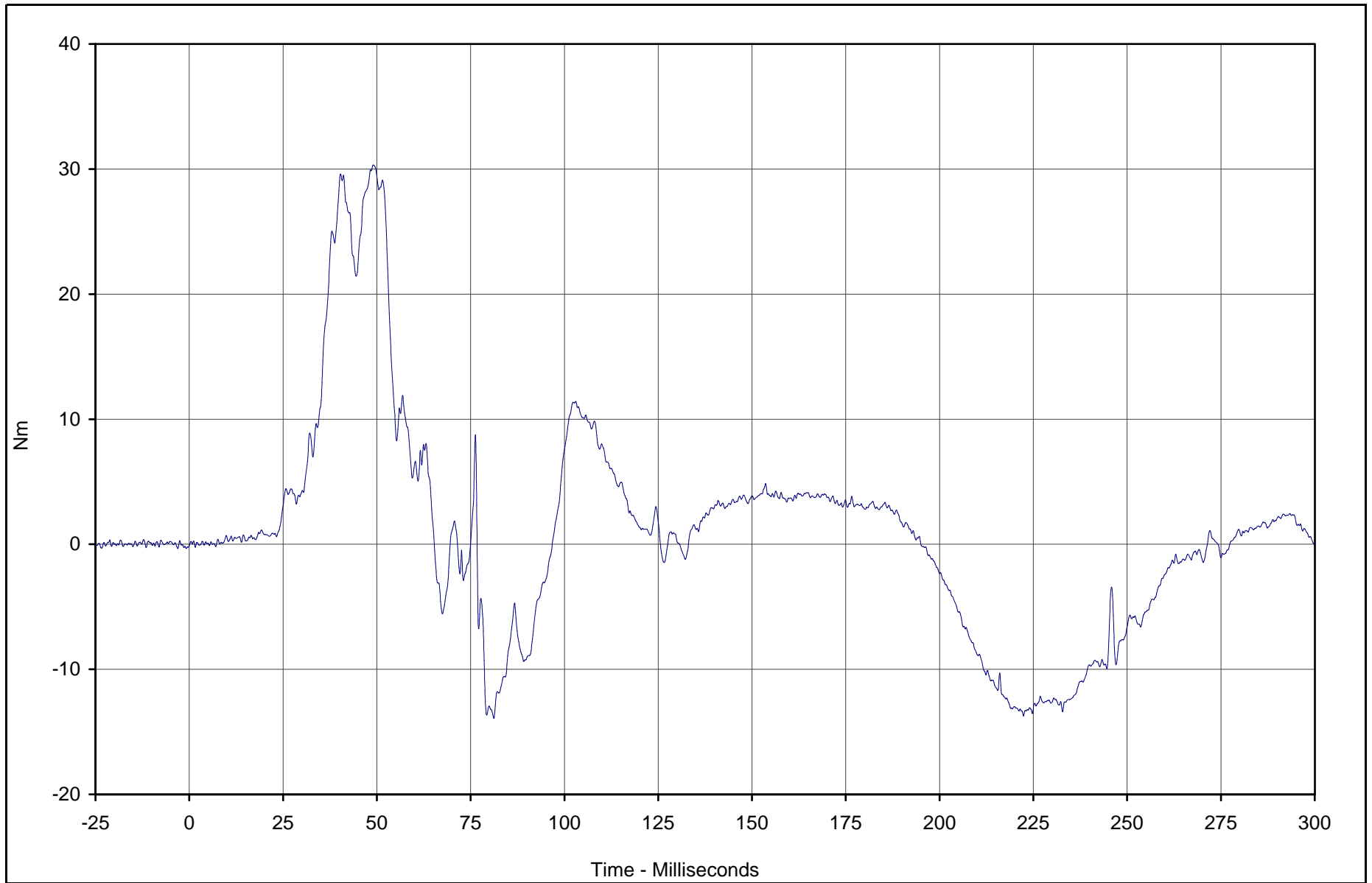
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC

B-105



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Upper Tibia Moment X	071	FIL	Nm	30.3	49.0	-13.9	81.2	600



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

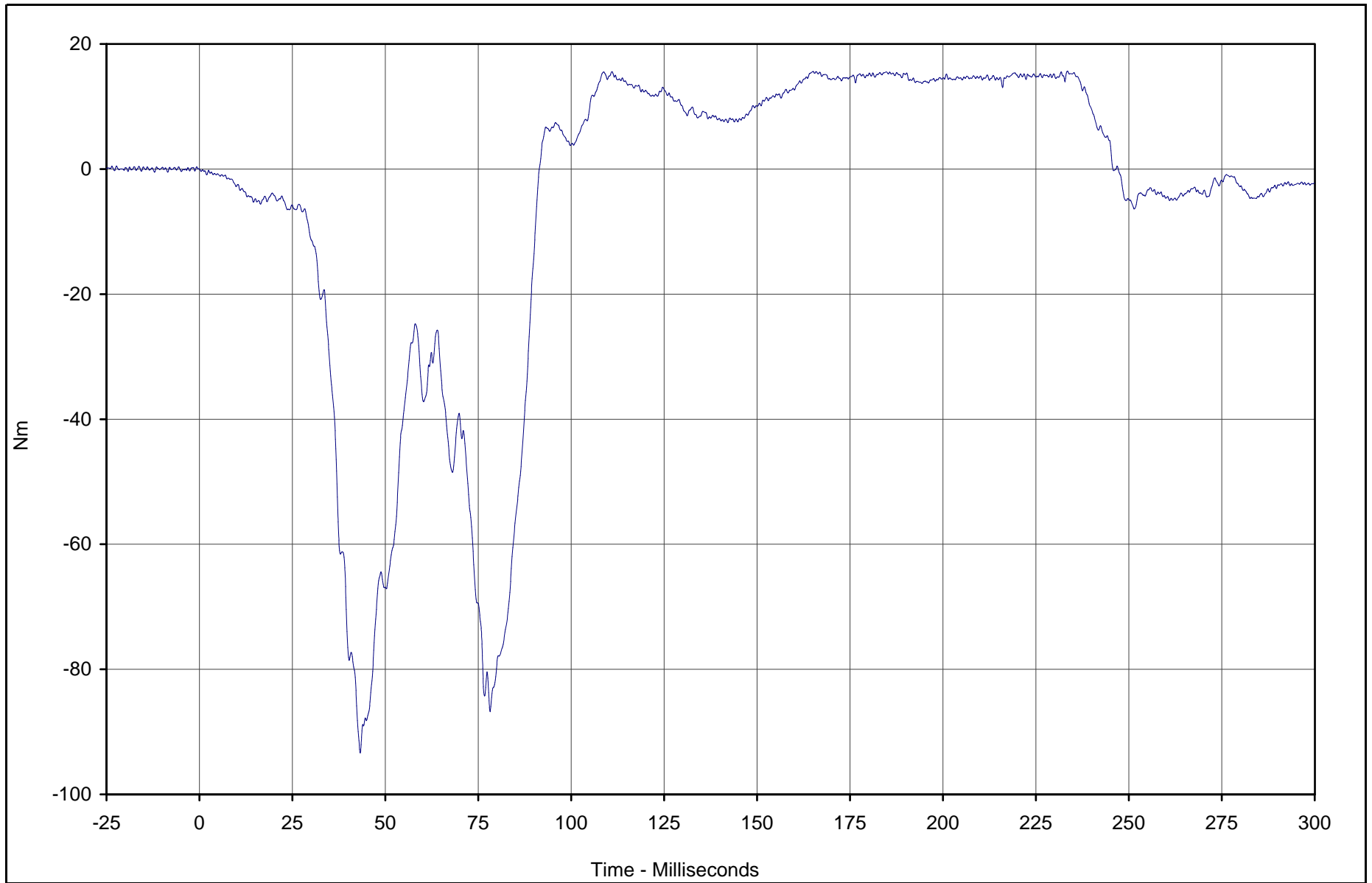
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC

B-106



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Upper Tibia Moment Y	072	FIL	Nm	15.7	233.5	-93.4	43.3	600



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

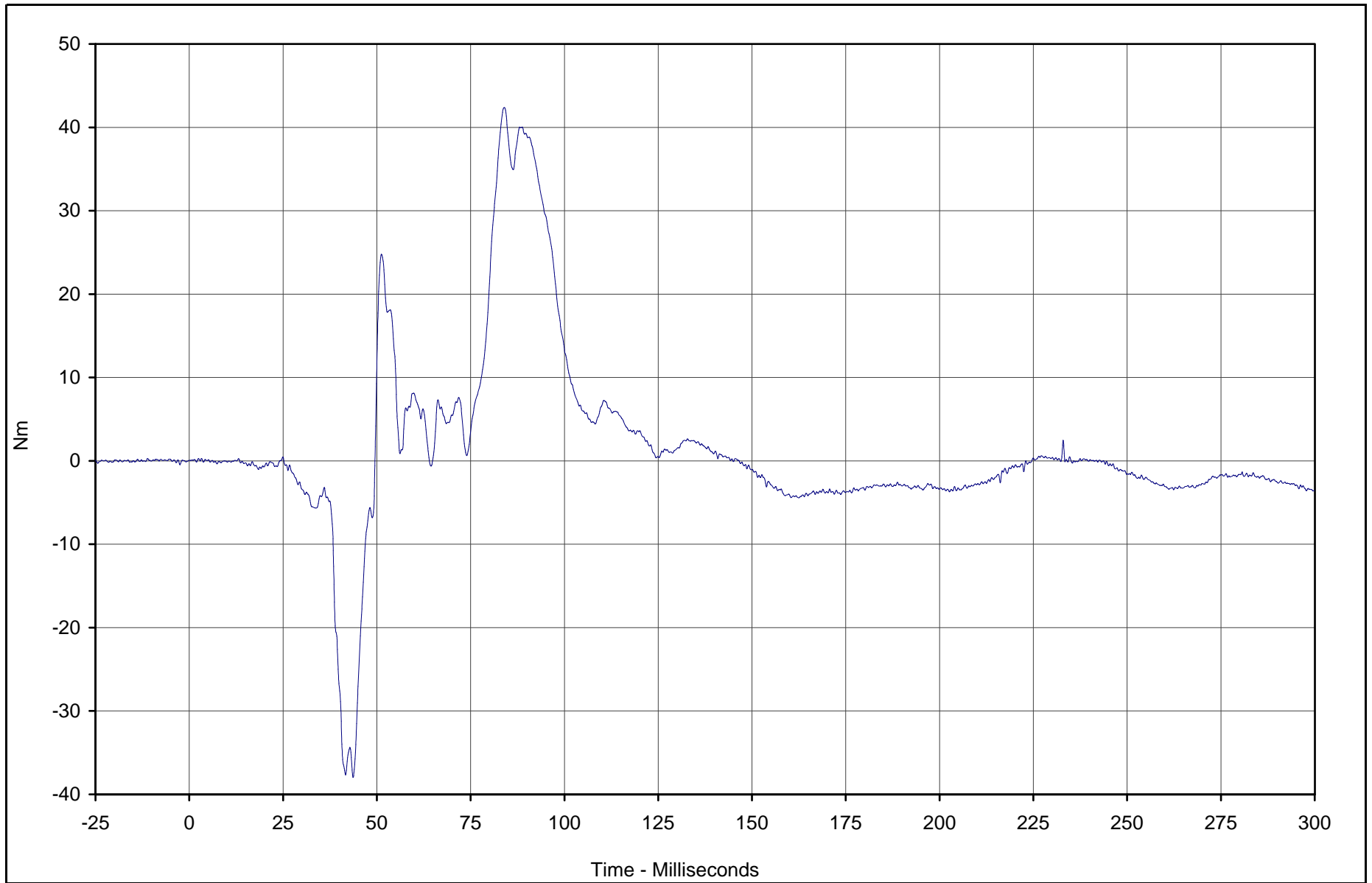
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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B-107



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Lower Tibia Moment X	073	FIL	Nm	42.4	84.0	-38.0	43.7	600



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

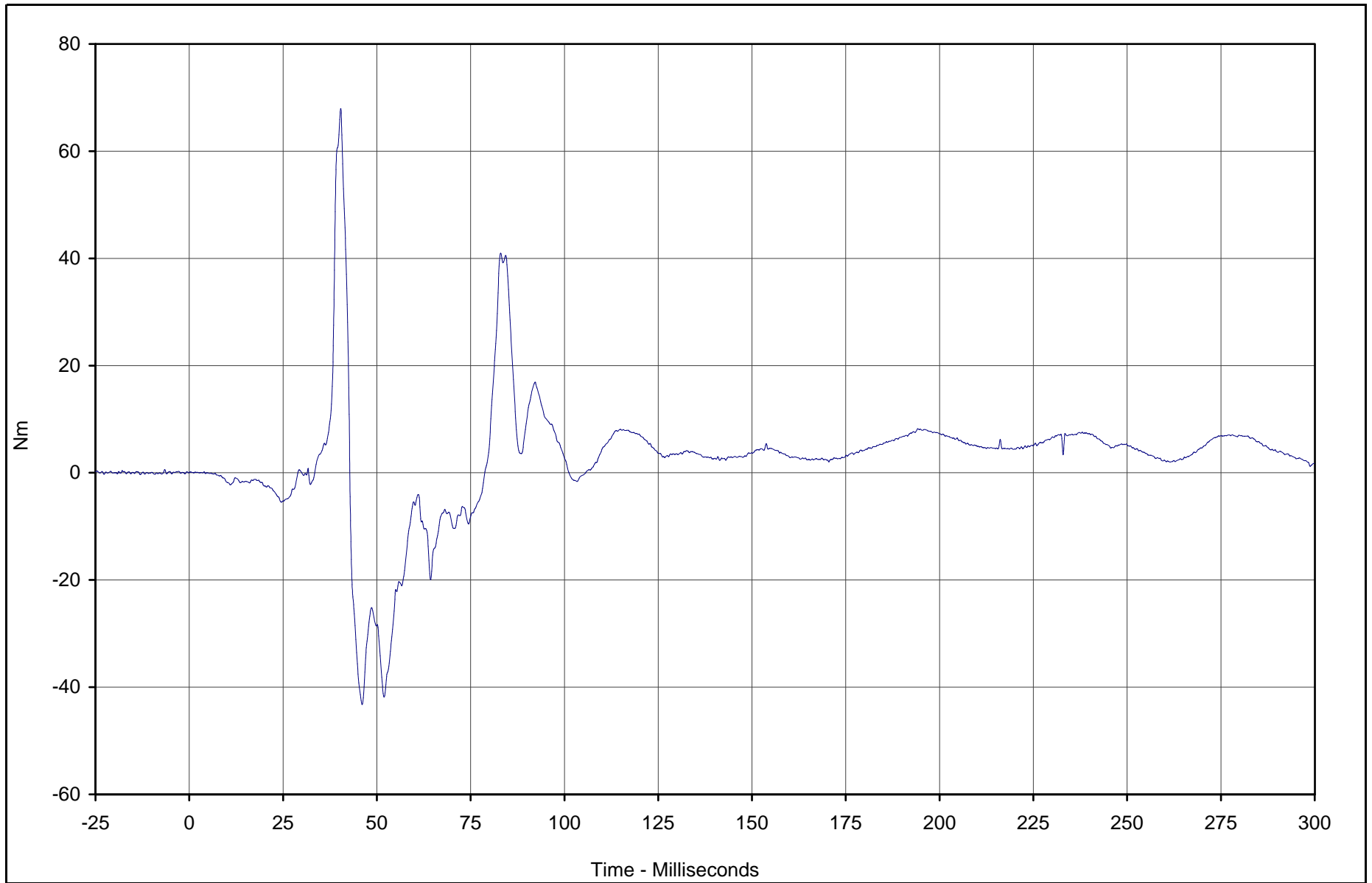
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC

B-108



TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Lower Tibia Moment Y	074	FIL	Nm	67.9	40.4	-43.3	46.1	600



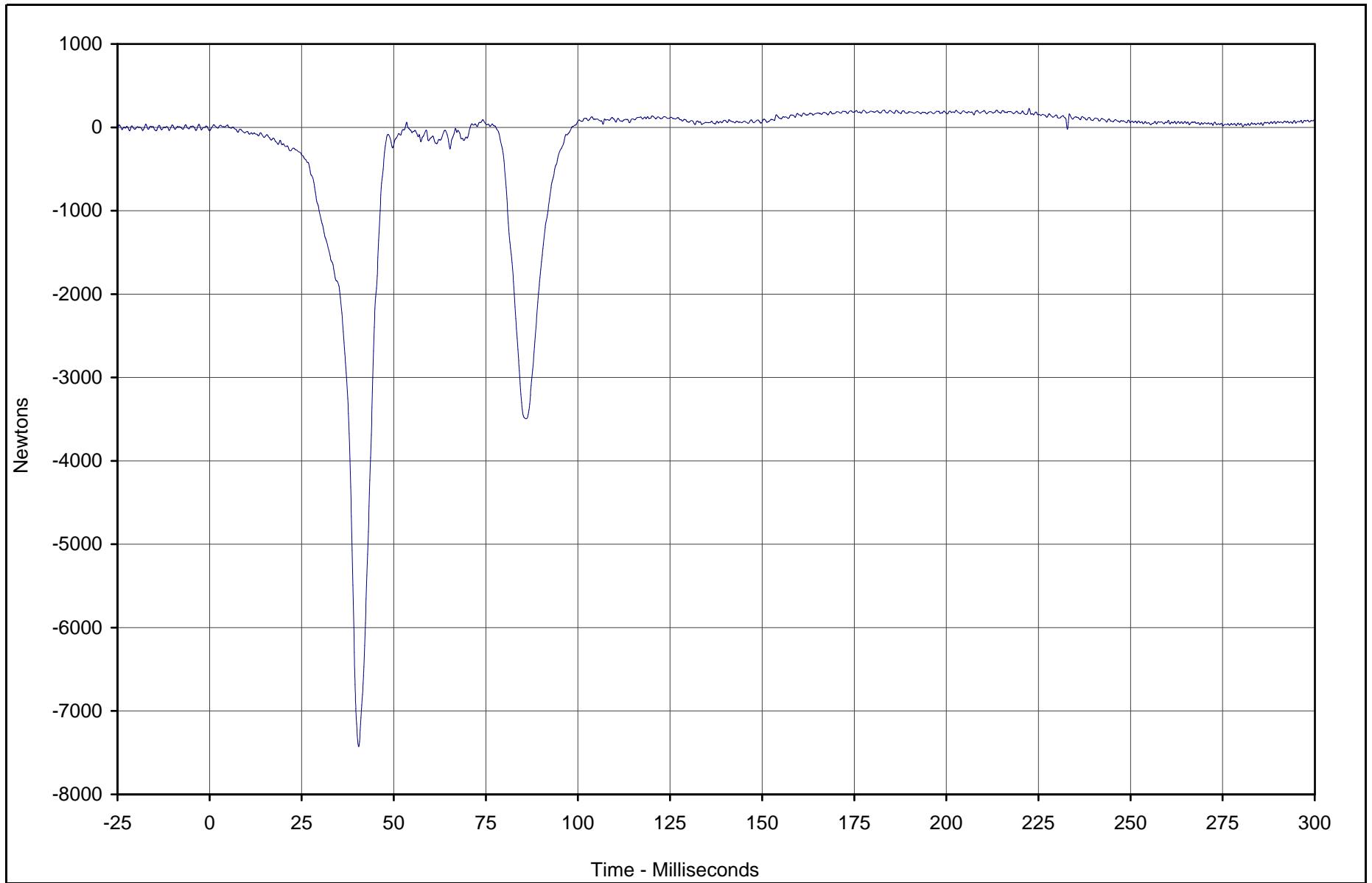
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

B-109



TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Lower Tibia Force Z	075	FIL	Newtons	227.7	222.5	-7427.1	40.5	600



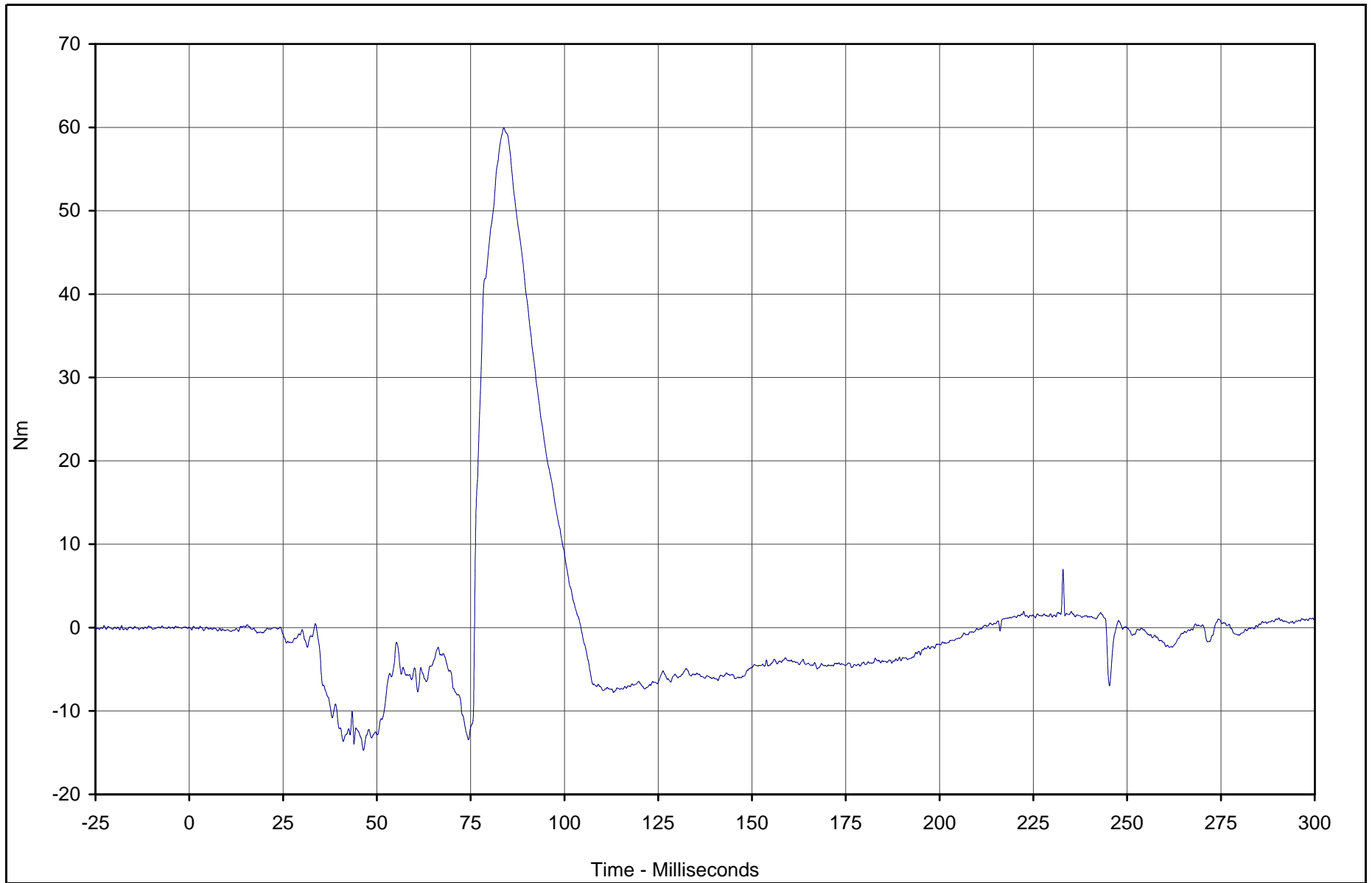
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

B-110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Lower Tibia Moment X	076	FIL	Nm	59.9	83.9	-14.7	46.4	600



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

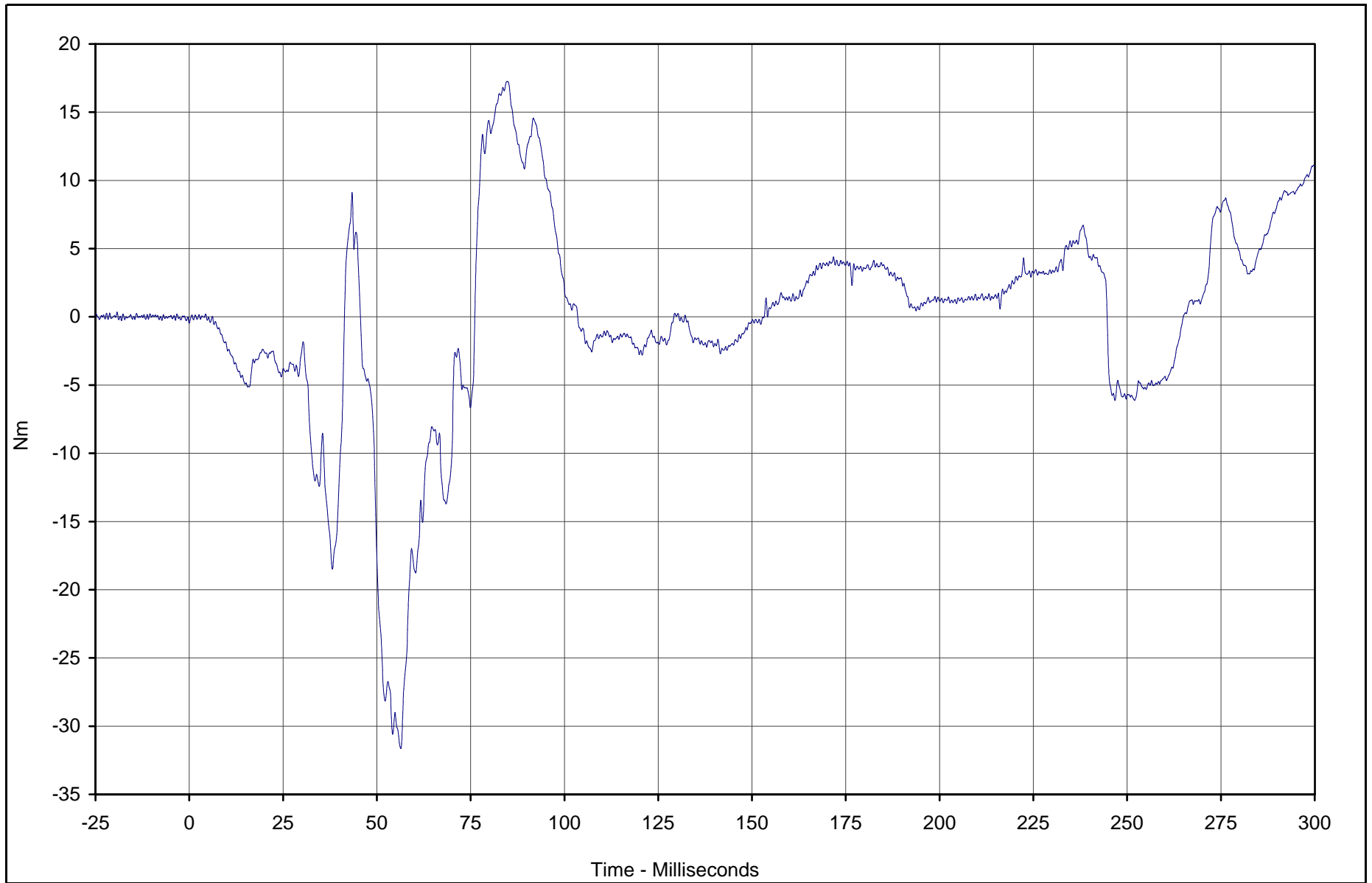
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC

B-111



TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Lower Tibia Moment Y	077	FIL	Nm	17.3	84.8	-31.6	56.4	600

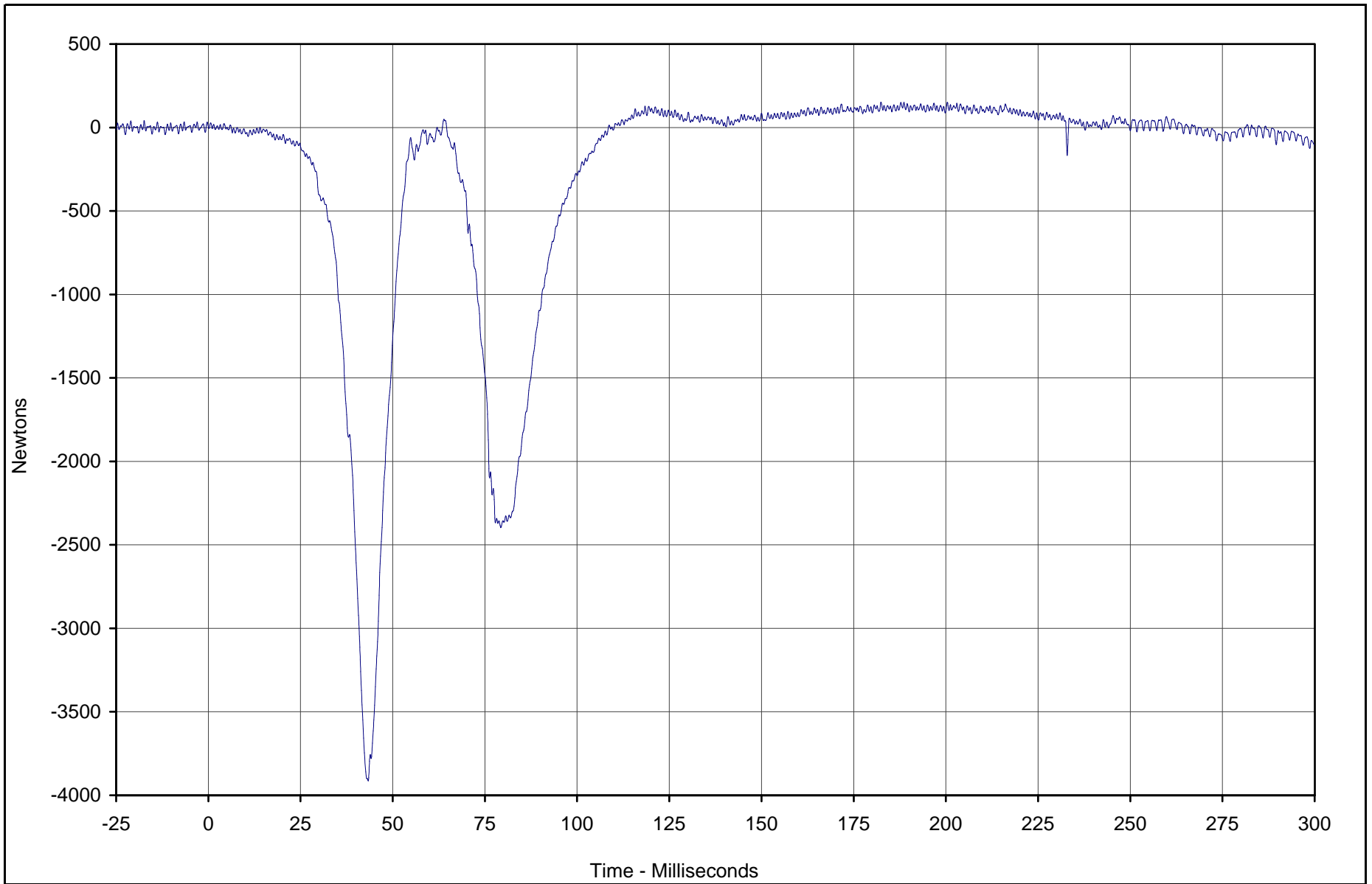


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right lower Tibia Force Z	078	FIL	Newtons	152.1	182.4	-3914.4	43.4	600

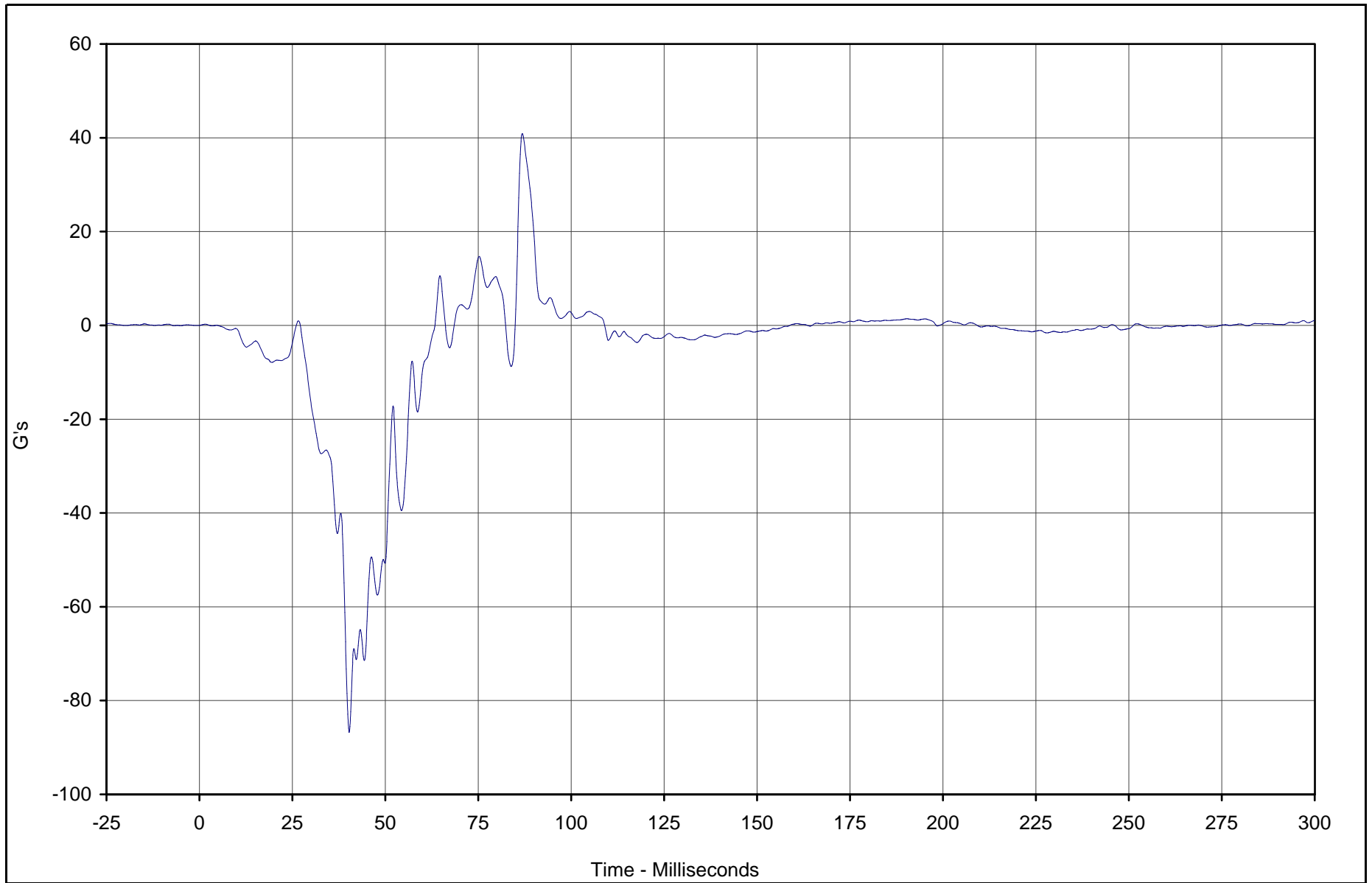


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Foot Aft X	079	FIL	G's	40.9	86.9	-86.8	40.3	180



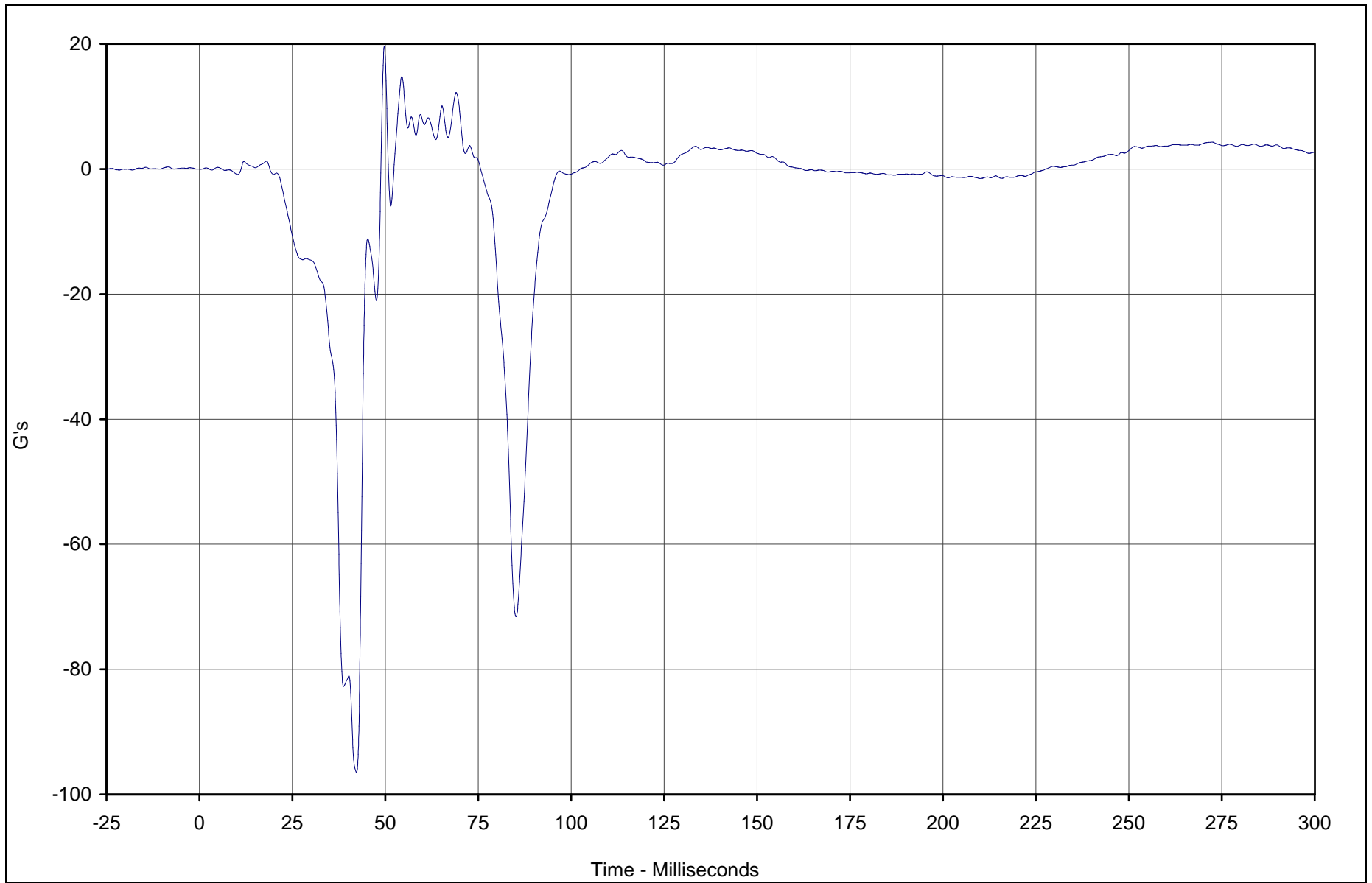
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

B-114



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Foot Aft Z	080	FIL	G's	19.6	49.7	-96.5	42.3	180



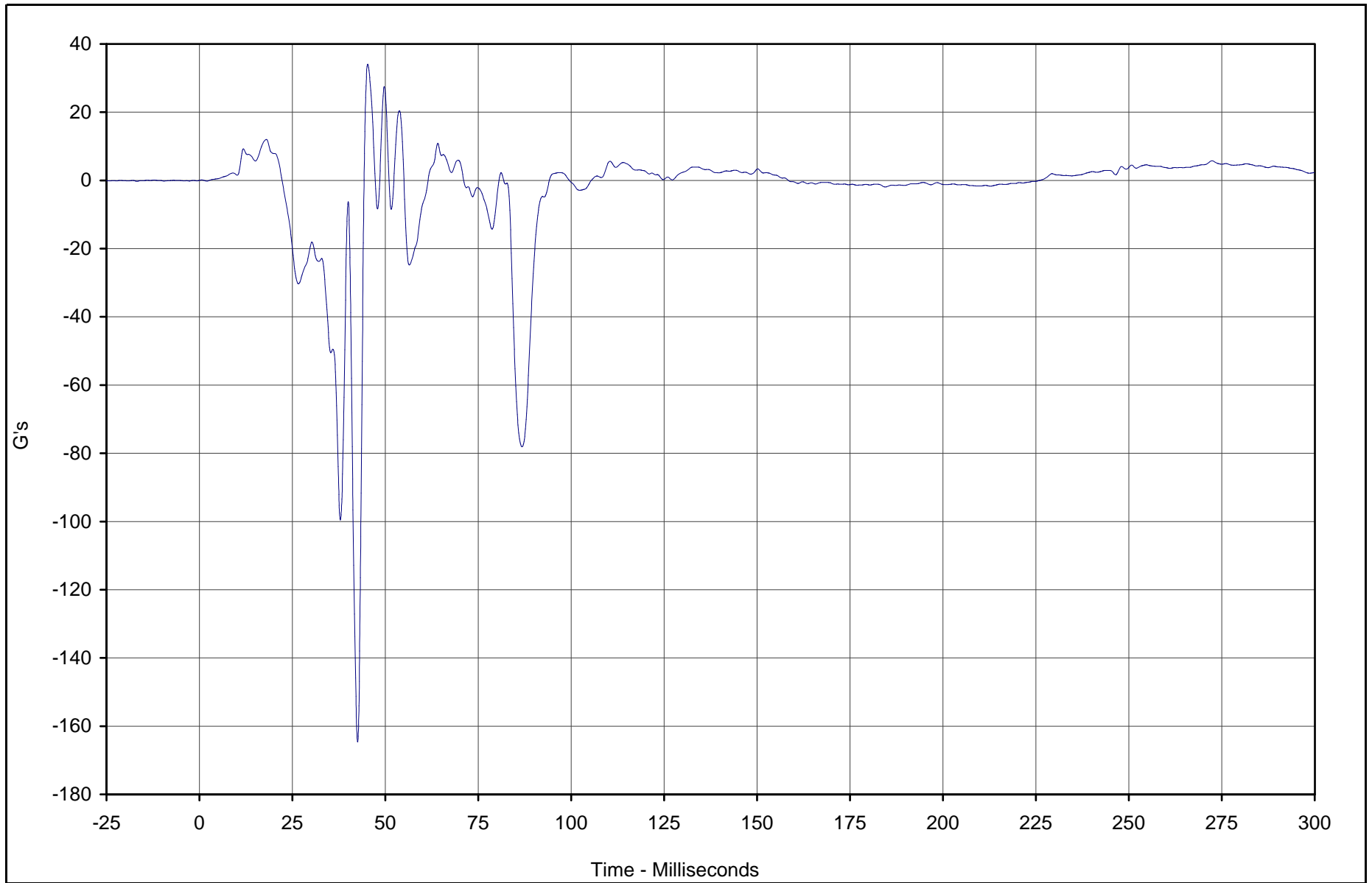
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Foot Fore Z	081	FIL	G's	34.1	45.3	-164.6	42.6	180

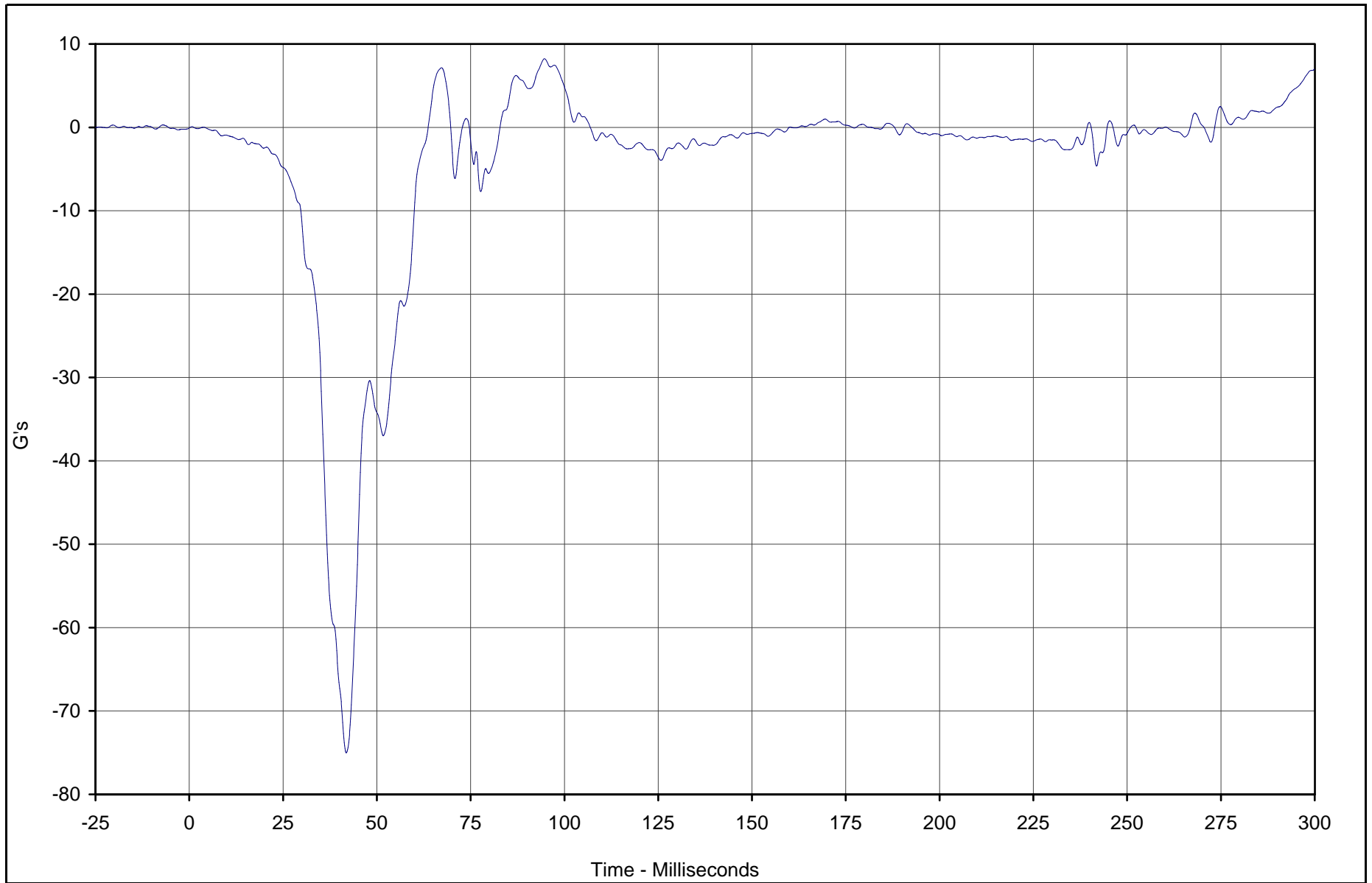


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Foot Aft X	082	FIL	G's	8.2	94.7	-75.0	41.9	180



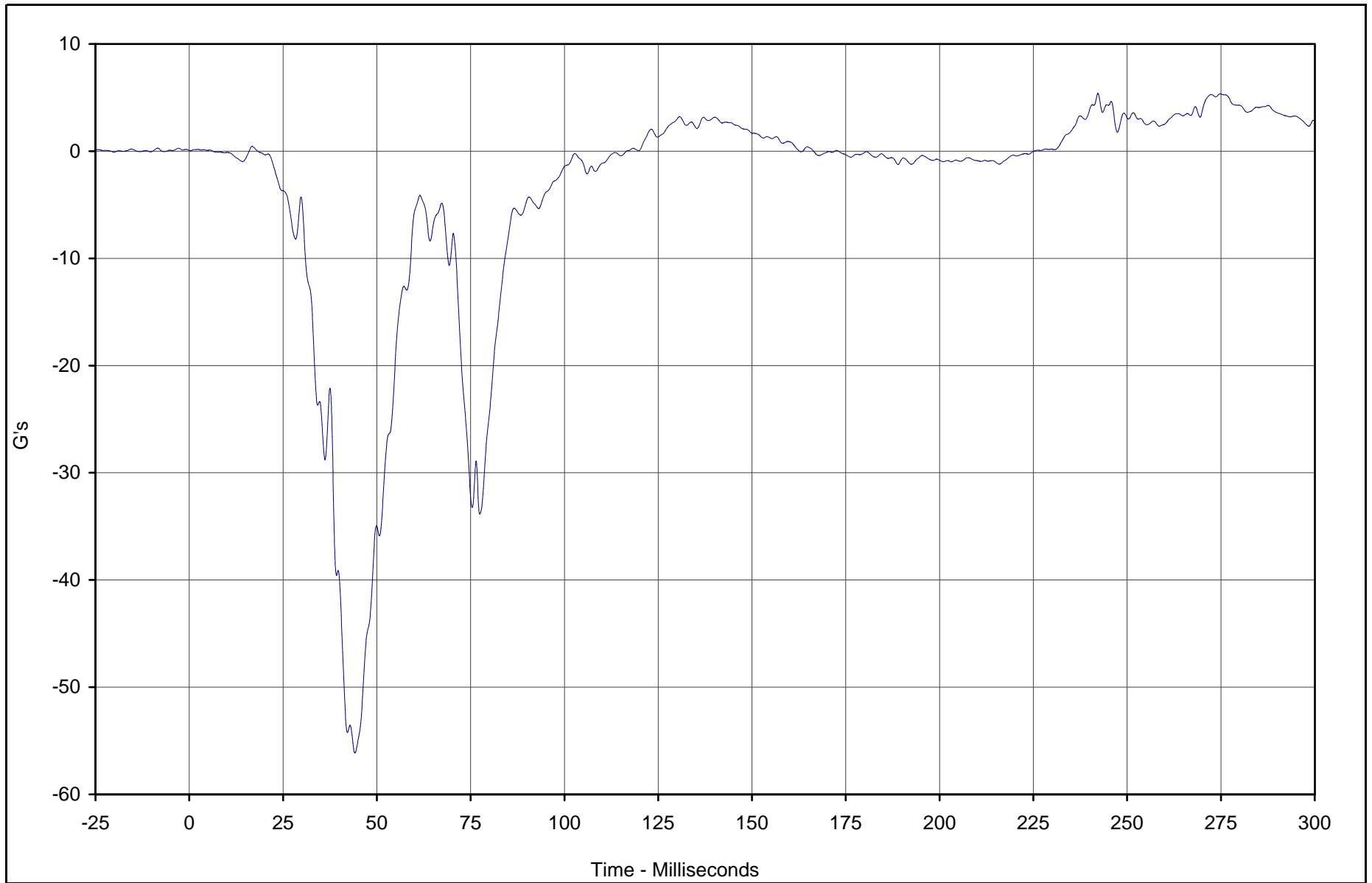
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

B-117



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Foot Aft Z	083	FIL	G's	5.4	242.2	-56.1	44.2	180



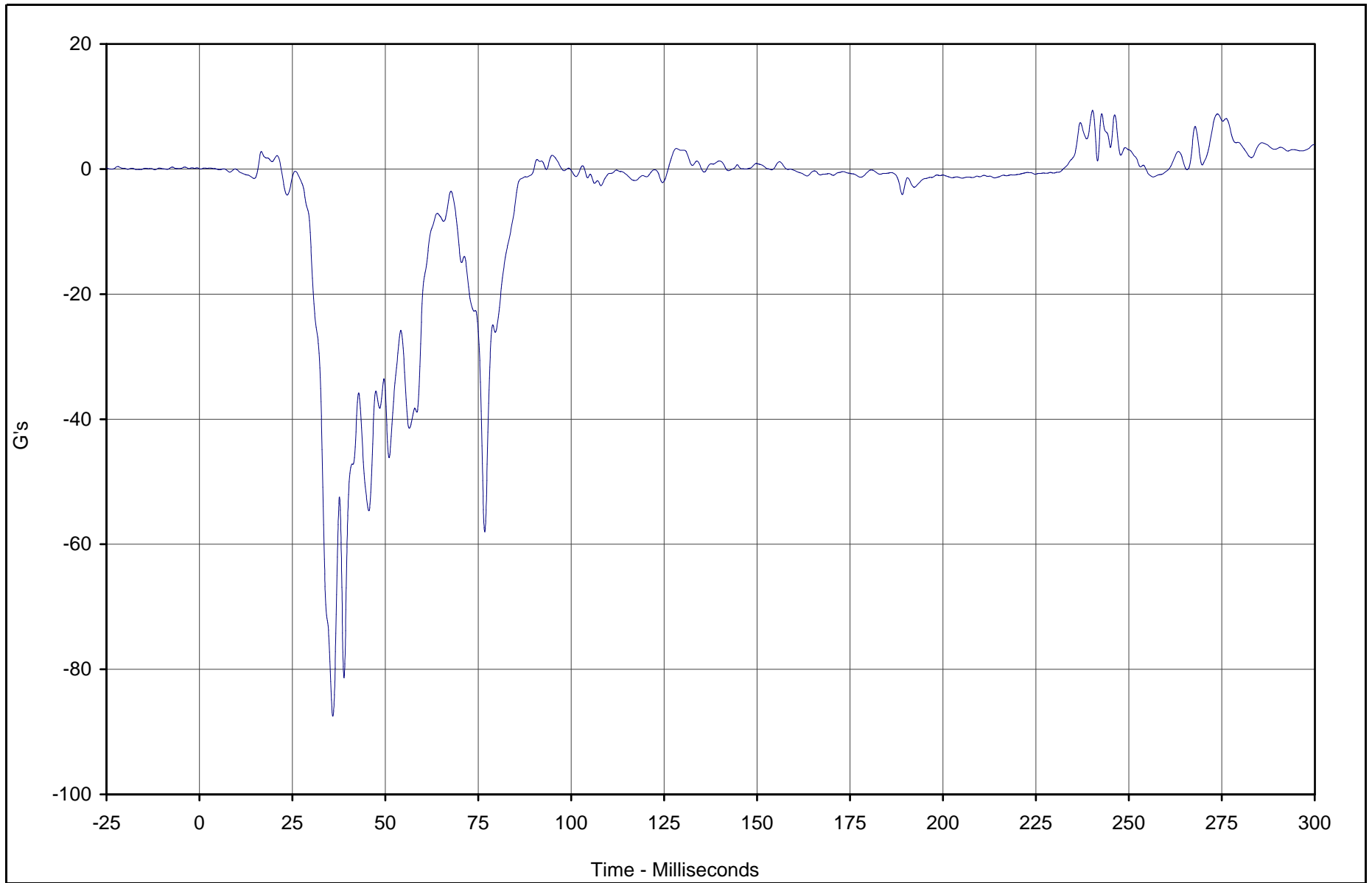
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Foot Fore Z	084	FIL	G's	9.4	240.2	-87.5	35.9	180

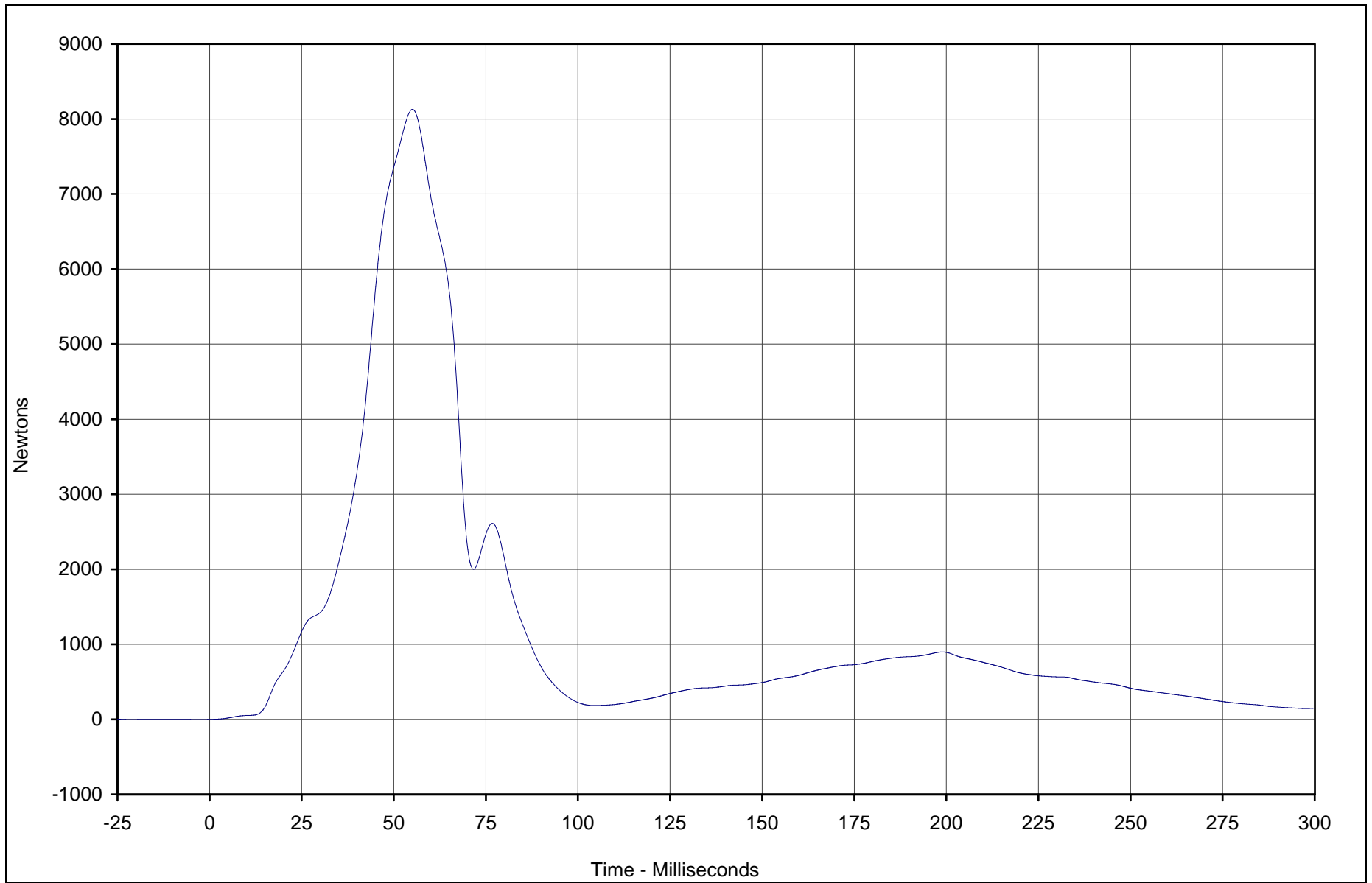


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Lap Belt Force	085	FIL	Newtons	8129.1	55.1	-0.8	0.0	60



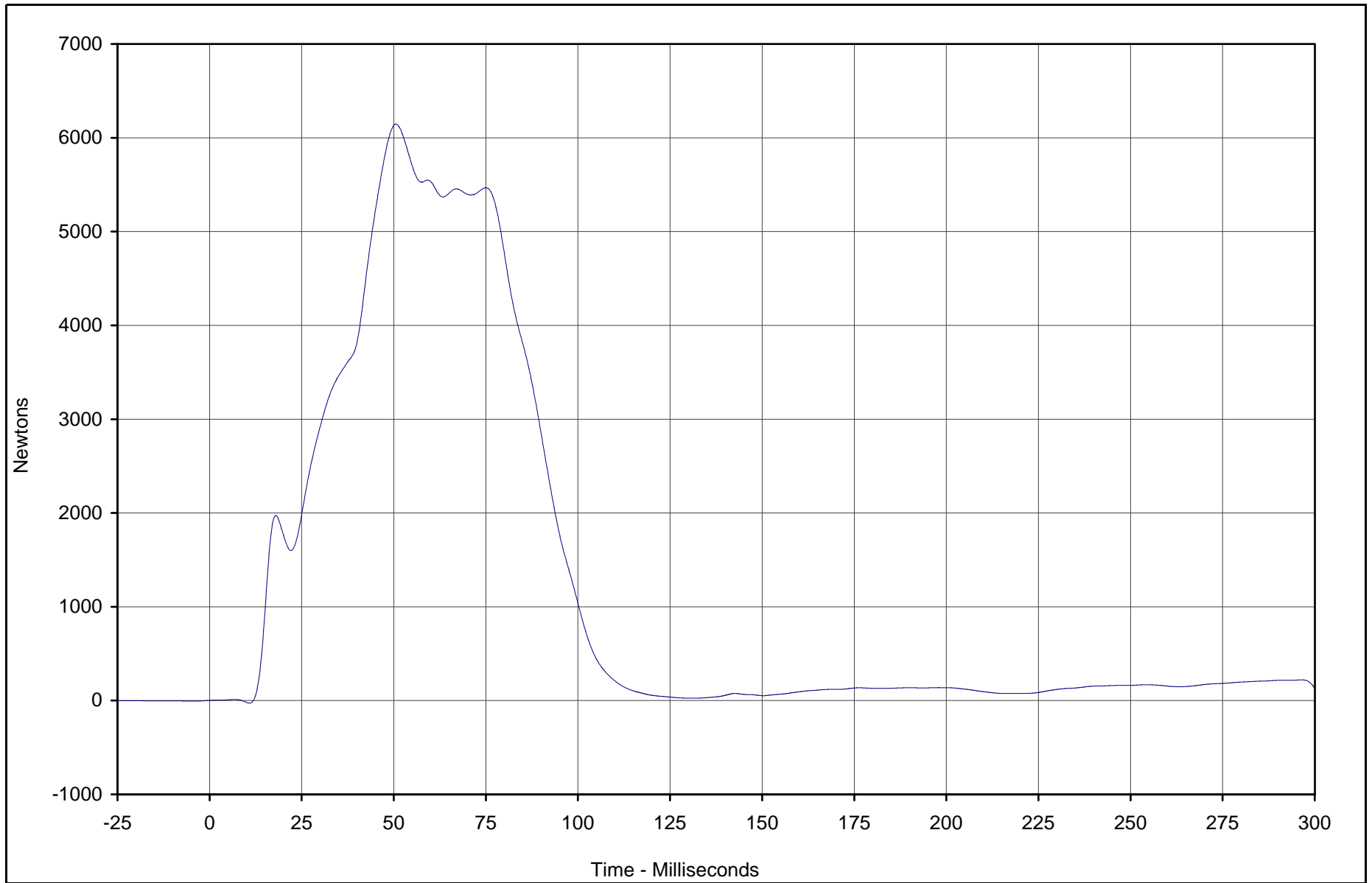
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

B-120



TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Shoulder Belt Force	086	FIL	Newtons	6145.7	50.6	-27.4	10.8	60



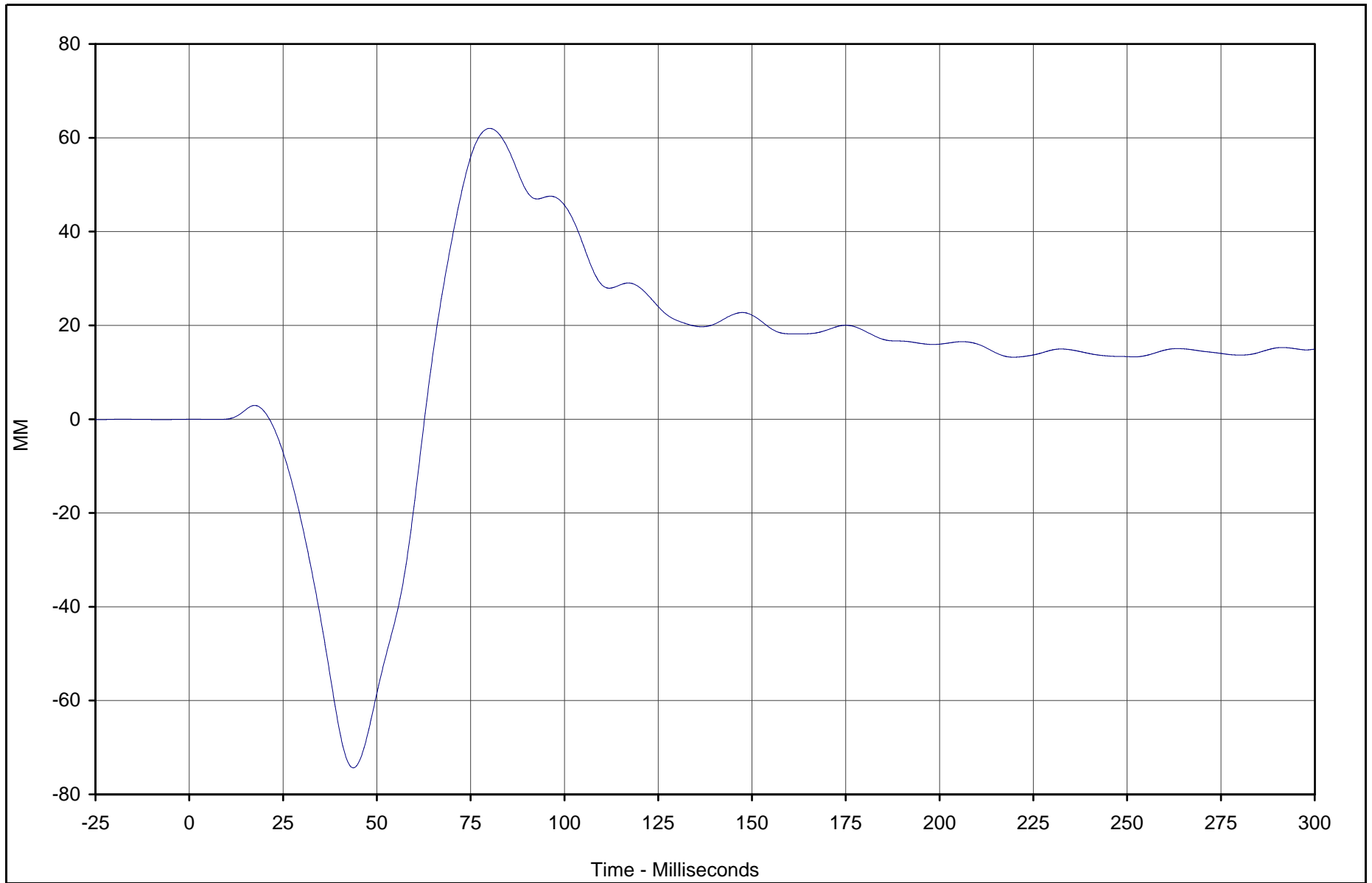
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

B-121



TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Shoulder Belt Pullout	087	FIL	MM	62.0	80.1	-74.3	43.7	60



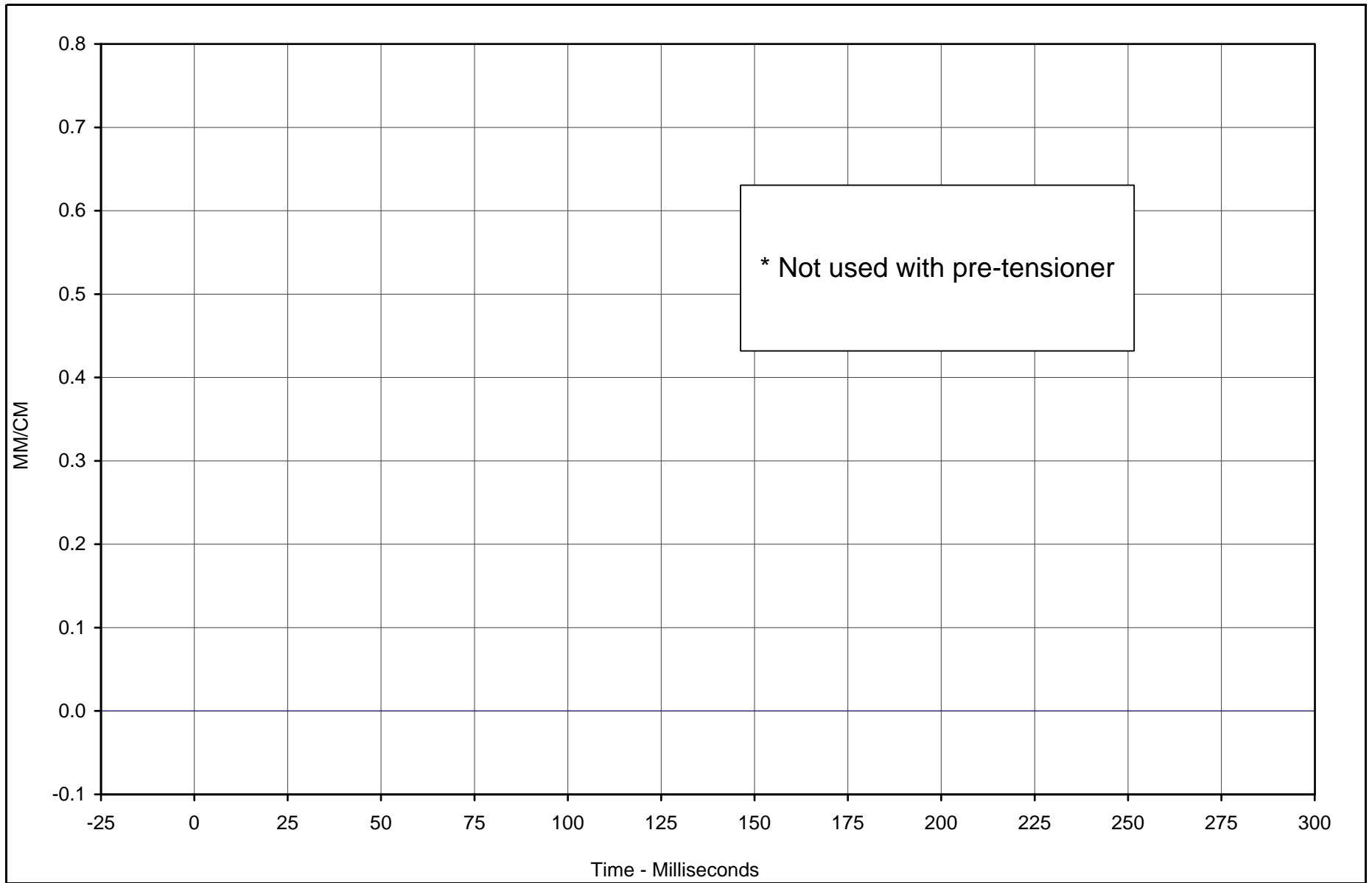
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

B-122



* Not used with pre-tensioner

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Shoulder Belt Elongation	088	FIL	MM/CM	0.00	0.0	0.00	0.0	60



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

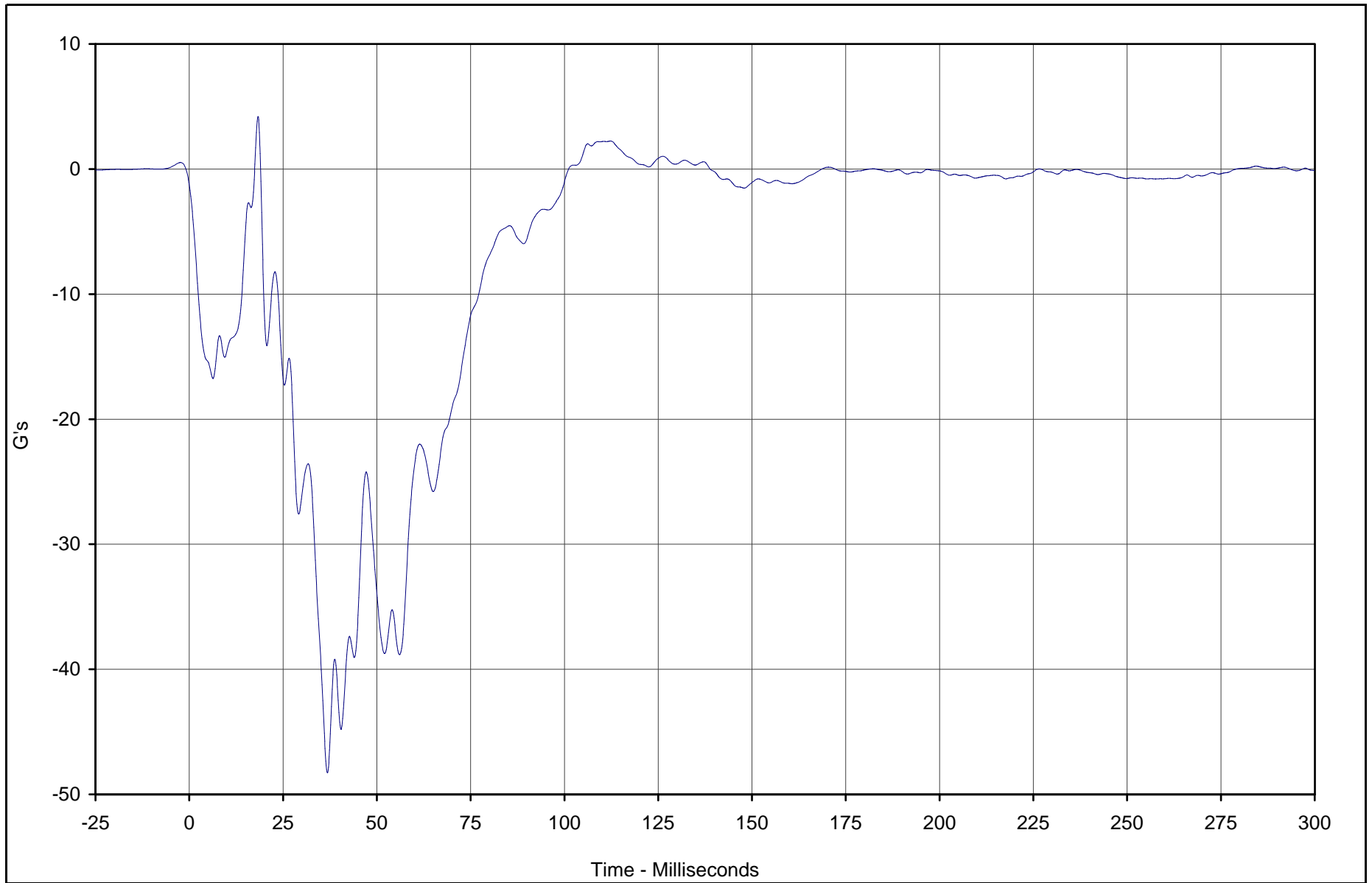
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC

B-123



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Rear X	089	FIL	G's	4.2	18.3	-48.3	36.8	60



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

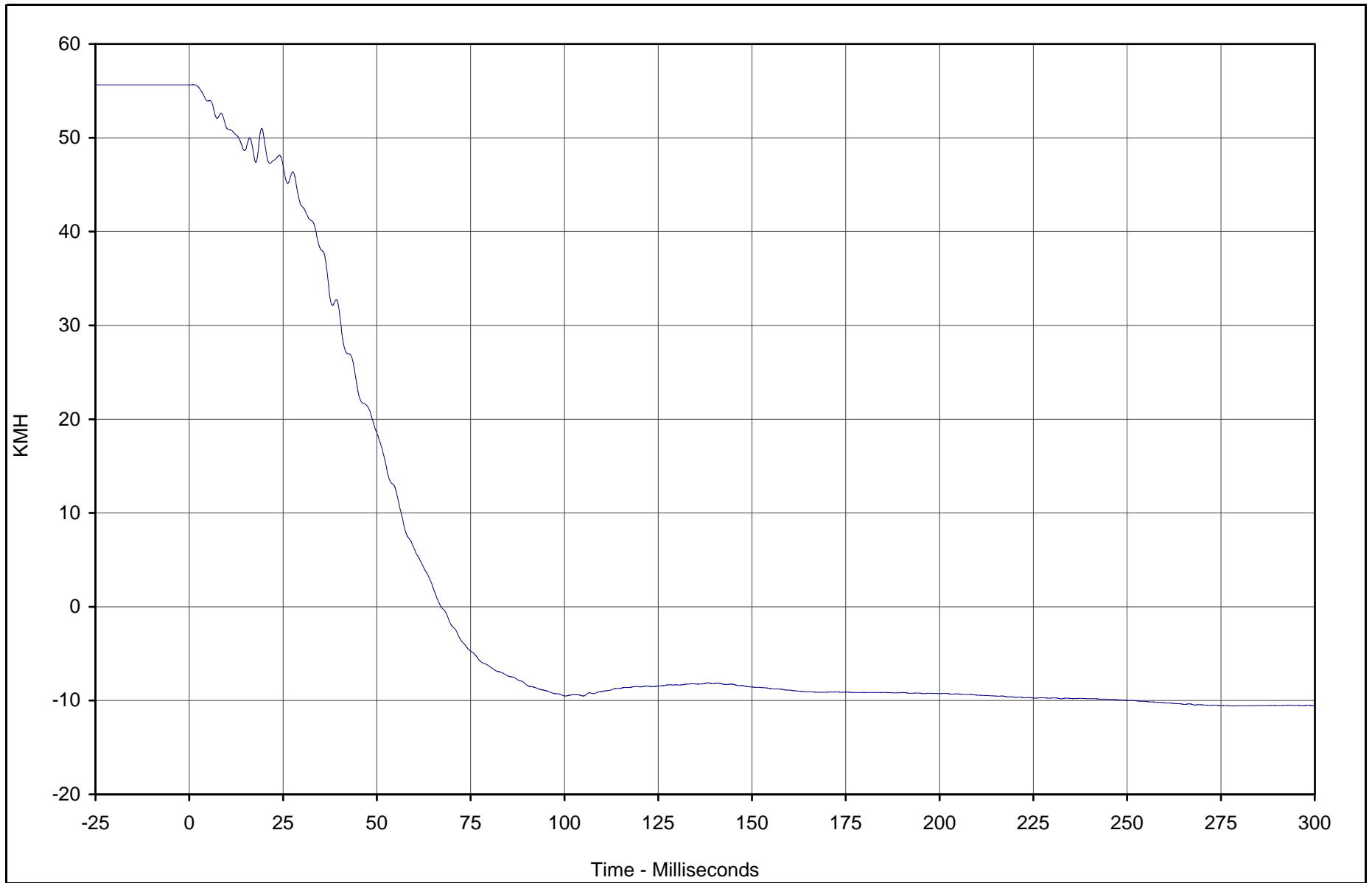
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC

B-124



TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Rear X Velocity	089	IN1	KMH	55.7	1.0	-10.6	277.9	180



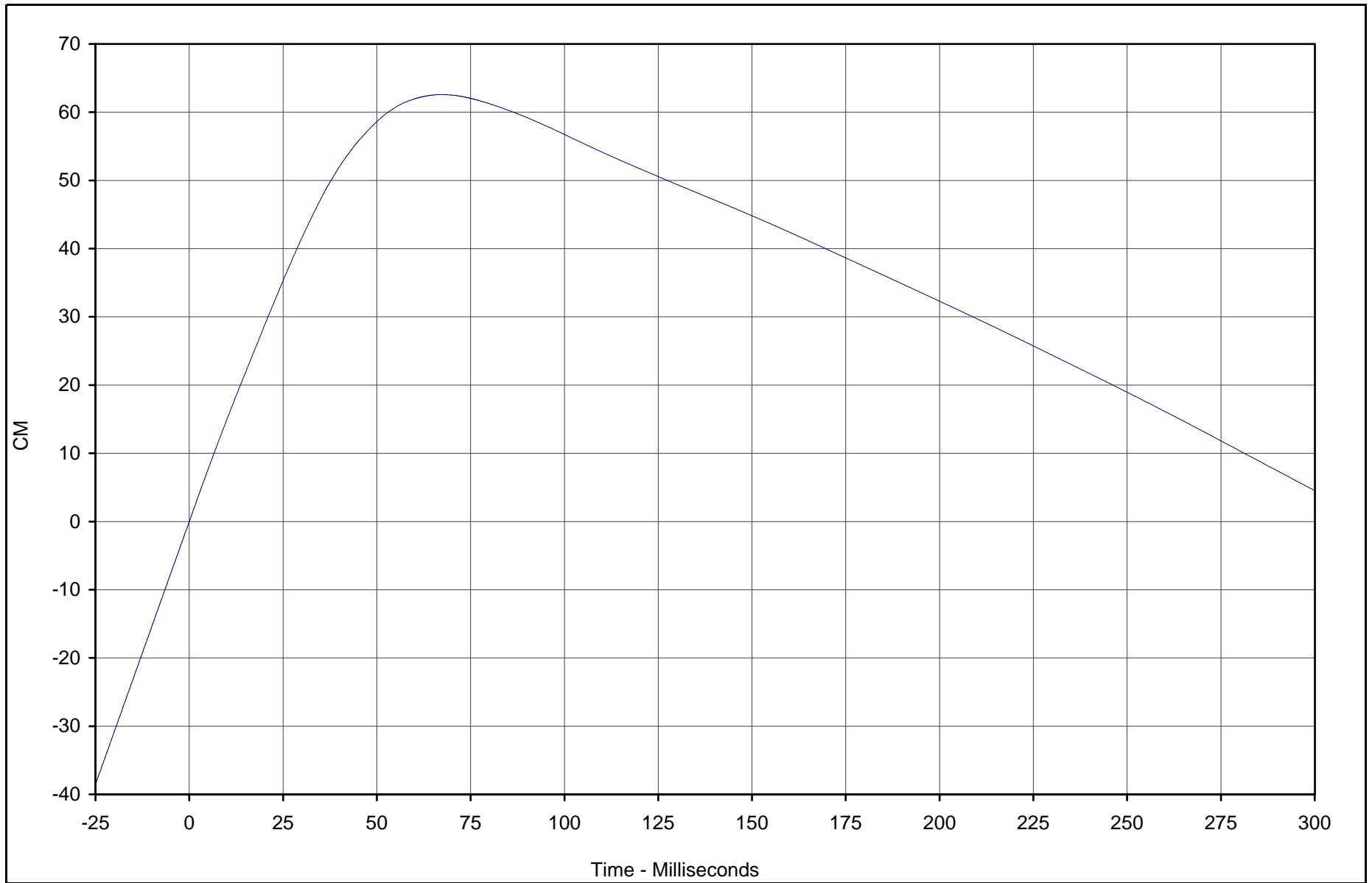
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

B-125



TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Rear X Displ.	089	IN2	CM	62.6	67.1	0.0	0.0	180



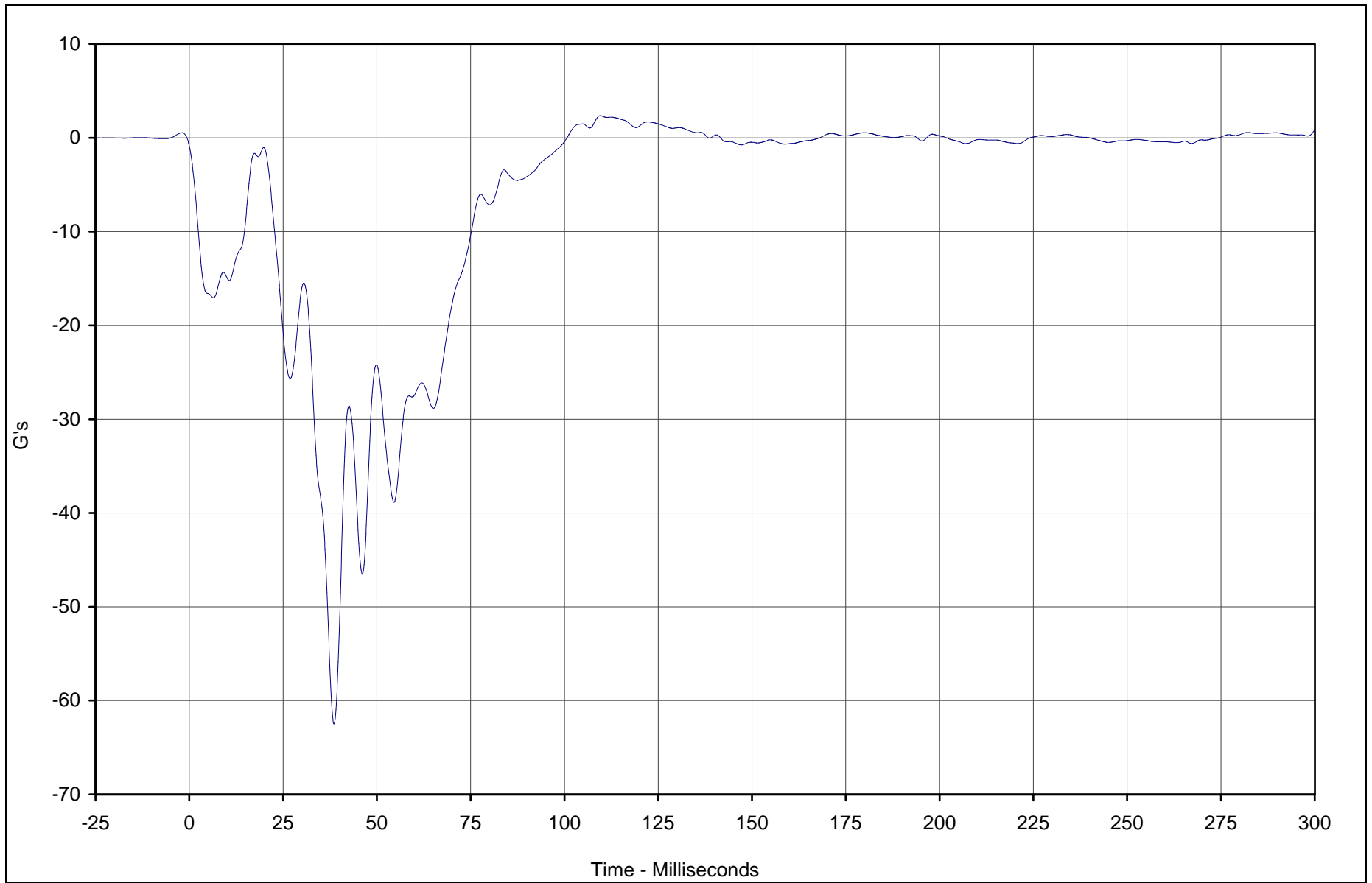
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

B-126



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Rear X	090	FIL	G's	2.4	109.6	-62.5	38.6	60



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

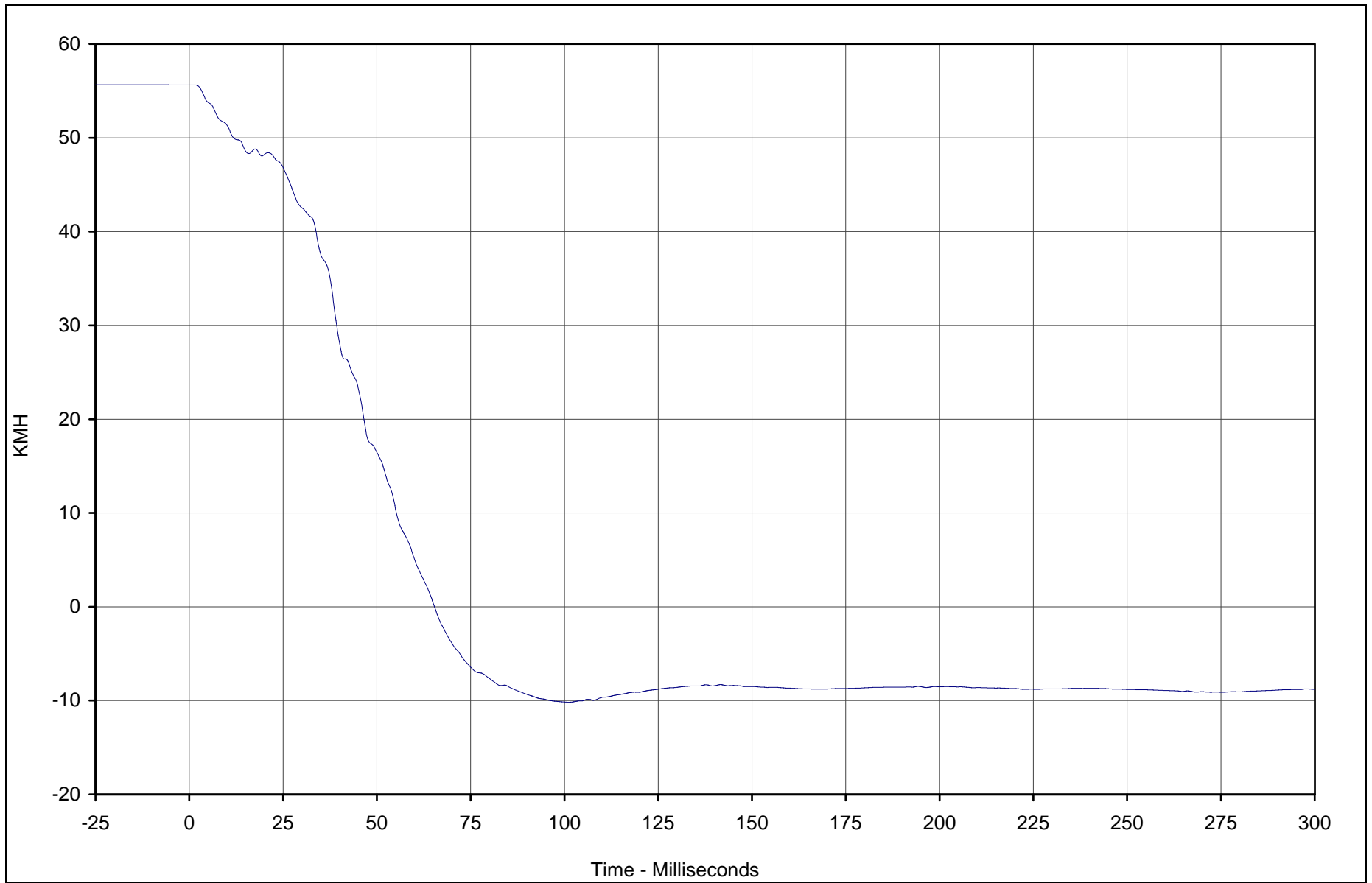
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC

B-127



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Rear X Velocity	090	IN1	KMH	55.6	1.3	-10.2	101.2	180



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

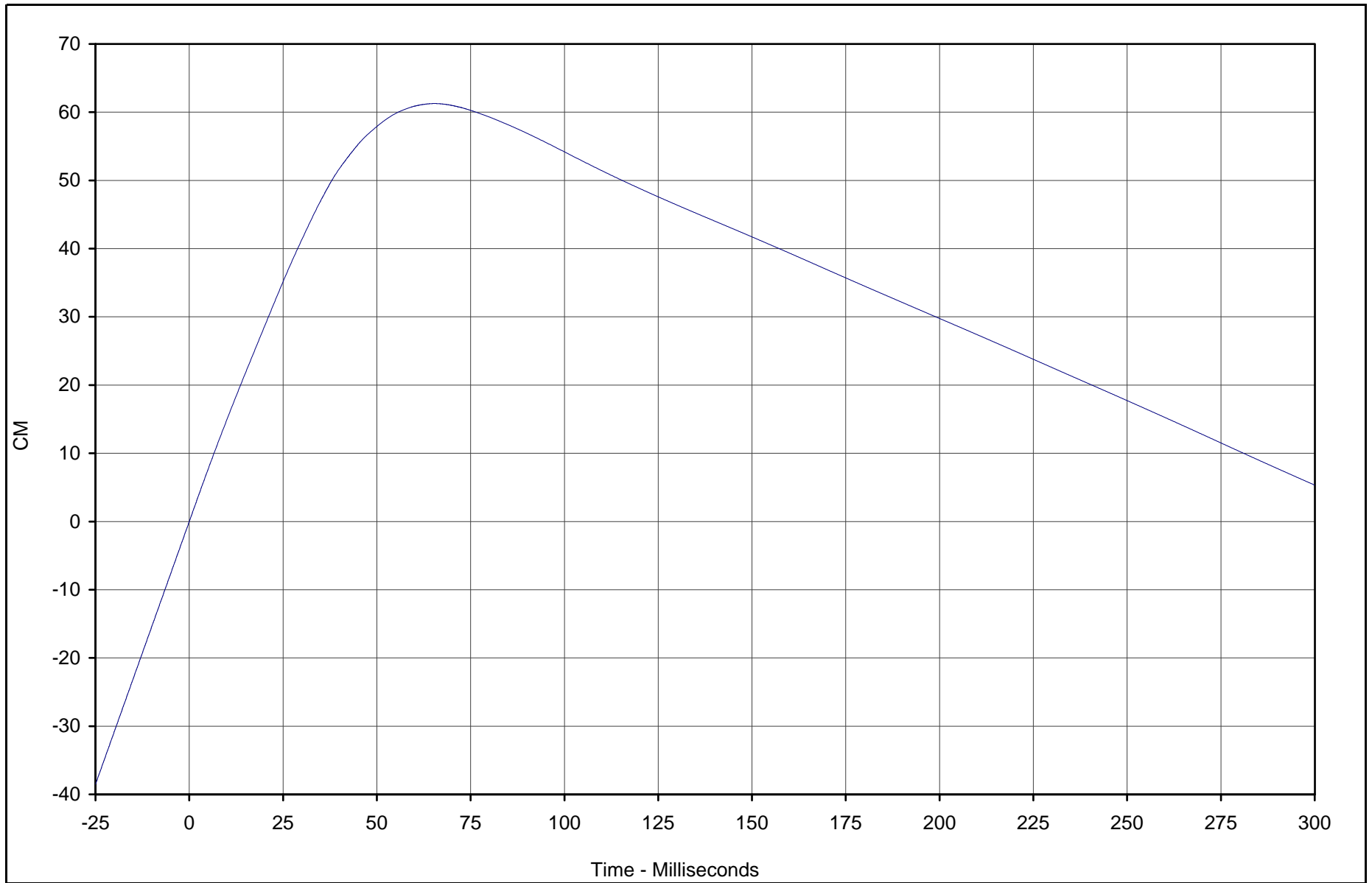
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC

B-128



TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Rear X Displ.	090	IN2	CM	61.3	65.4	0.0	0.0	180

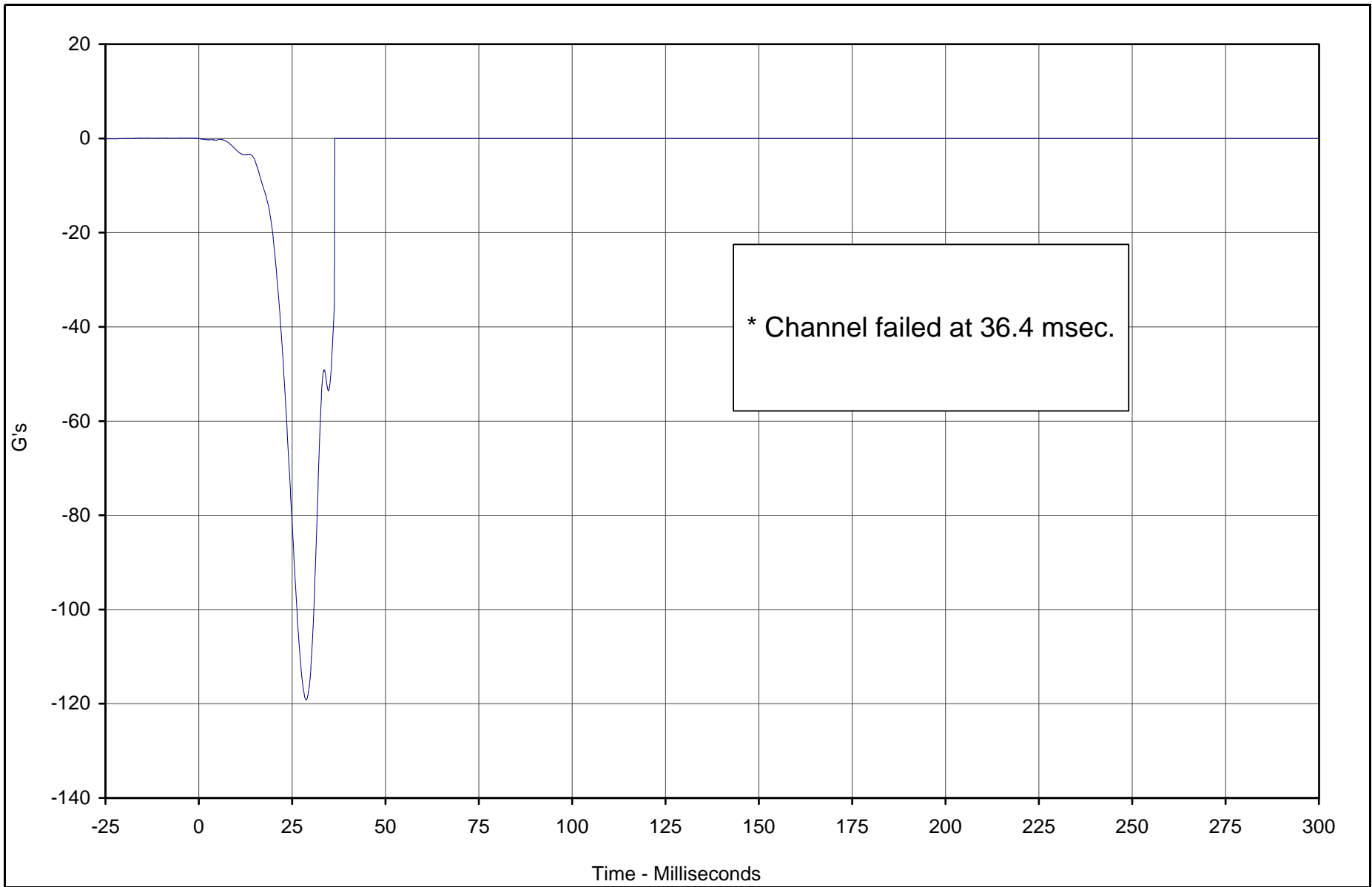


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



* Channel failed at 36.4 msec.

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Engine Top	091	FIL	G's	0.0	36.4	-119.1	28.8	60

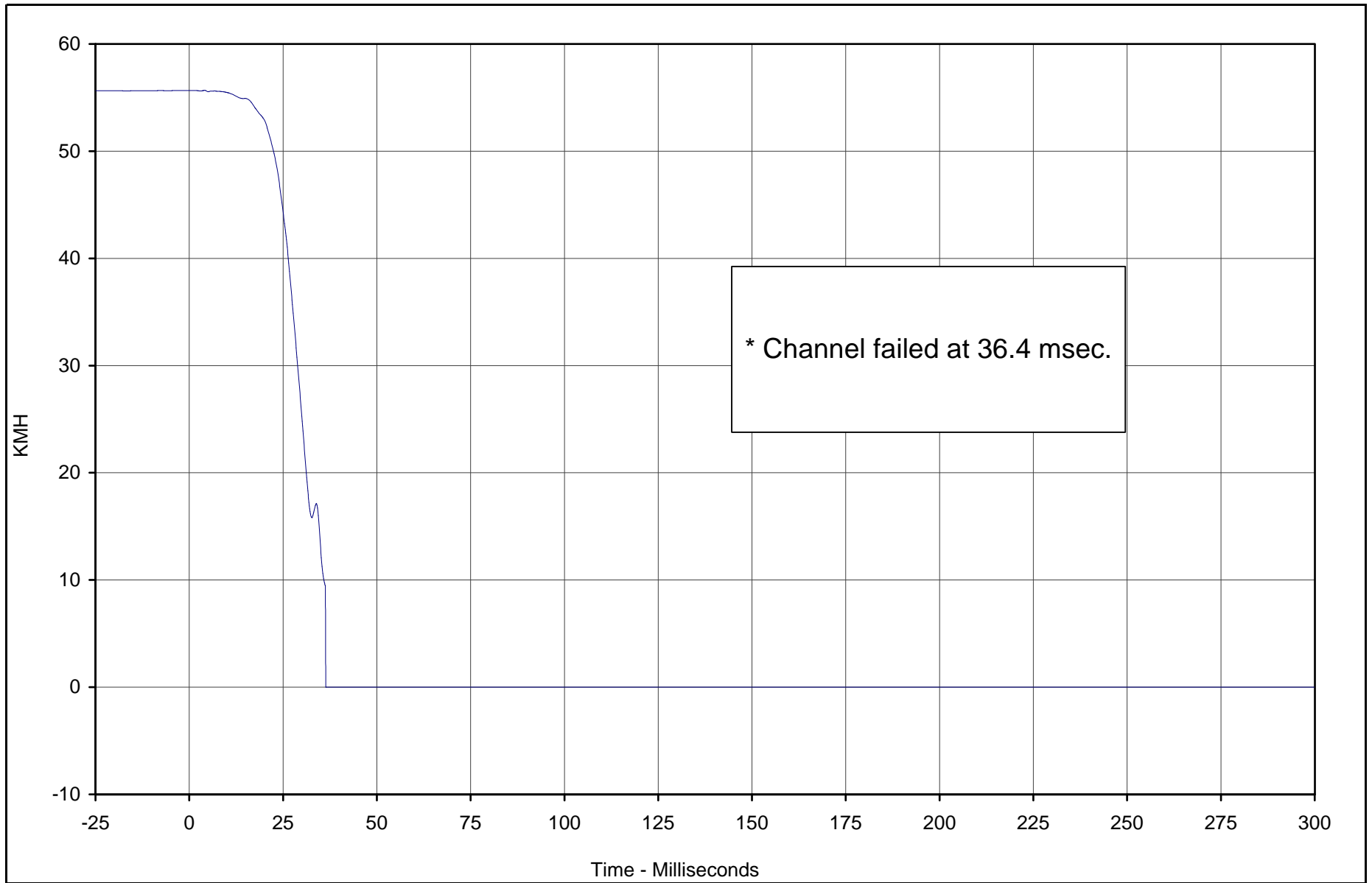


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



* Channel failed at 36.4 msec.

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Engine Top Velocity	091	IN1	KMH	55.7	4.1	0.0	36.4	180

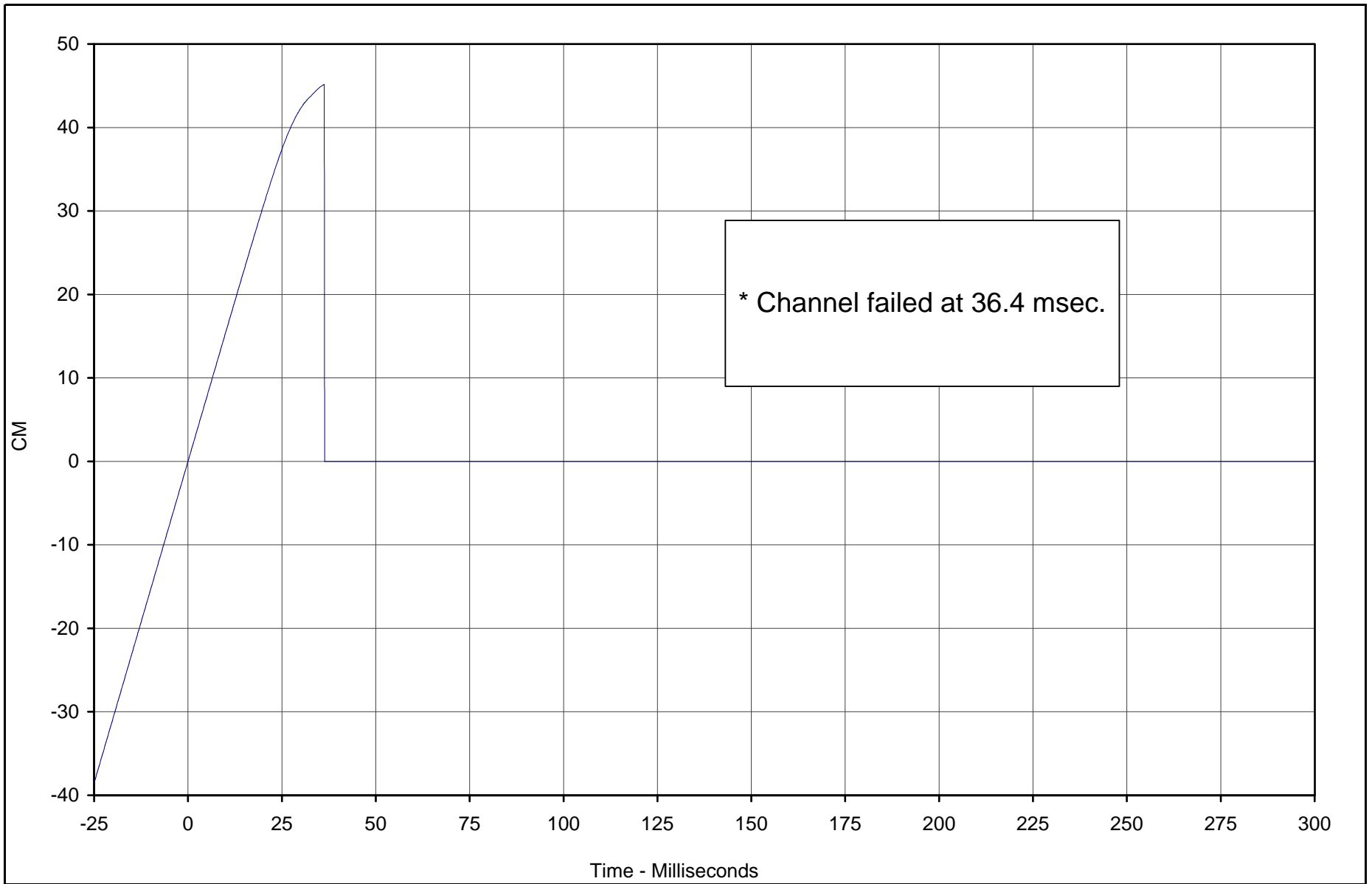


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



* Channel failed at 36.4 msec.

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Engine Top Displacement	091	IN2	CM	45.2	36.3	0.0	36.4	180

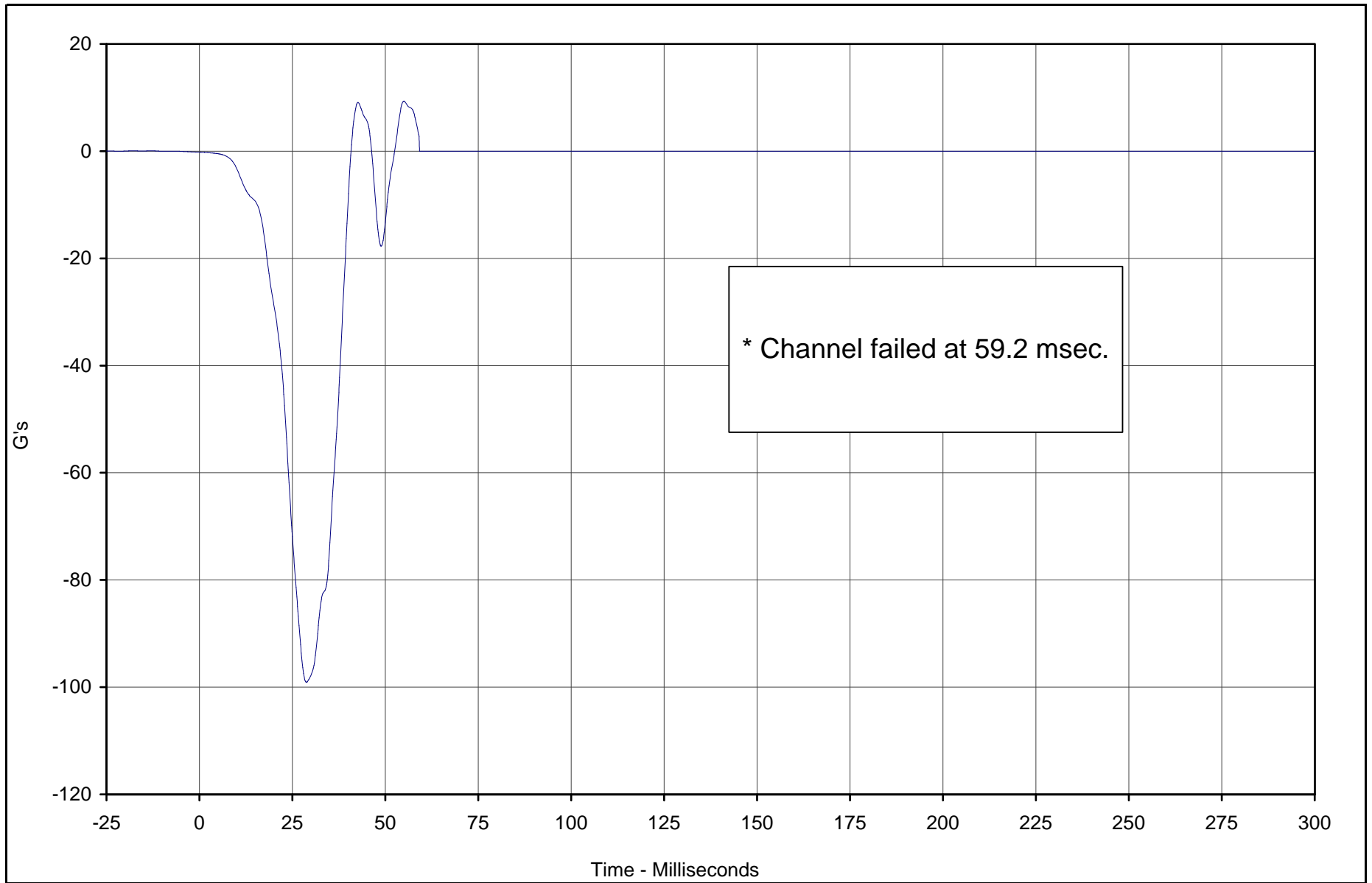


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



* Channel failed at 59.2 msec.

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Engine Bottom	092	FIL	G's	9.4	55.0	-99.1	28.8	60

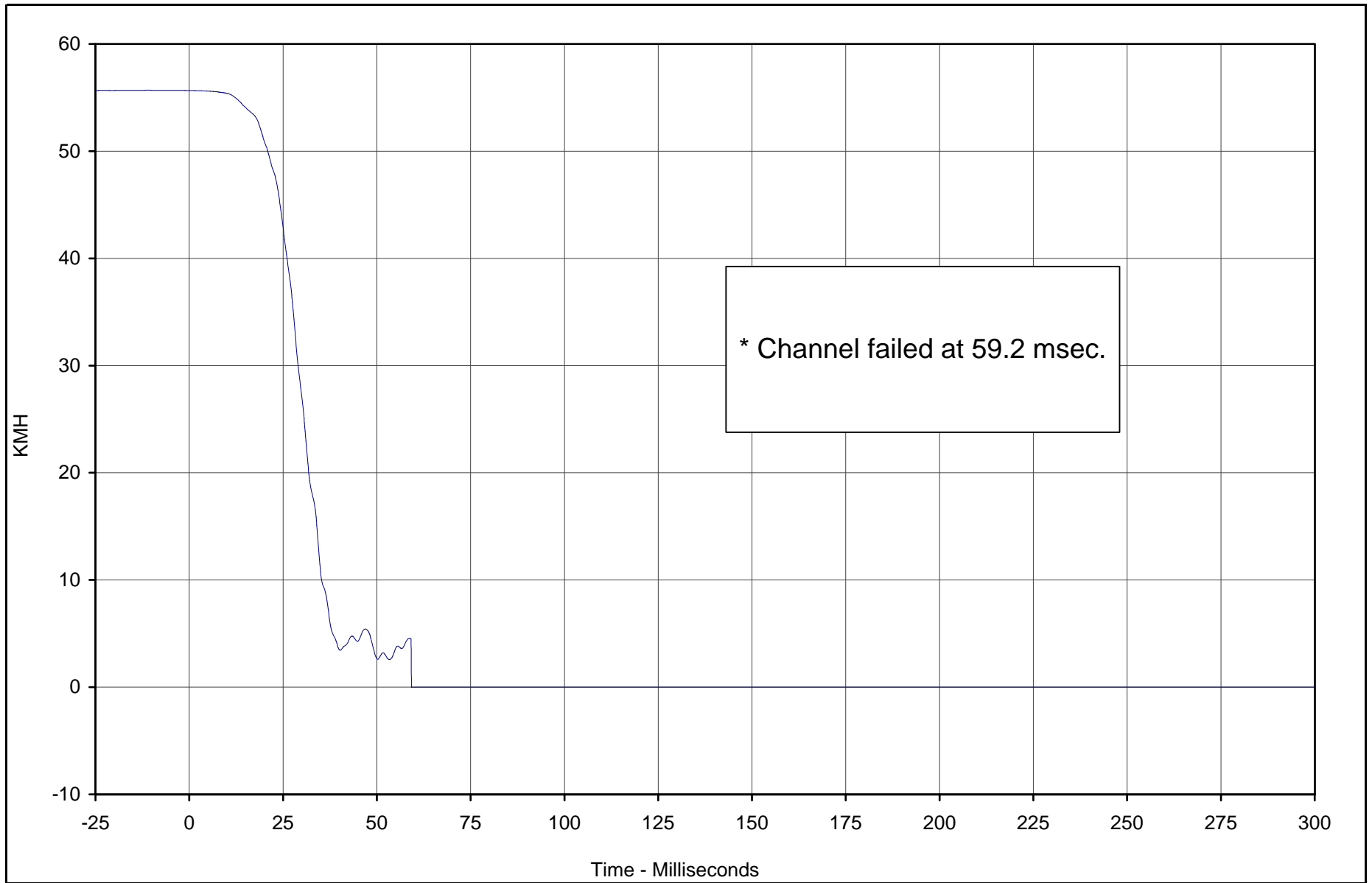


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



* Channel failed at 59.2 msec.

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Engine Bottom Velocity	092	IN1	KMH	55.7	0.0	0.0	59.2	180

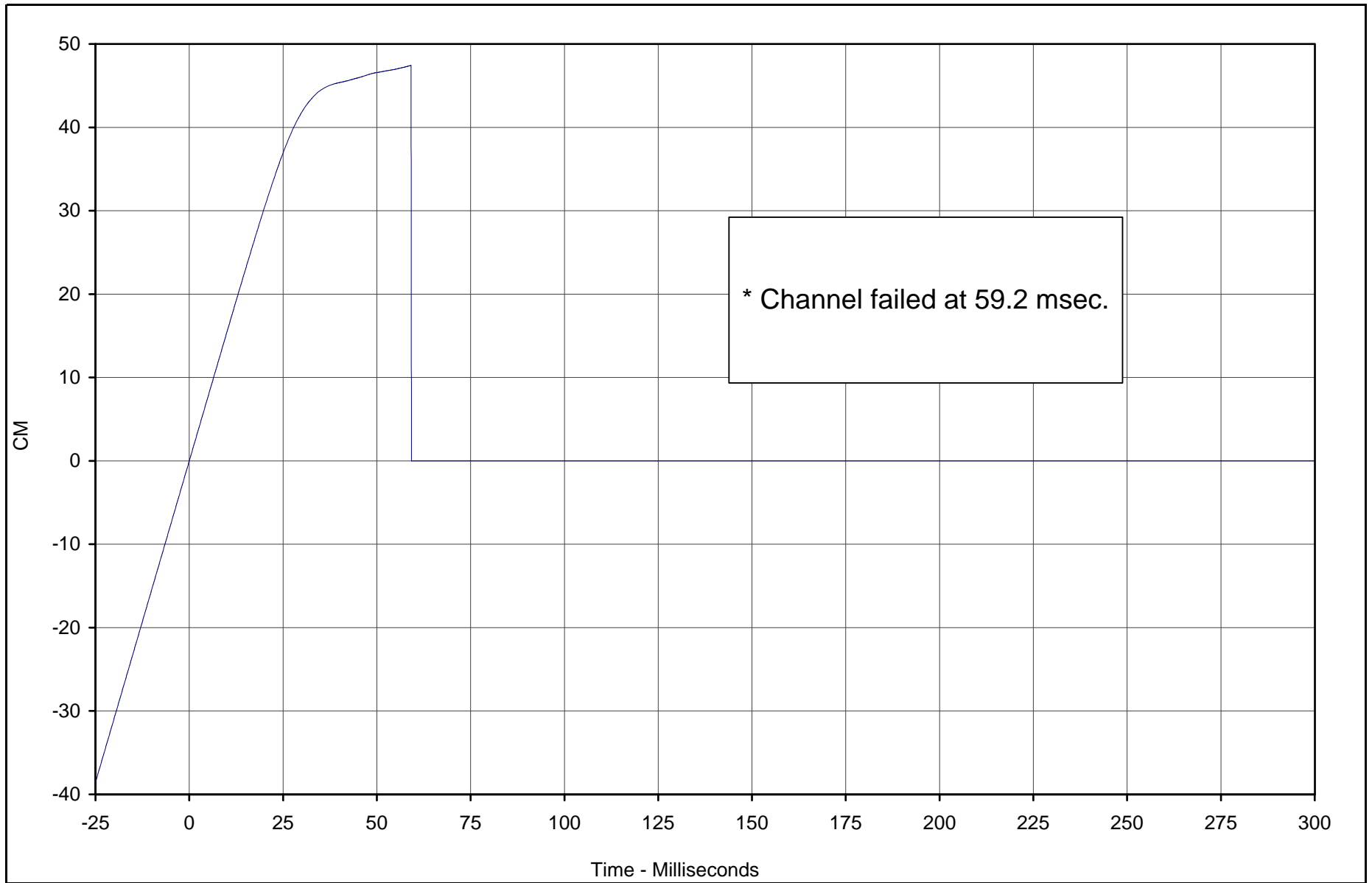


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



* Channel failed at 59.2 msec.

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Engine Bottom Displacement	092	IN2	CM	47.4	59.1	0.0	59.2	180

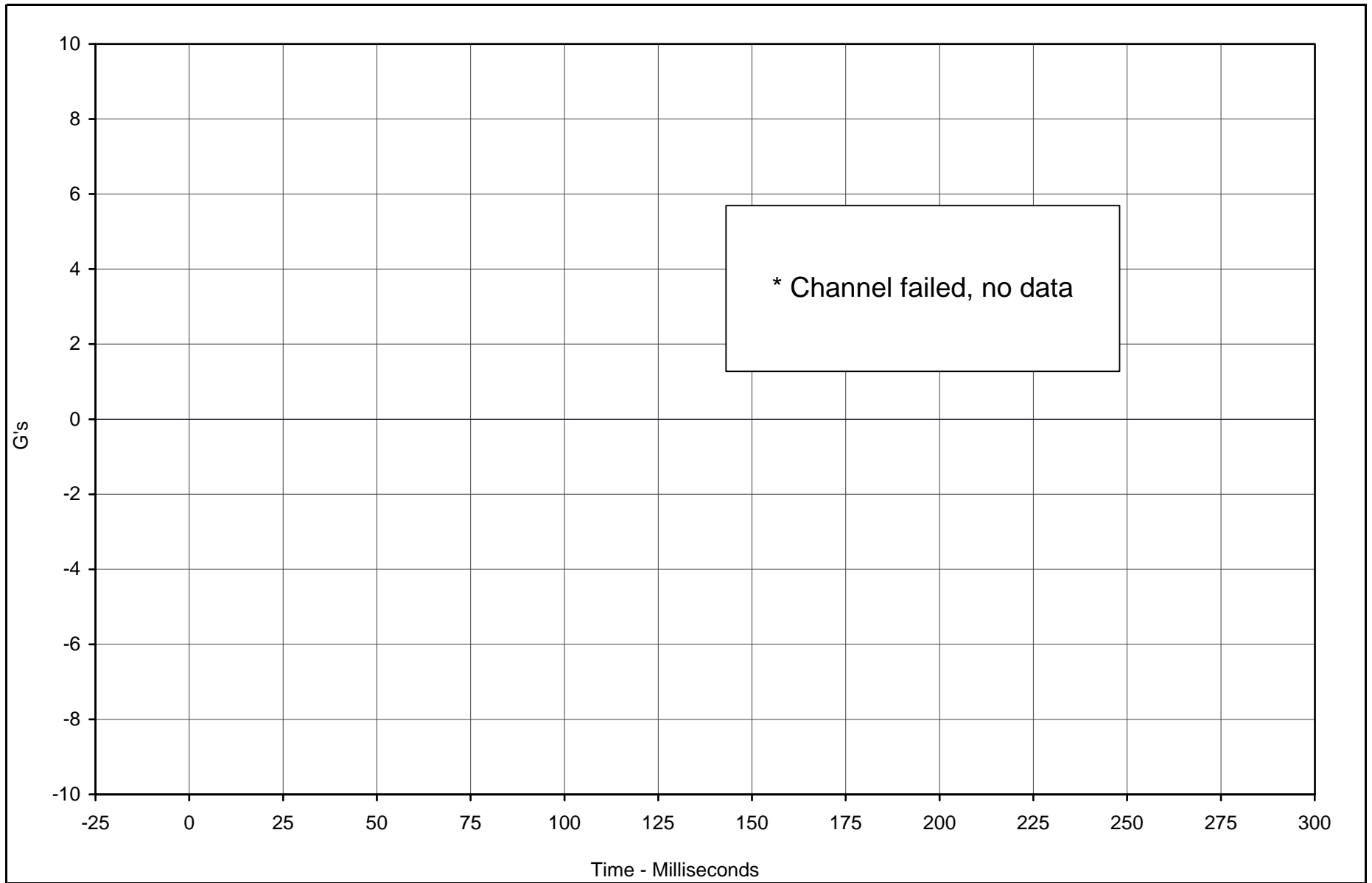


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



* Channel failed, no data

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Brake Caliper	093	FIL	G's	0.0	0.0	0.0	0.0	60

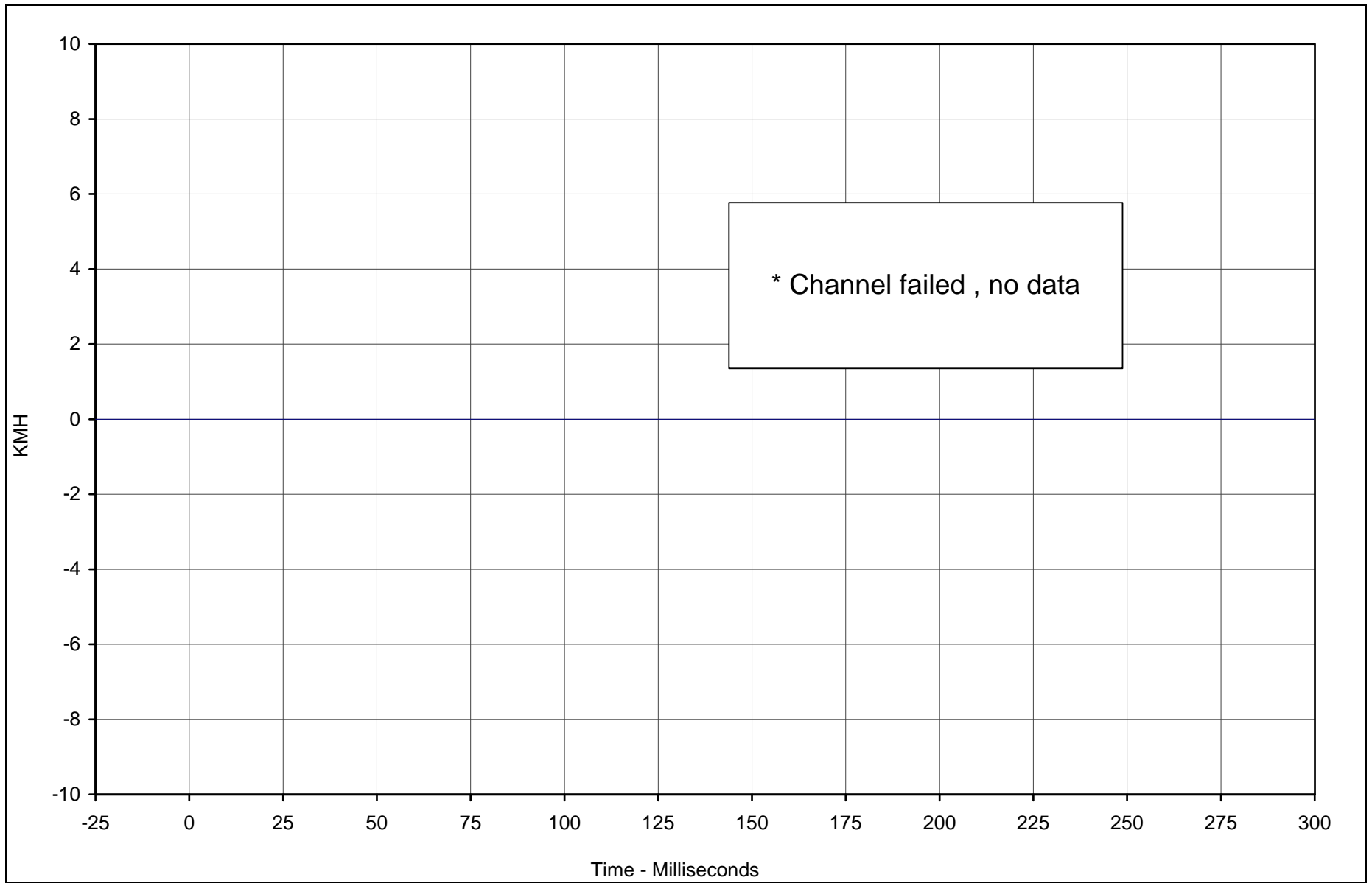


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



* Channel failed, no data

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Brake Caliper Velocity	093	IN1	KMH	0.0	0.0	0.0	0.0	180



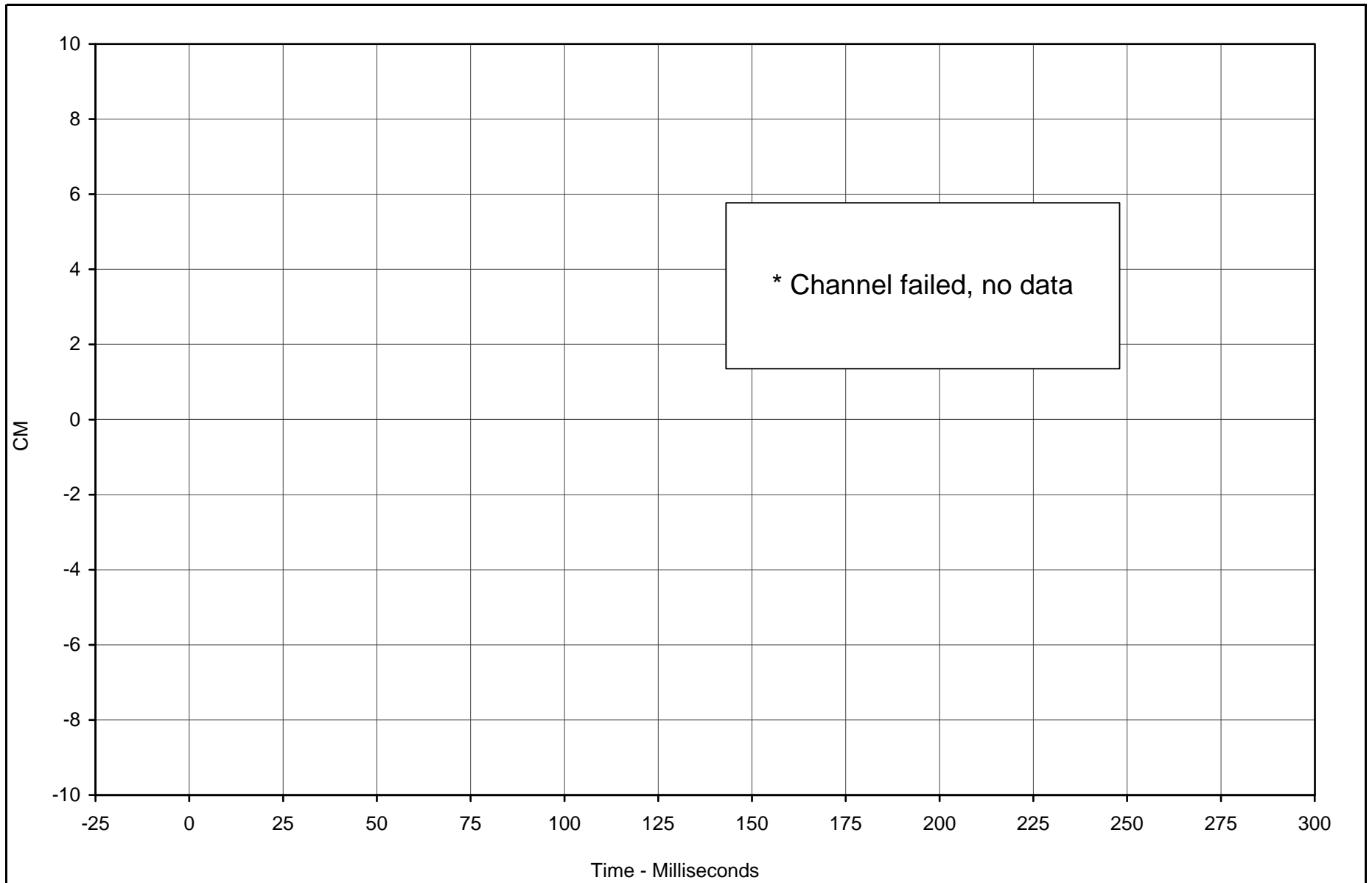
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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* Channel failed, no data

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Brake Caliper Displ.	093	IN2	CM	0.0	0.0	0.0	0.0	180



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

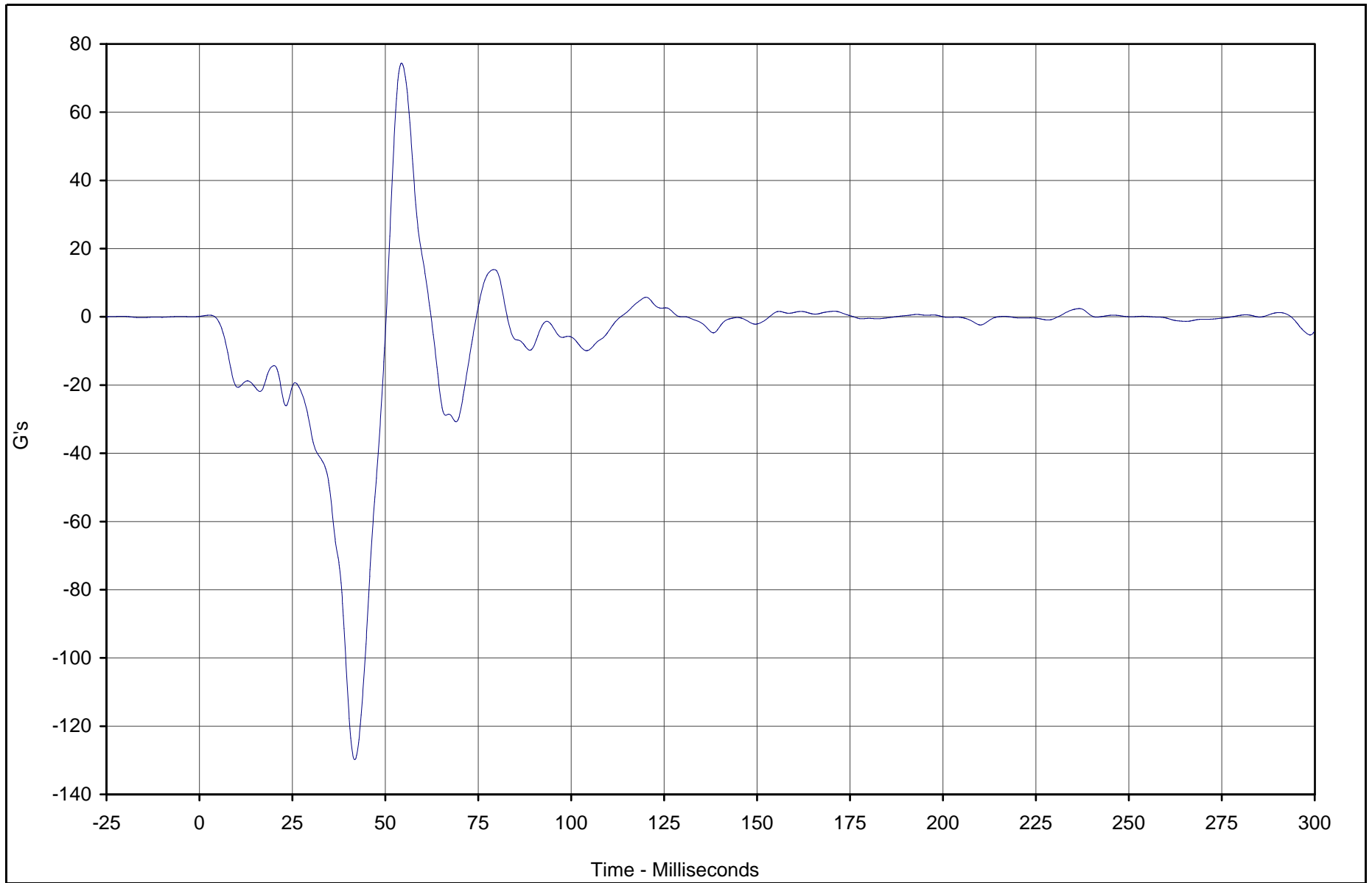
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Brake Caliper	094	FIL	G's	74.3	54.4	-129.8	41.8	60



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

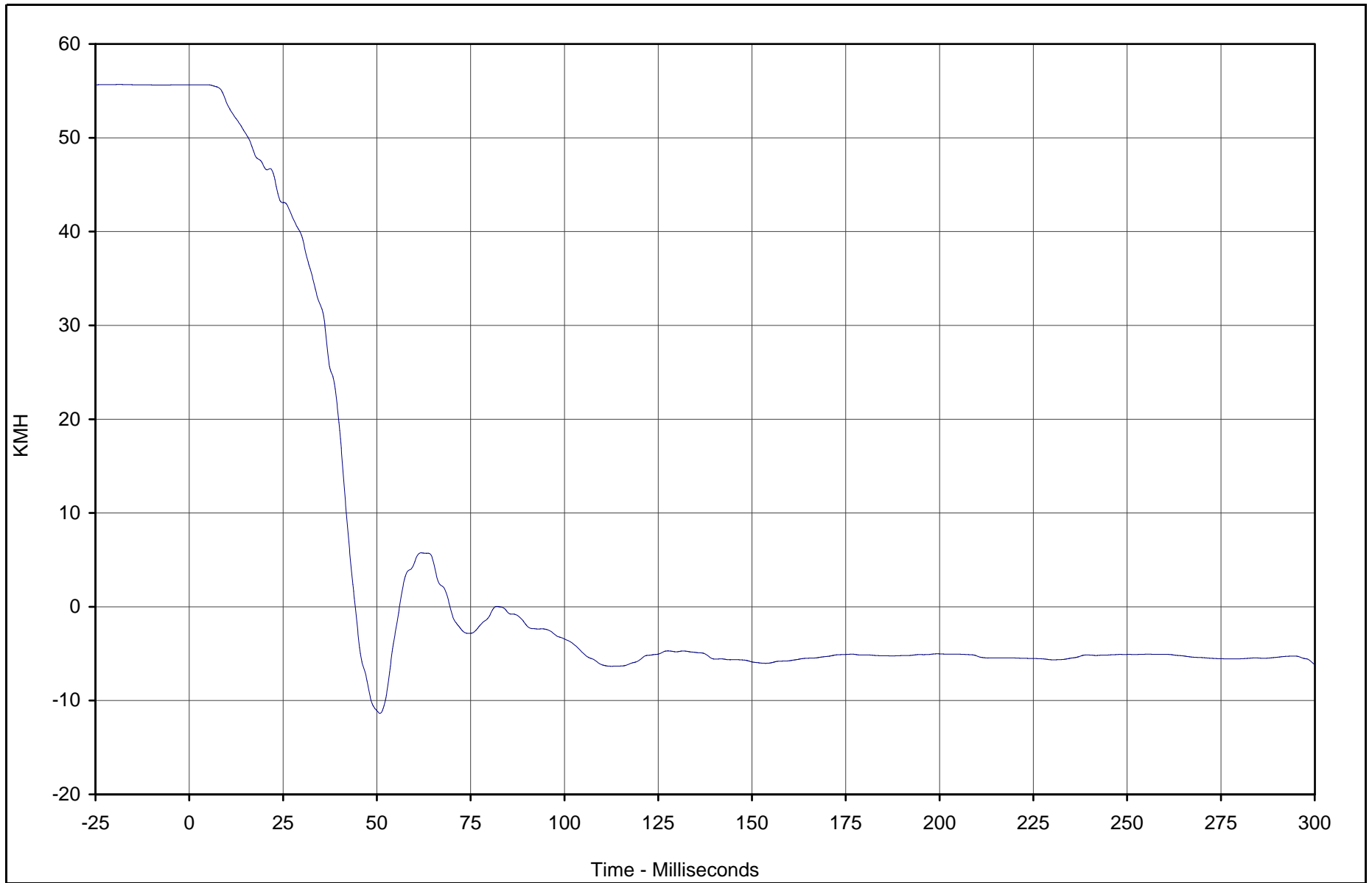
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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TR-P23001-05-NC

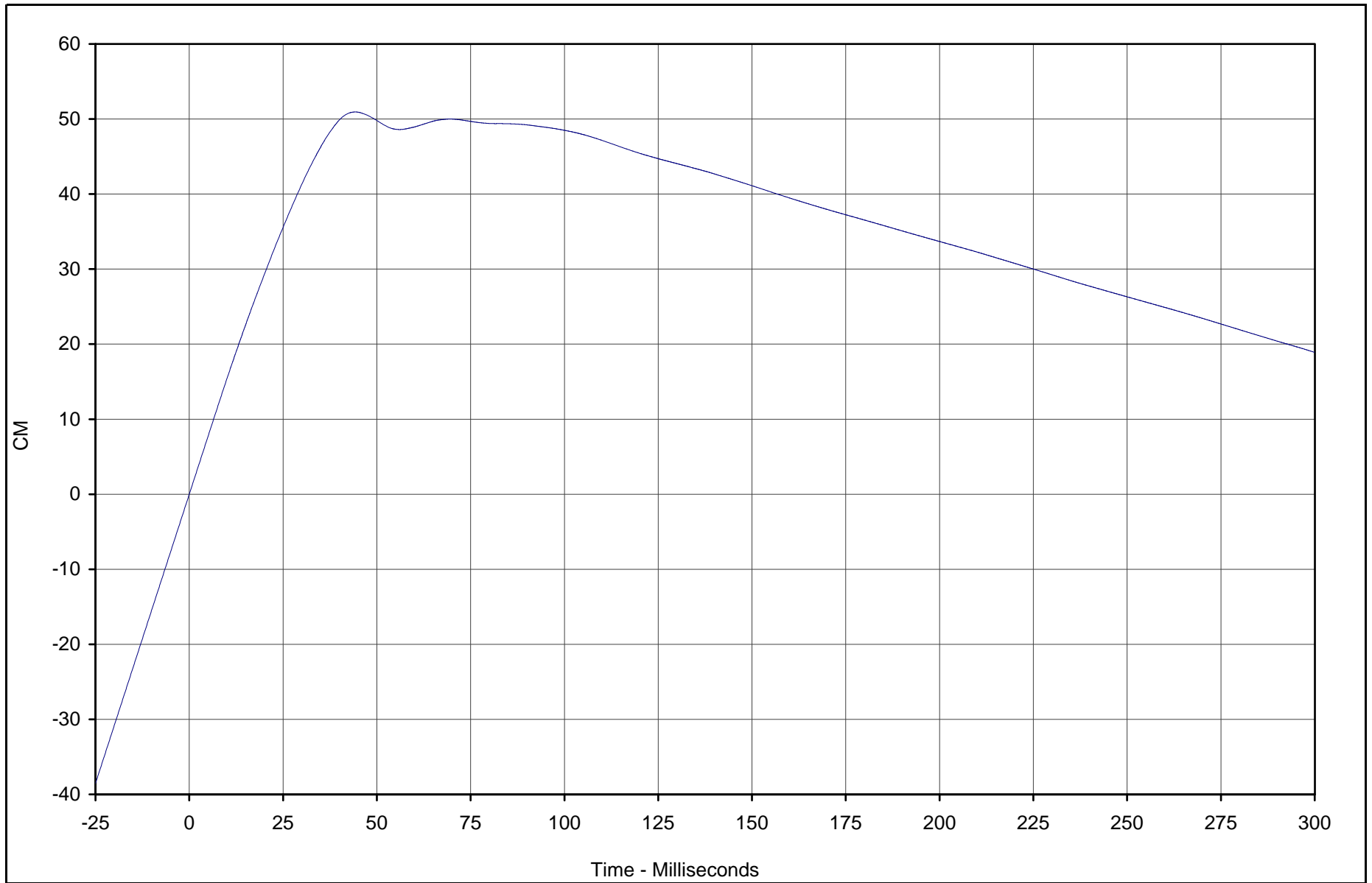
Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Brake Caliper Velocity	094	IN1	KMH	55.6	4.5	-11.4	50.8	180



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
Test Program: 2003 NHTSA 35mph NCAP

Test Date: 1/7/03
NHTSA No.: M35202

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TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Brake Caliper Displ.	094	IN2	CM	50.9	44.3	0.0	0.0	180



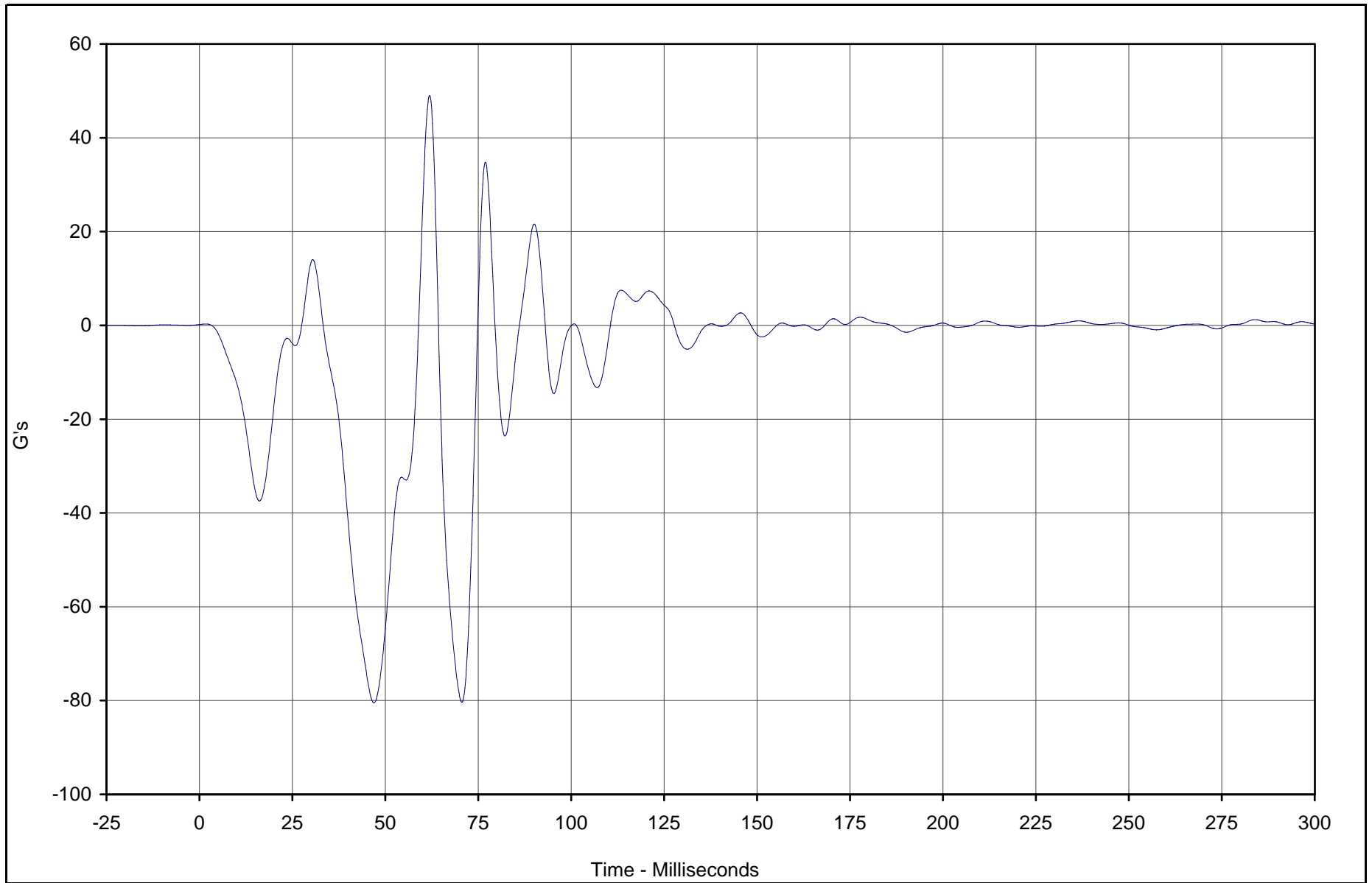
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Instrument Panel	095	FIL	G's	49.0	61.9	-80.5	46.9	60



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

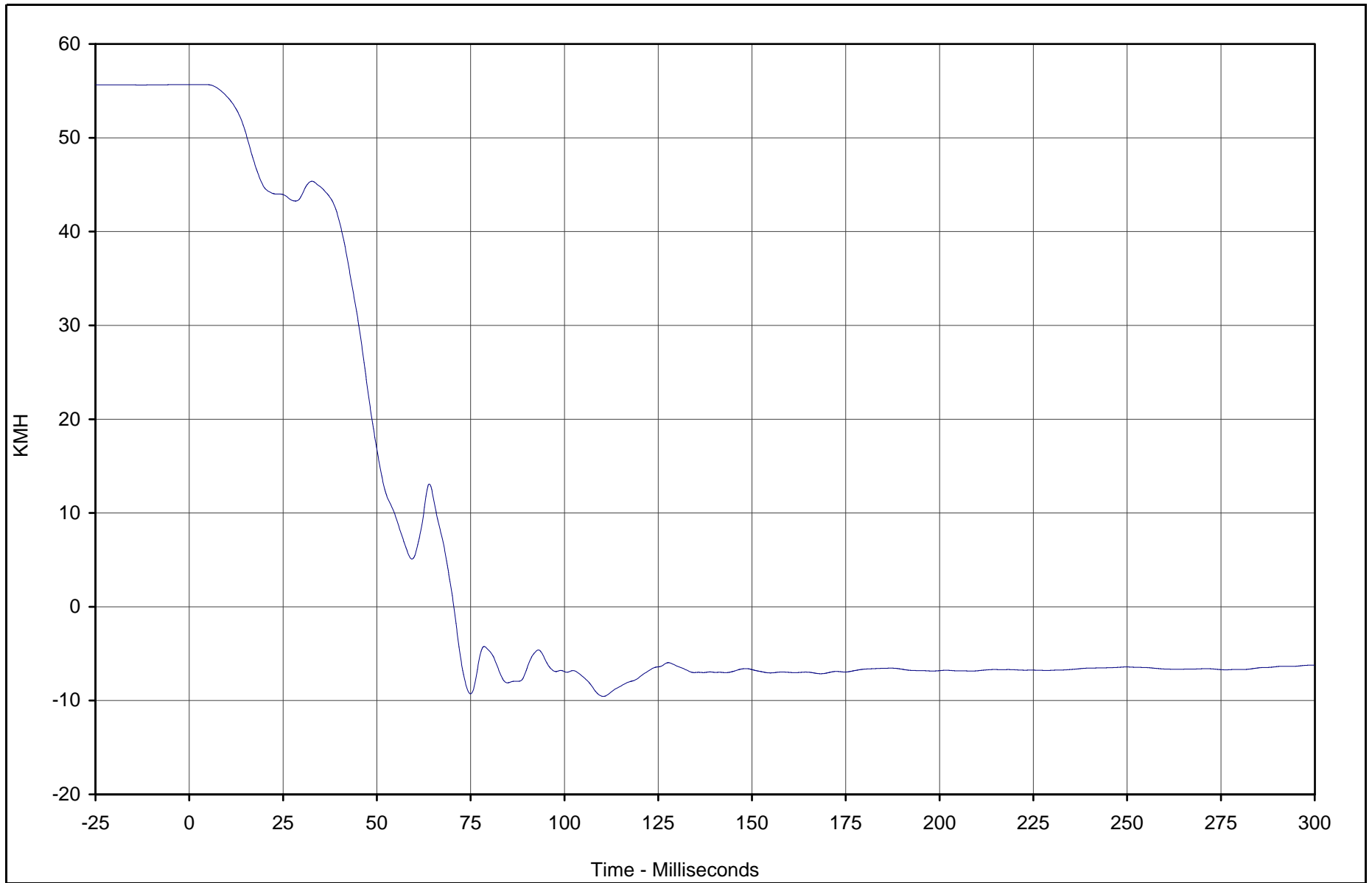
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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B-142



TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Instrument Panel Velocity	095	IN1	KMH	55.7	4.2	-9.6	110.4	180



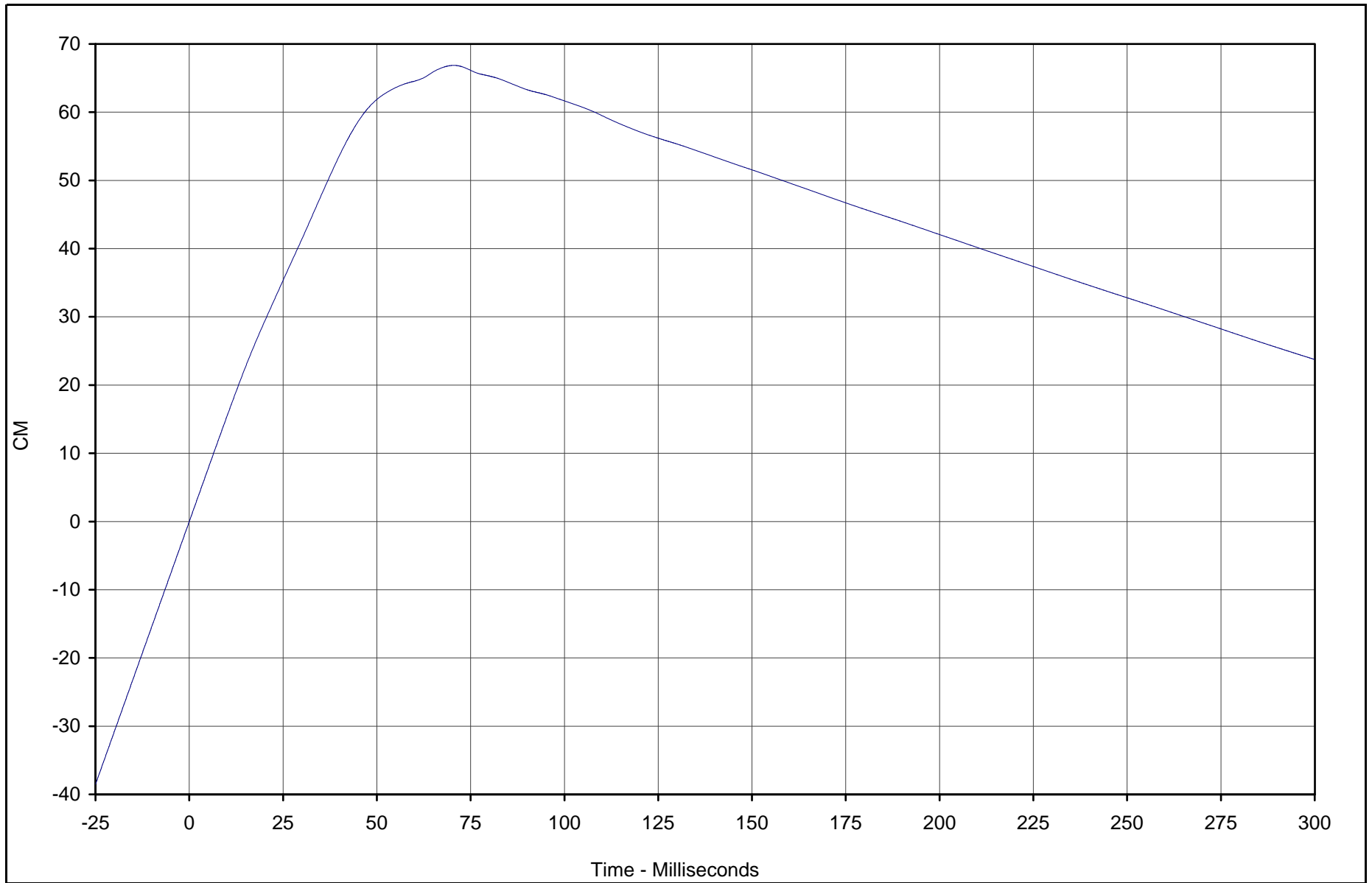
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Instrument Panel Displacement	095	IN2	CM	66.9	70.5	0.0	0.0	180

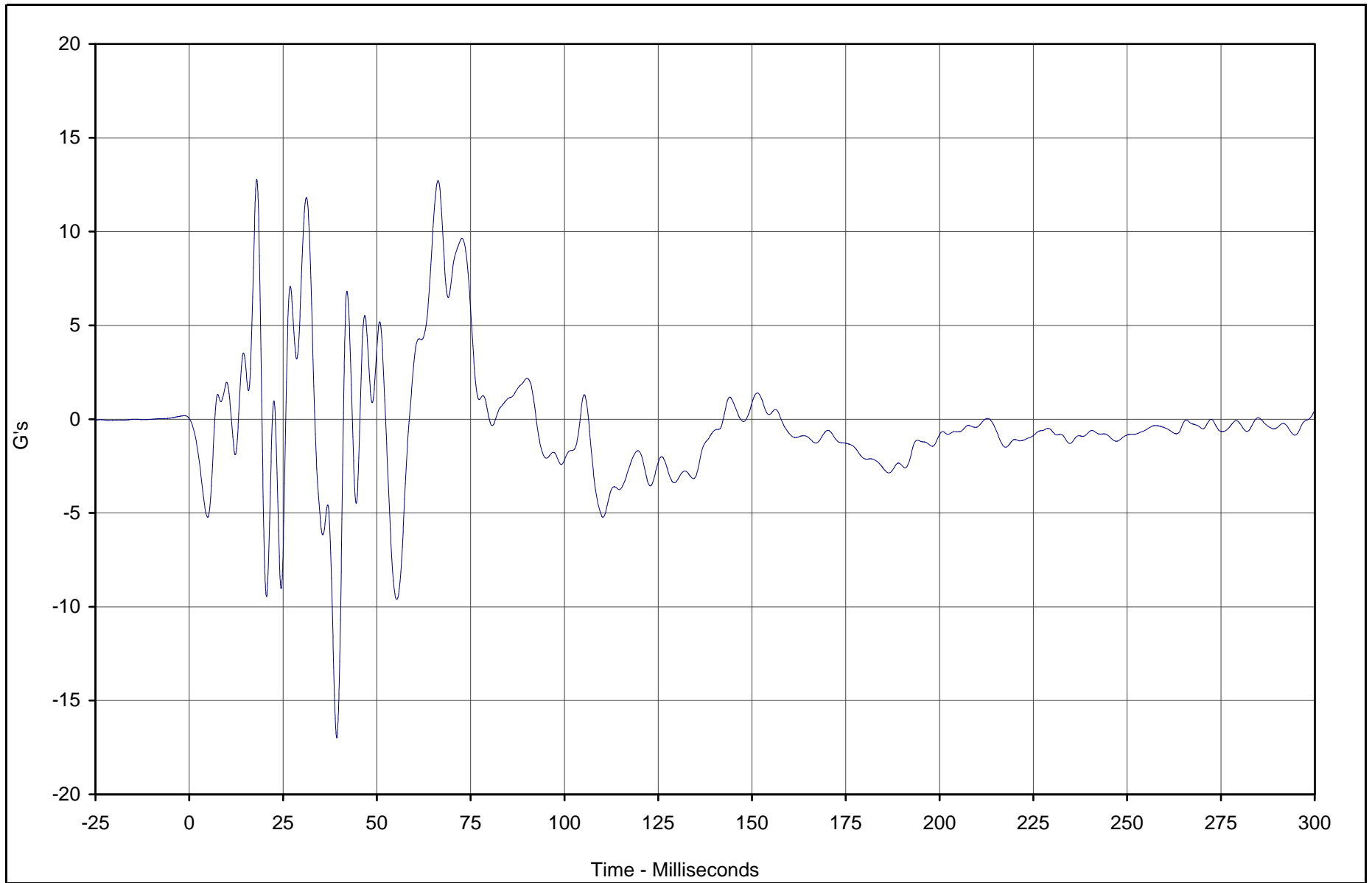


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Rear Z	096	FIL	G's	12.8	18.0	-17.0	39.3	60



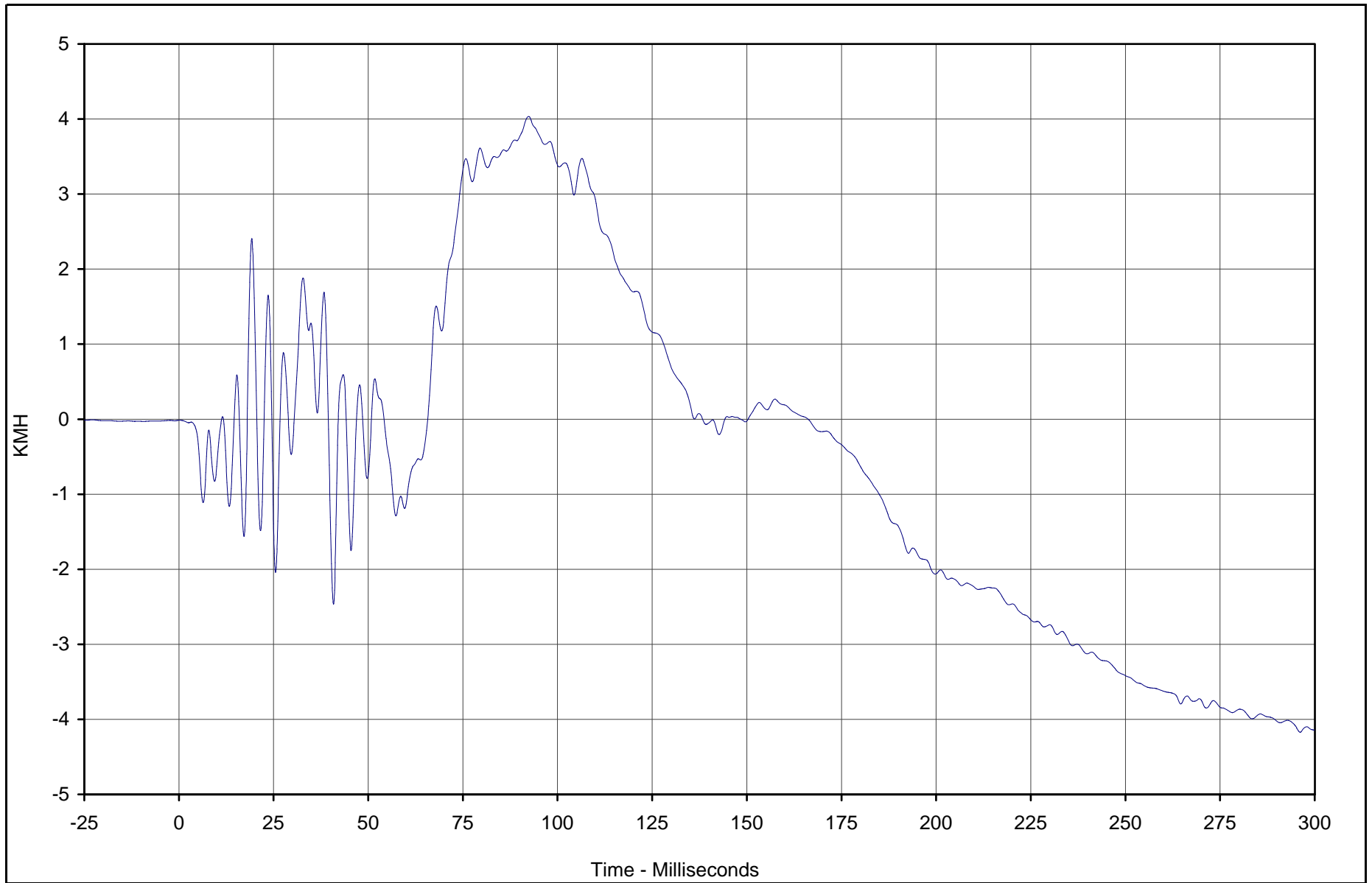
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Rear Z Velocity	096	IN1	KMH	4.0	92.4	-4.2	296.1	180



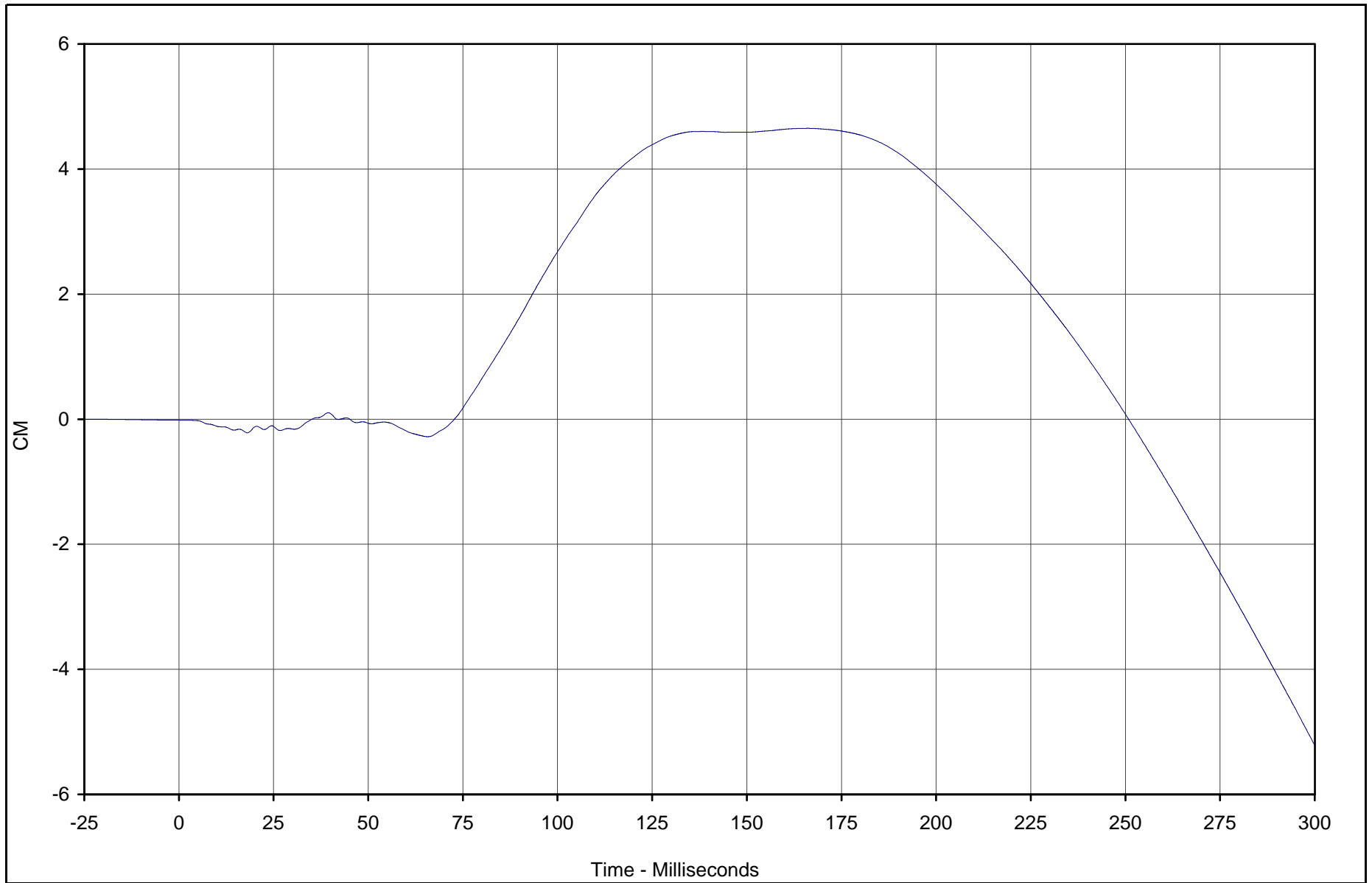
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Rear Z Displ.	096	IN2	CM	4.7	166.2	-5.2	299.9	180



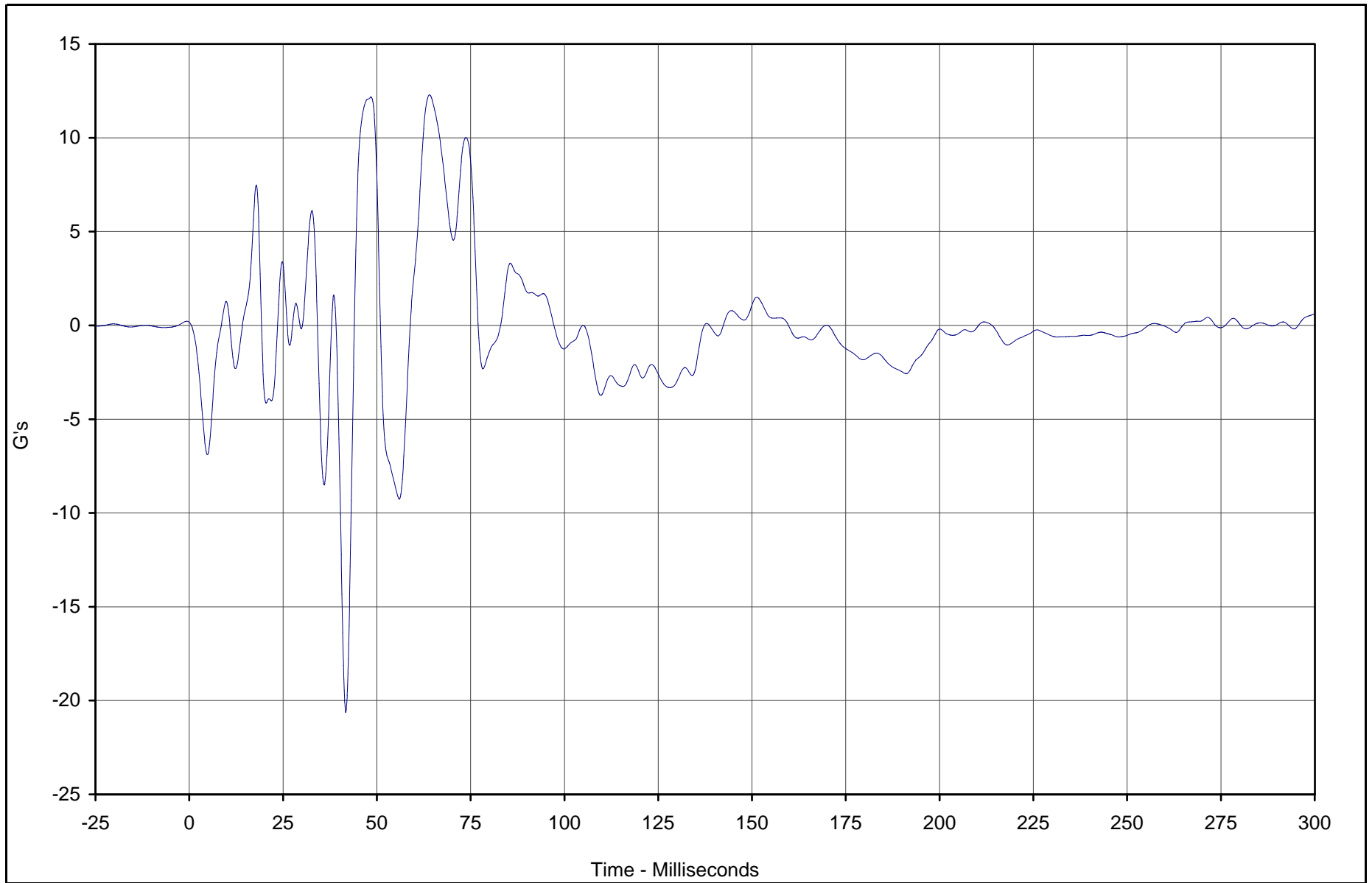
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Rear Z	097	FIL	G's	12.3	64.0	-20.6	41.7	60



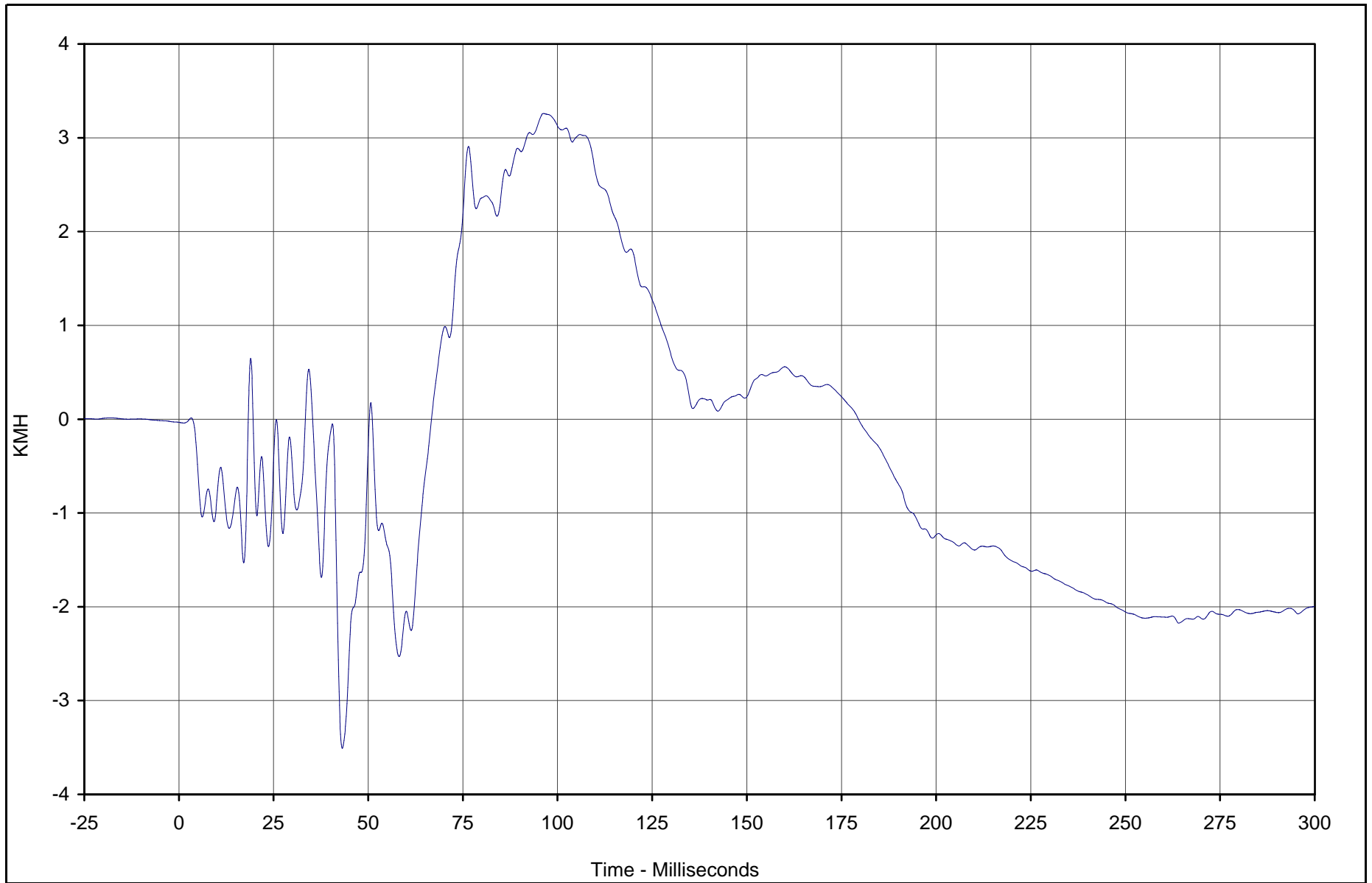
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Rear Z Velocity	097	IN1	KMH	3.3	96.3	-3.5	43.2	180



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

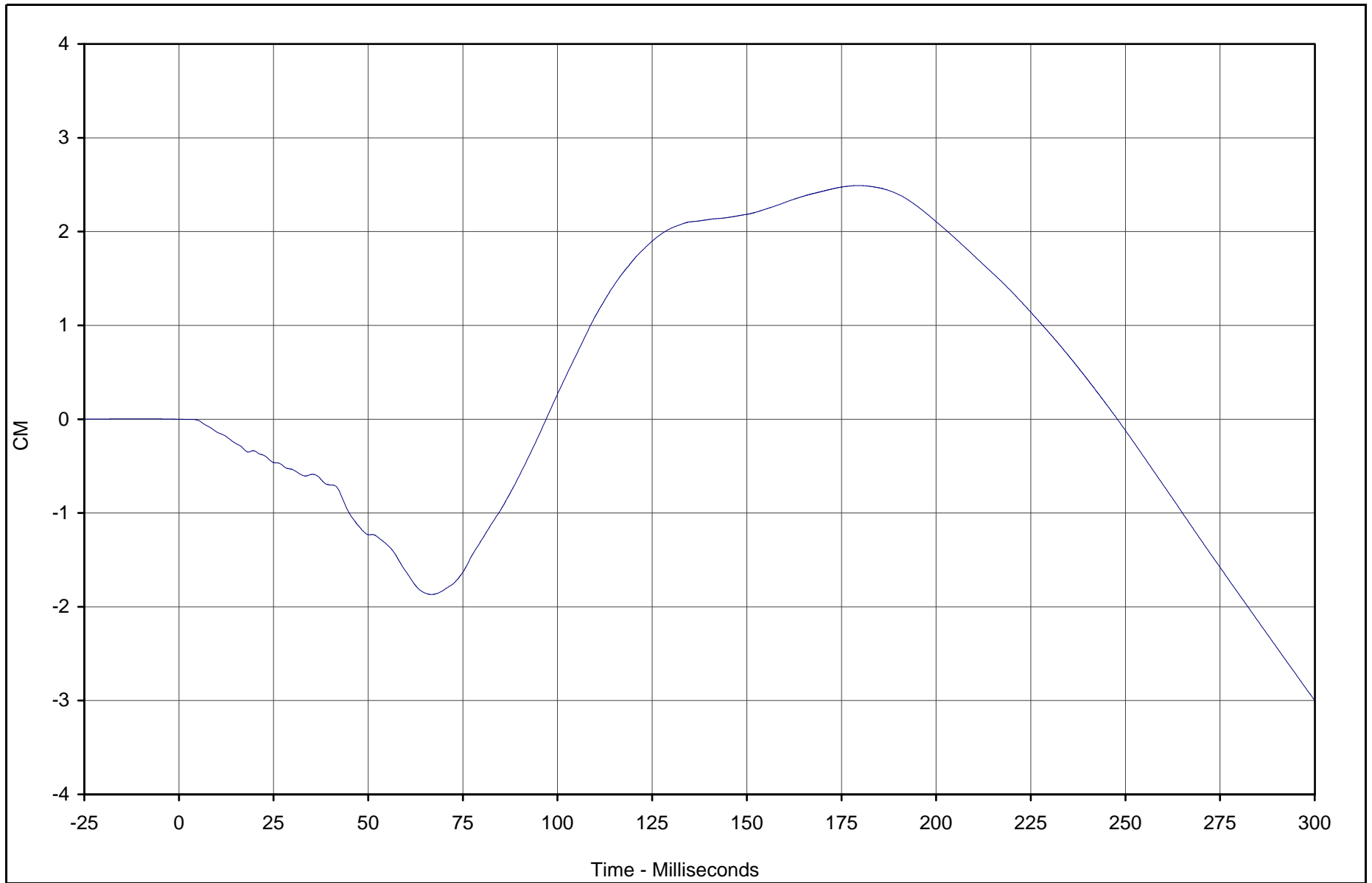
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Rear Z Displ.	097	IN2	CM	2.5	179.5	-3.0	299.9	180



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

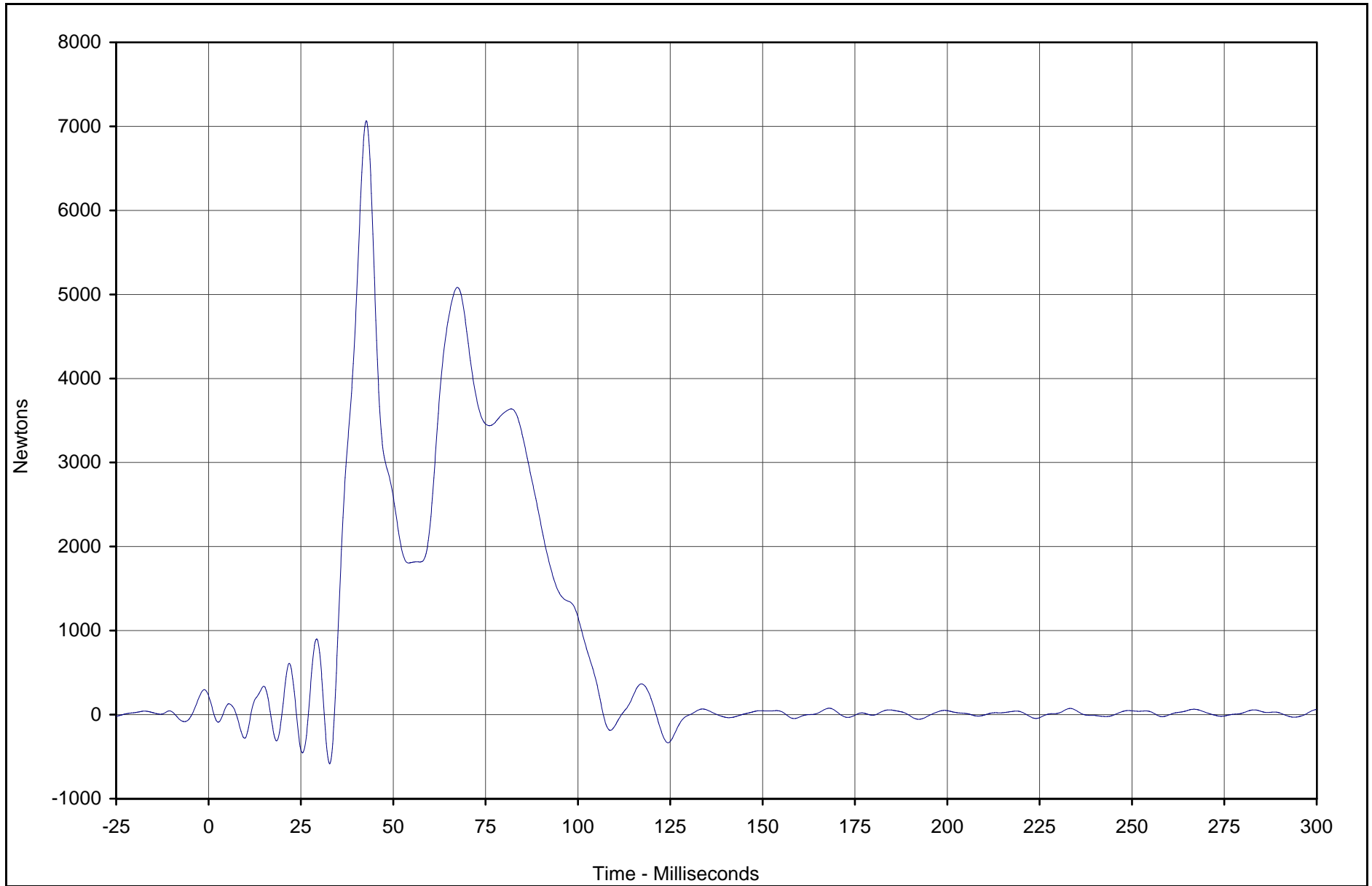
Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

APPENDIX C

LOAD CELL BARRIER DATA PLOTS

C-1



TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A1	098	FIL	Newtons	7066.9	42.7	-585.1	32.8	60

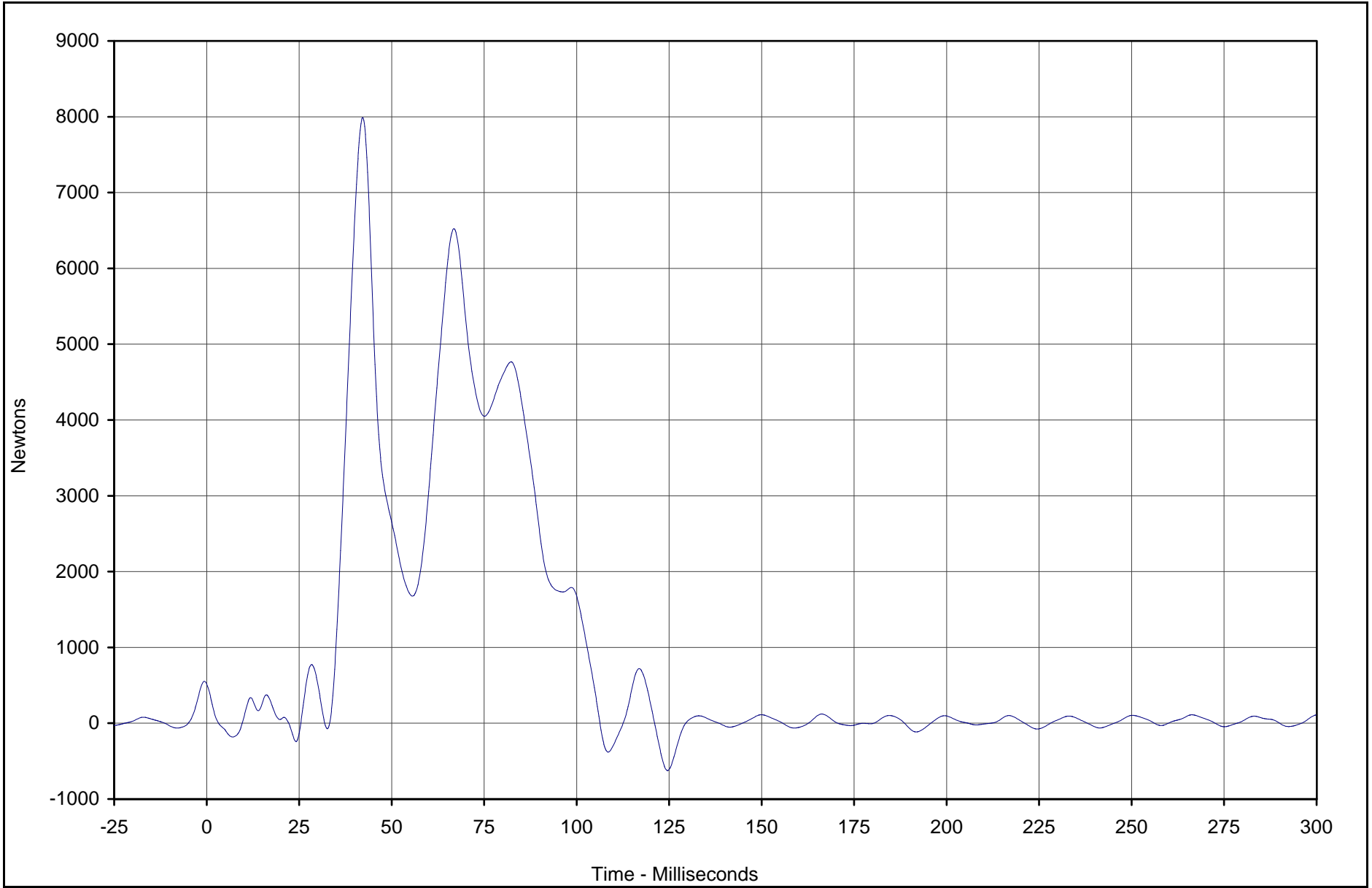


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A2	099	FIL	Newtons	7989.2	42.2	-624.2	124.6	60

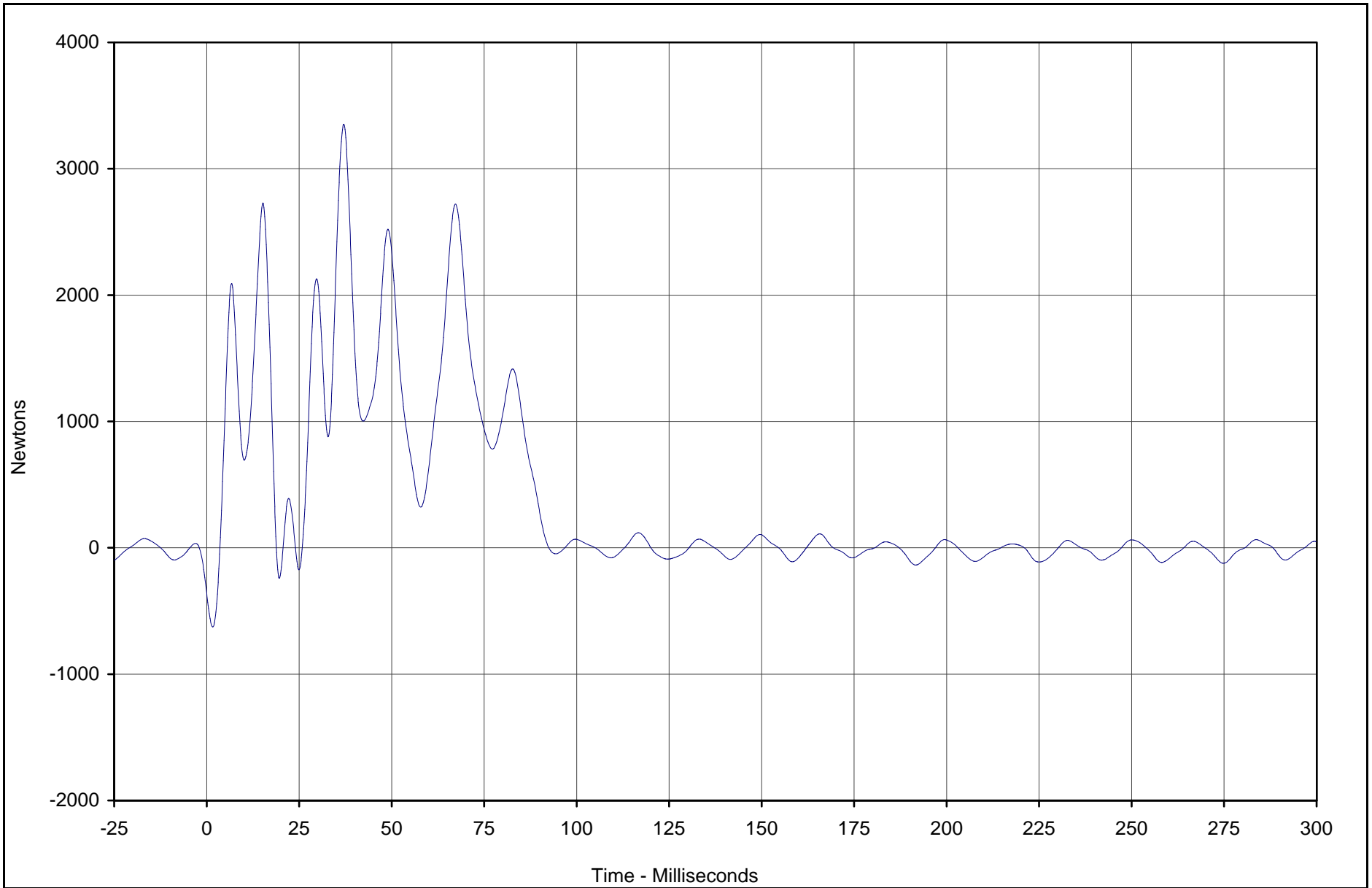


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A3	100	FIL	Newtons	3352.2	37.1	-626.4	1.6	60

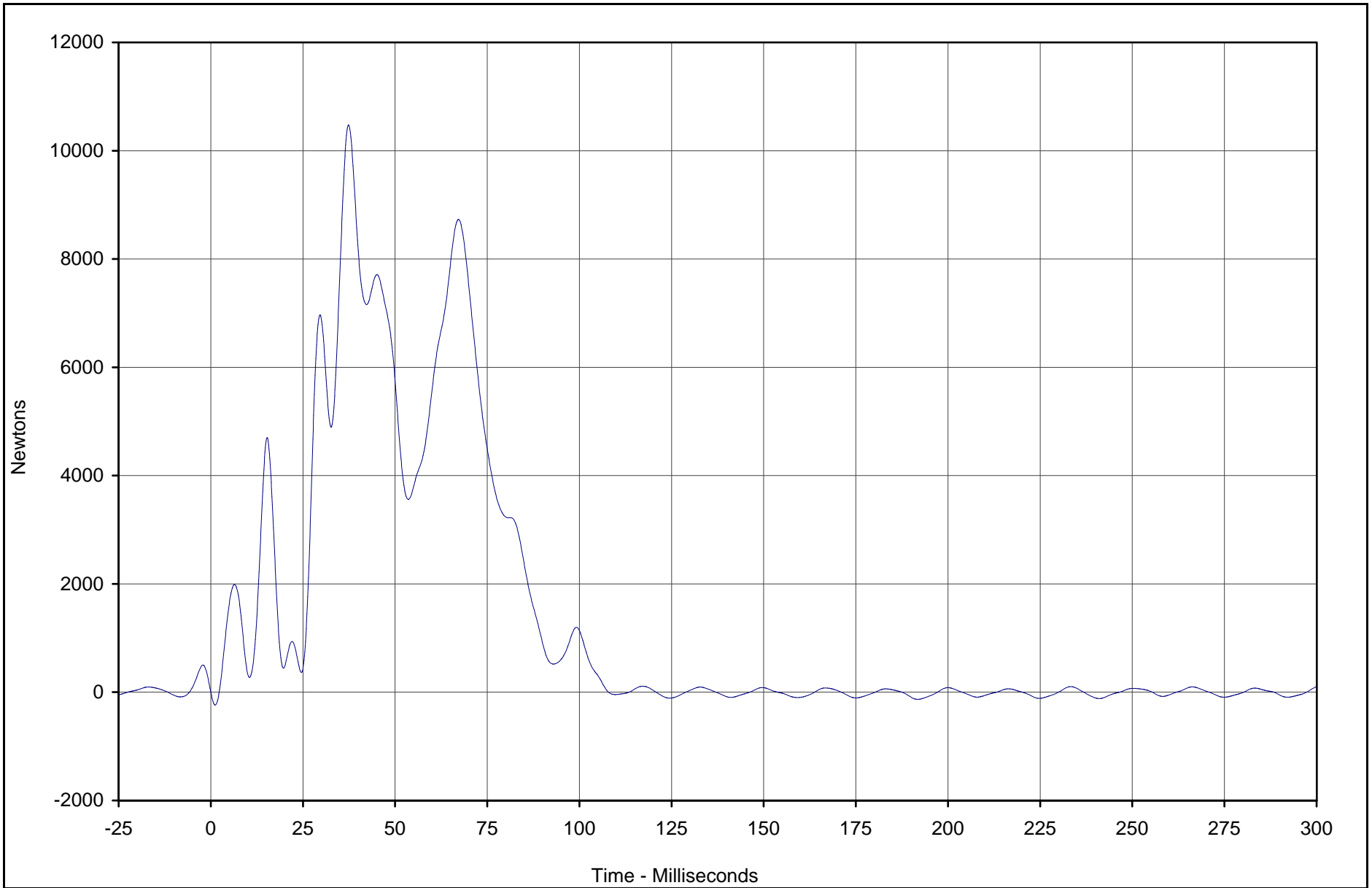


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A4	101	FIL	Newtons	10478.1	37.4	-238.8	1.2	60

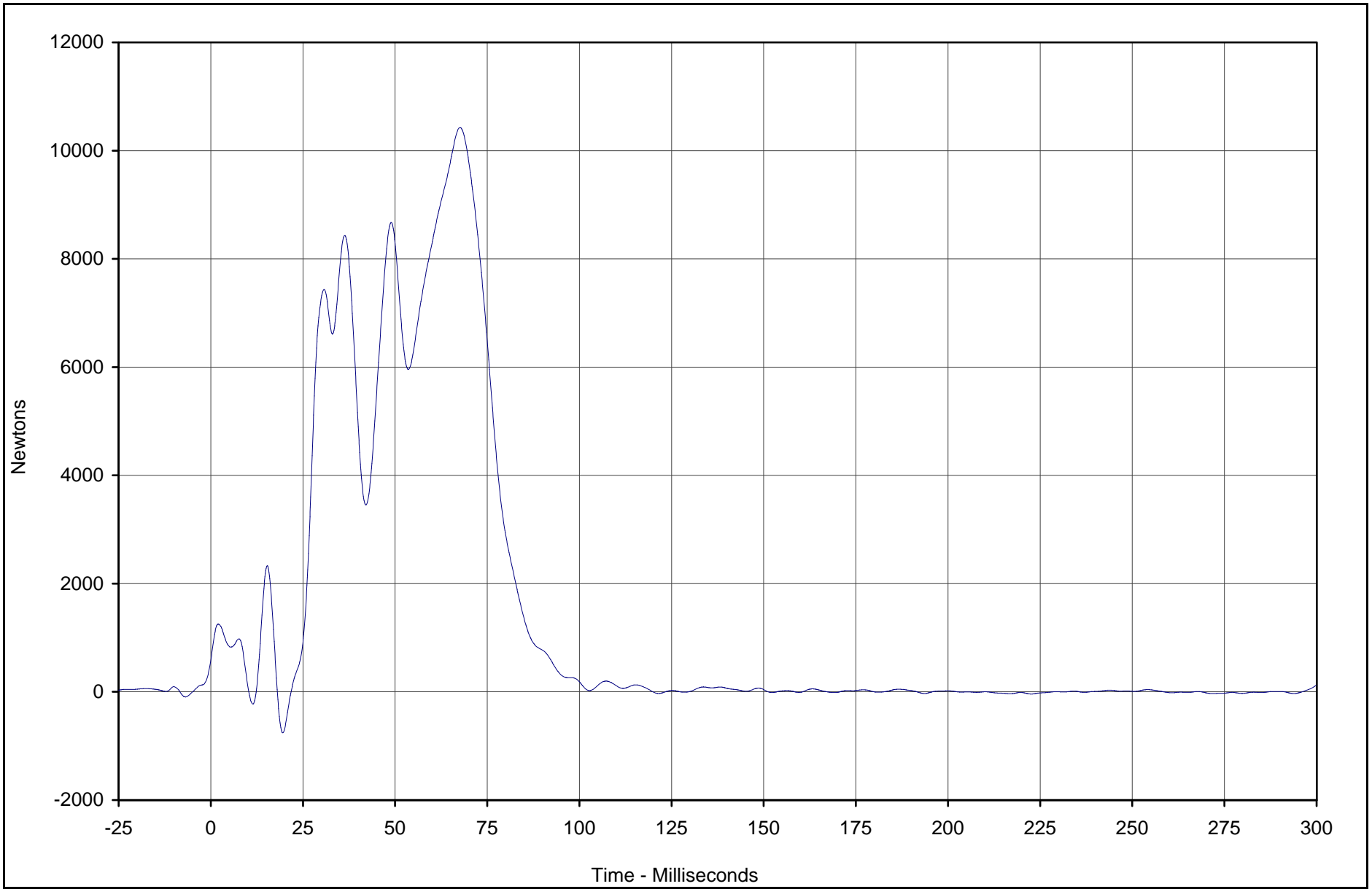


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A5	102	FIL	Newtons	10428.8	67.6	-757.9	19.5	60

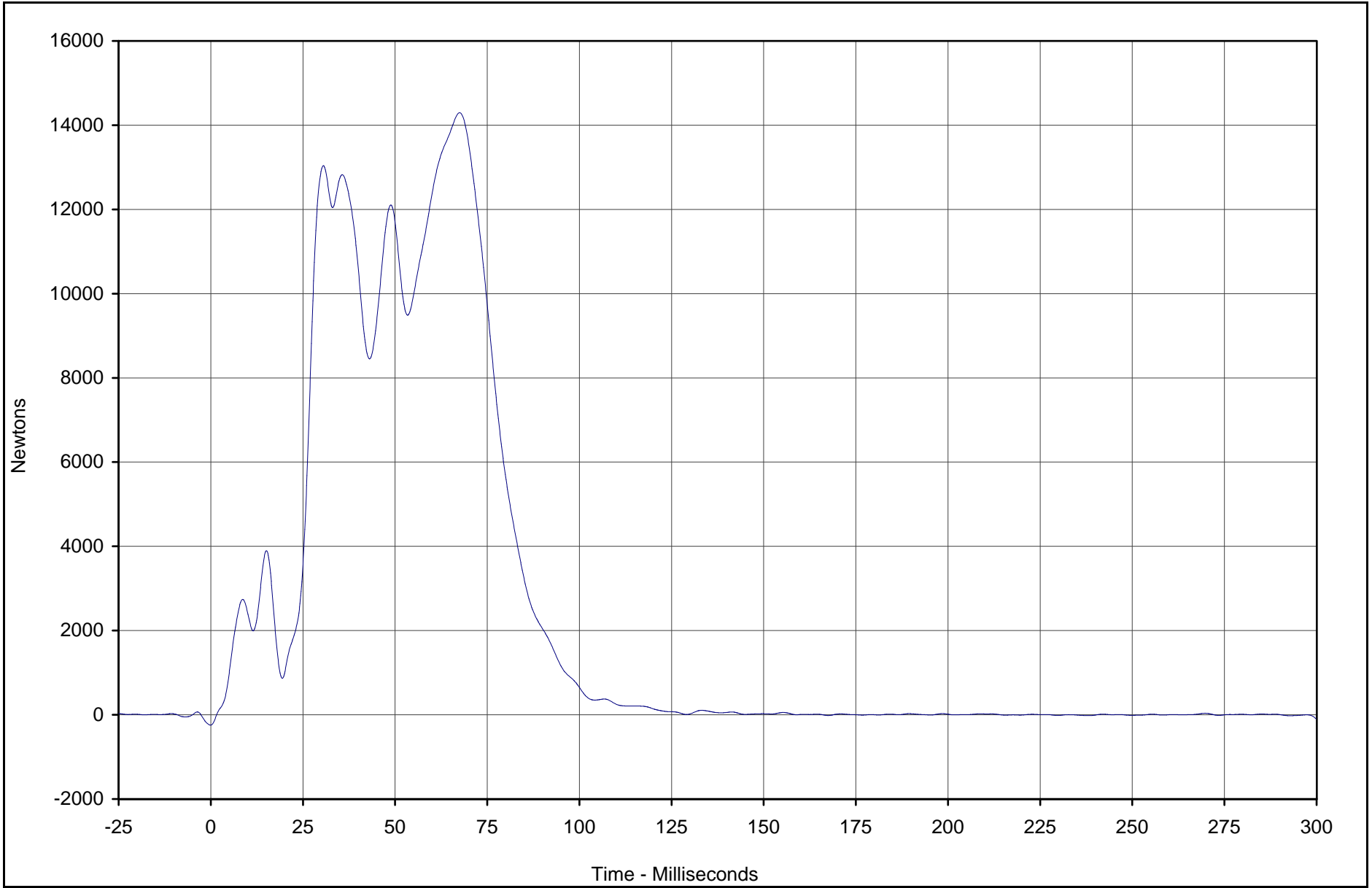


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

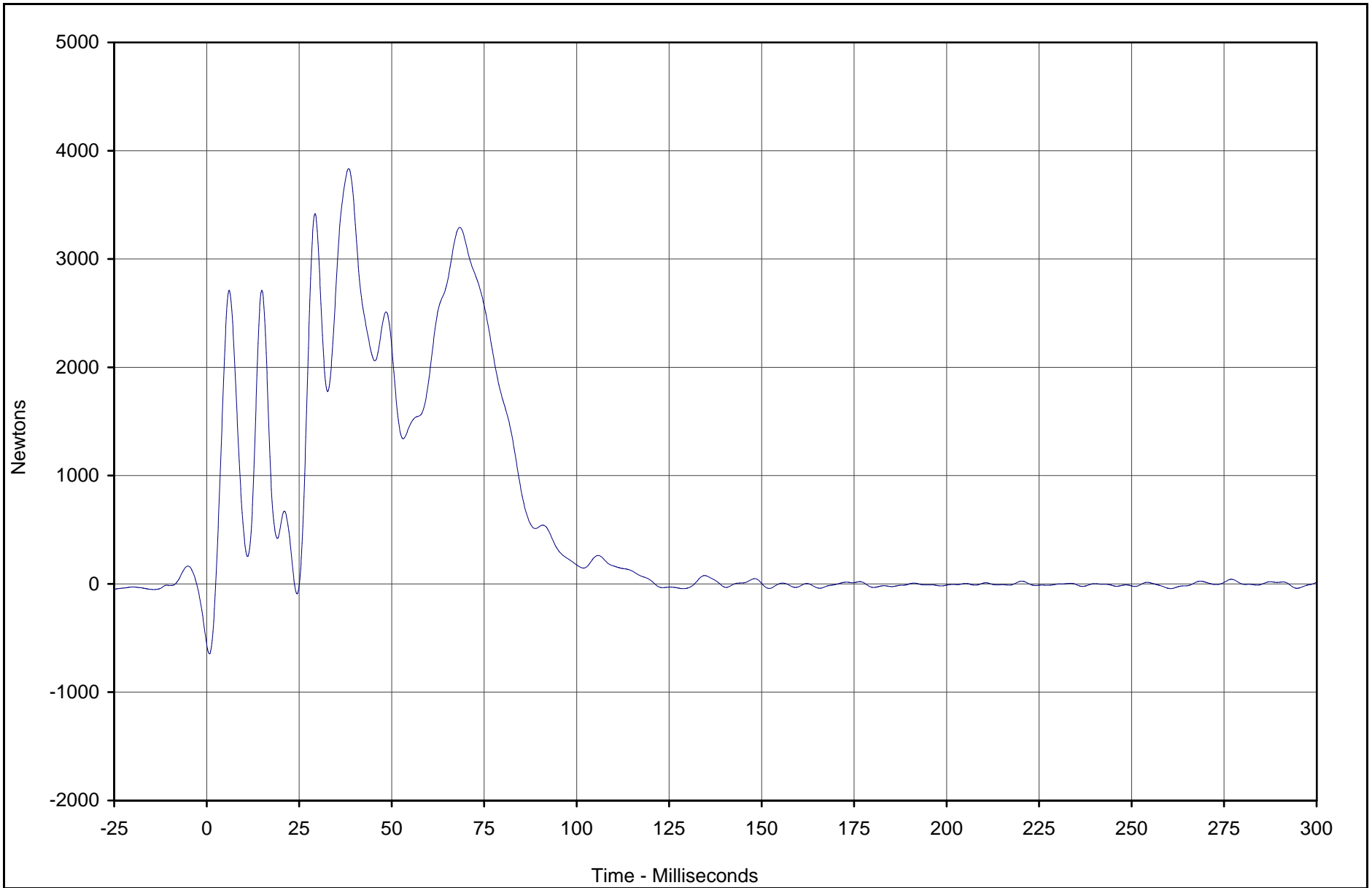


Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A6	103	FIL	Newtons	14295.8	67.5	-244.6	0.0	60



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

Test Date: 1/7/03
 NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A7	104	FIL	Newtons	3834.2	38.4	-645.8	0.8	60

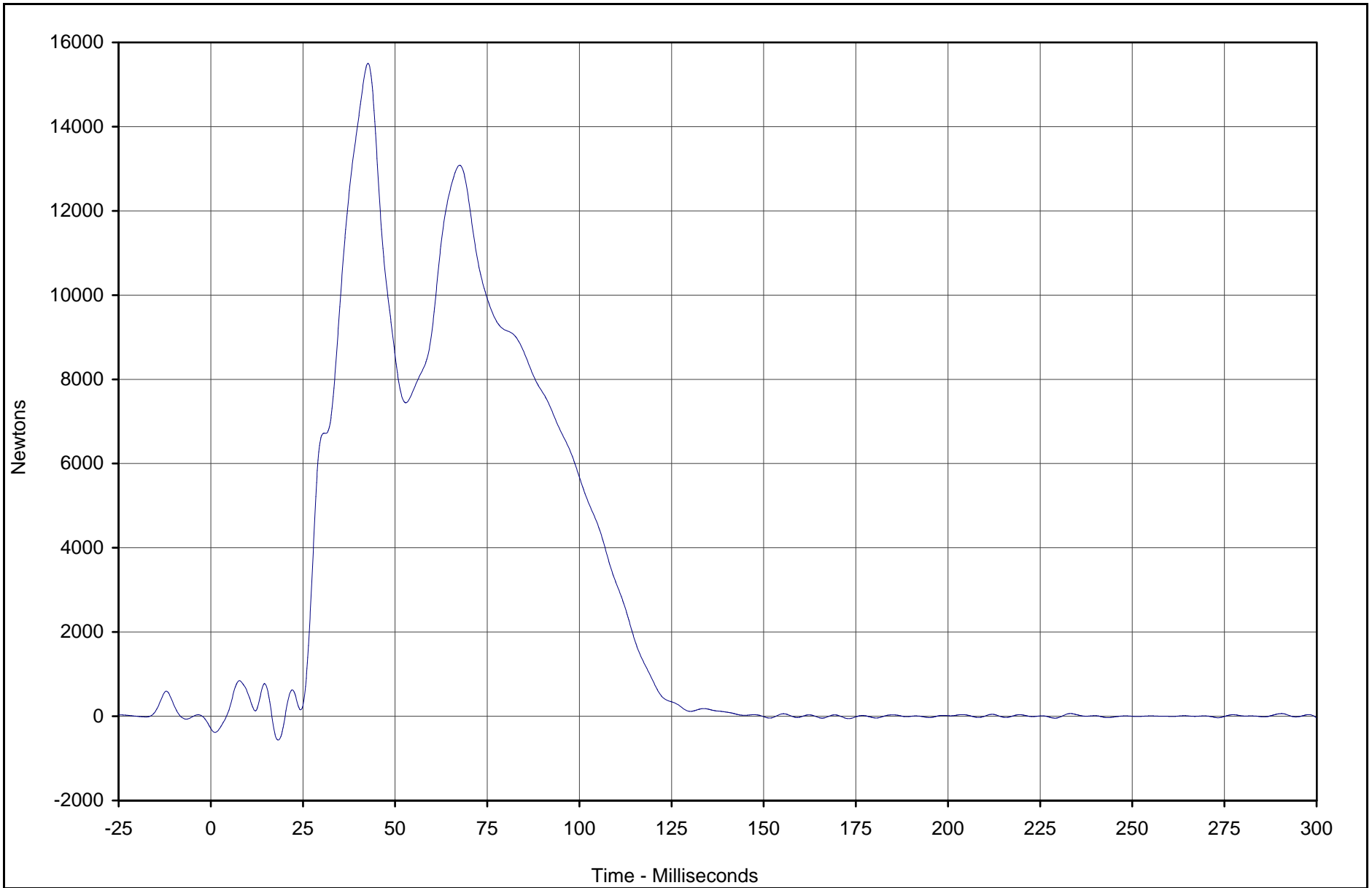


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A8	105	FIL	Newtons	15501.2	42.7	-565.3	18.3	60

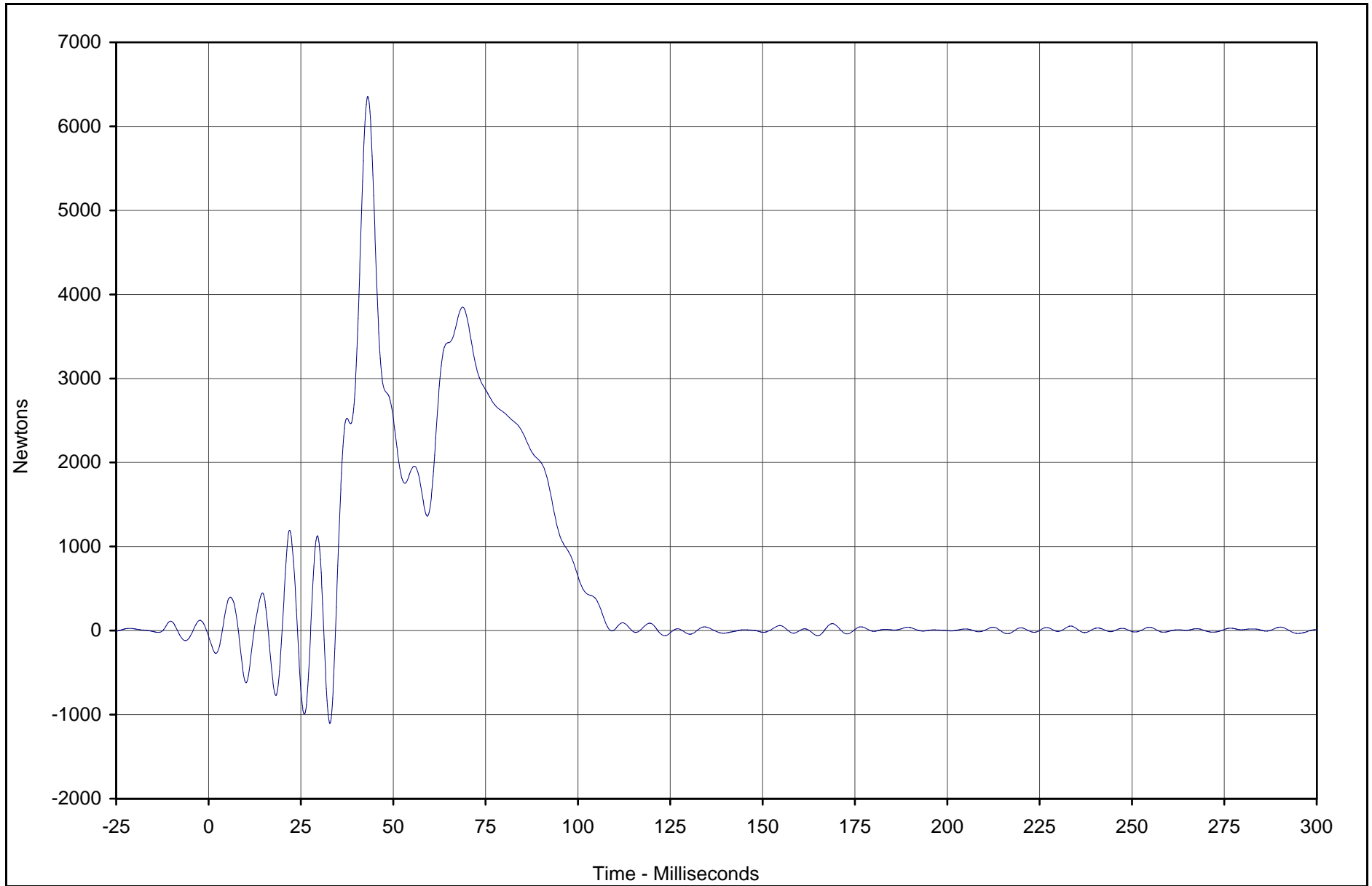


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A9	106	FIL	Newtons	6355.0	43.1	-1104.2	32.9	60



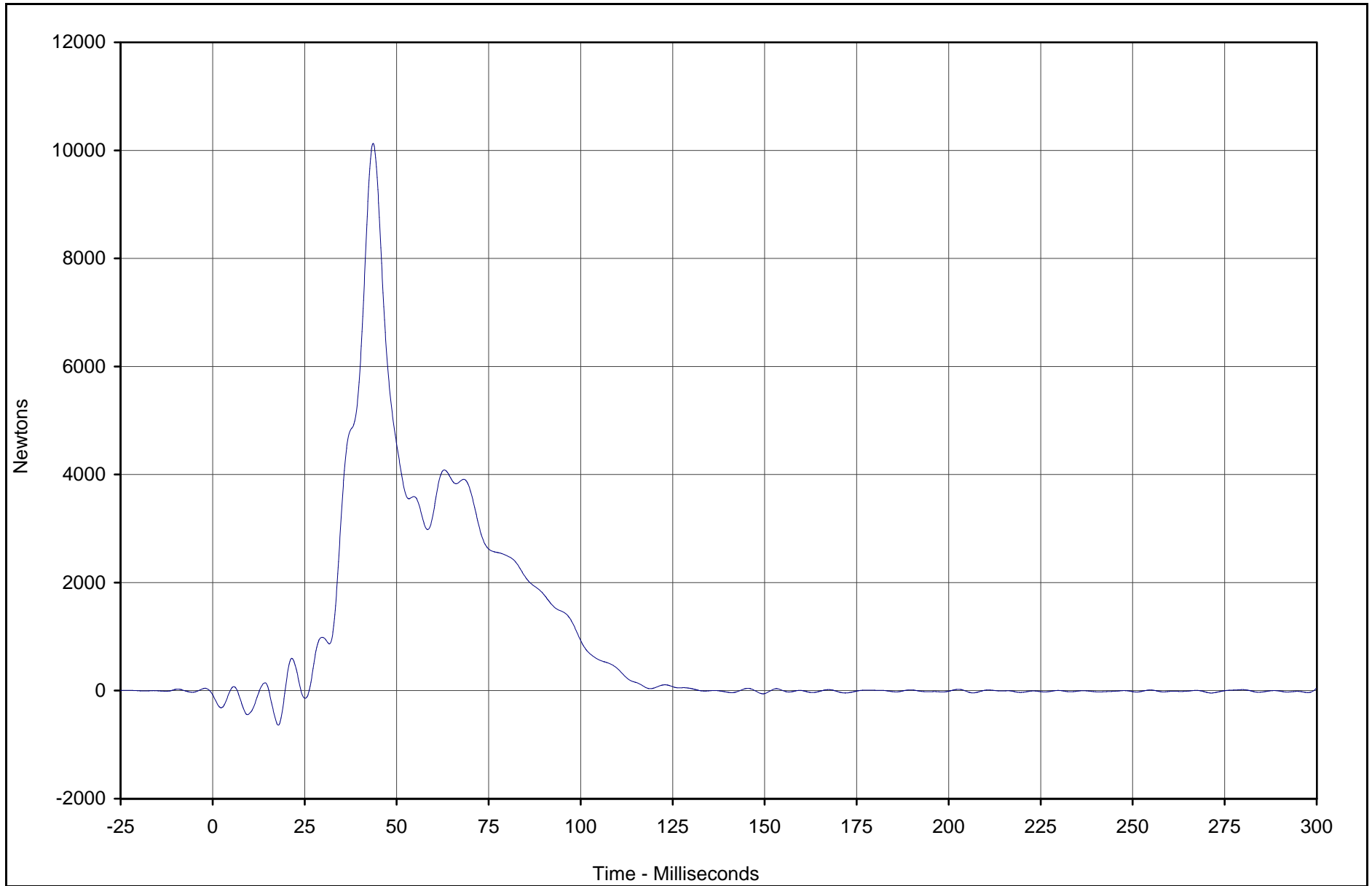
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

C-10



TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B1	107	FIL	Newtons	10128.3	43.6	-639.5	17.8	60



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

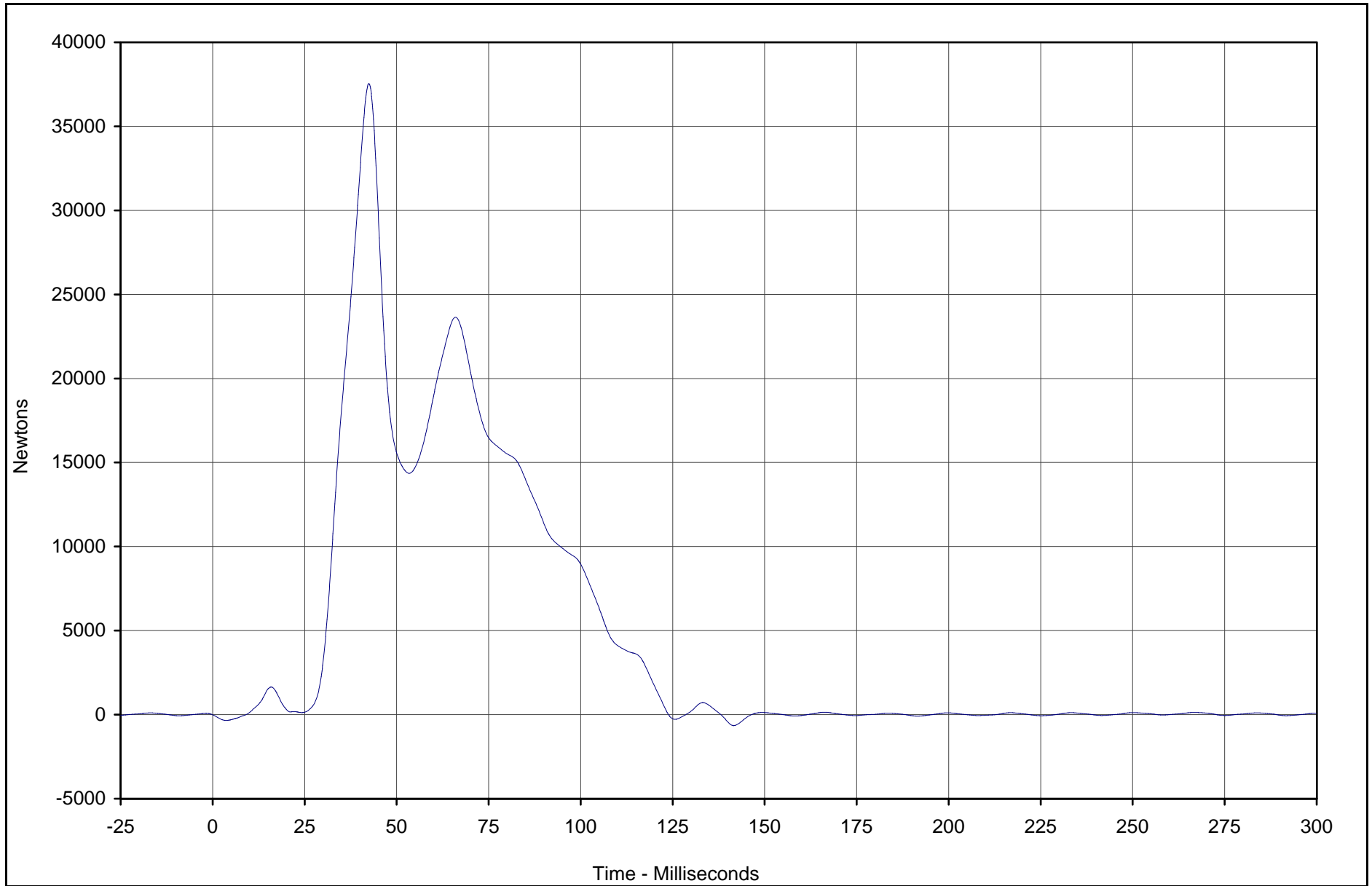
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

C-11

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B2	108	FIL	Newtons	37540.6	42.4	-651.7	141.6	60

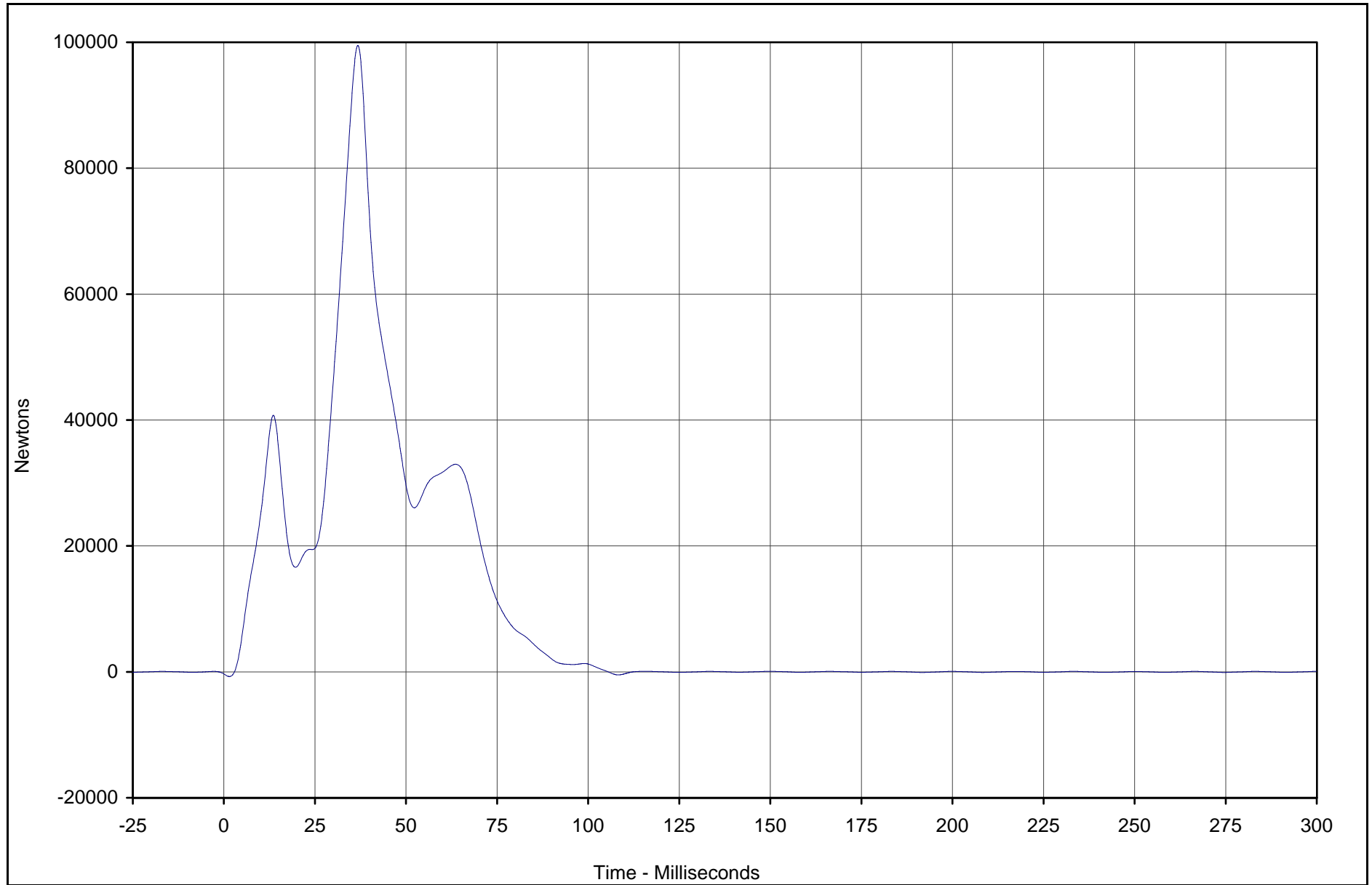


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B3	109	FIL	Newtons	99515.1	36.8	-744.1	1.5	60

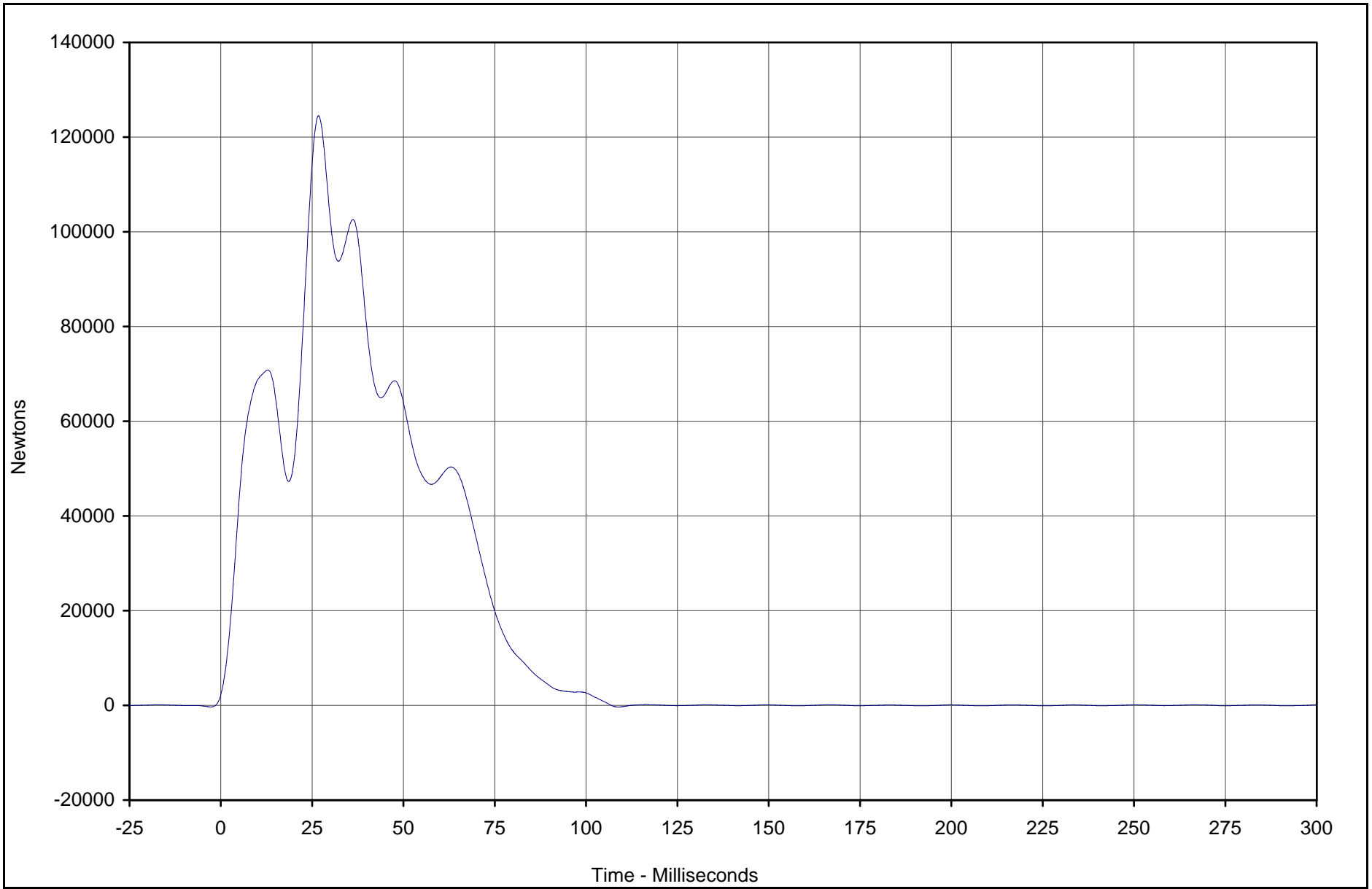


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B4	110	FIL	Newtons	124498.4	26.7	-354.5	108.8	60

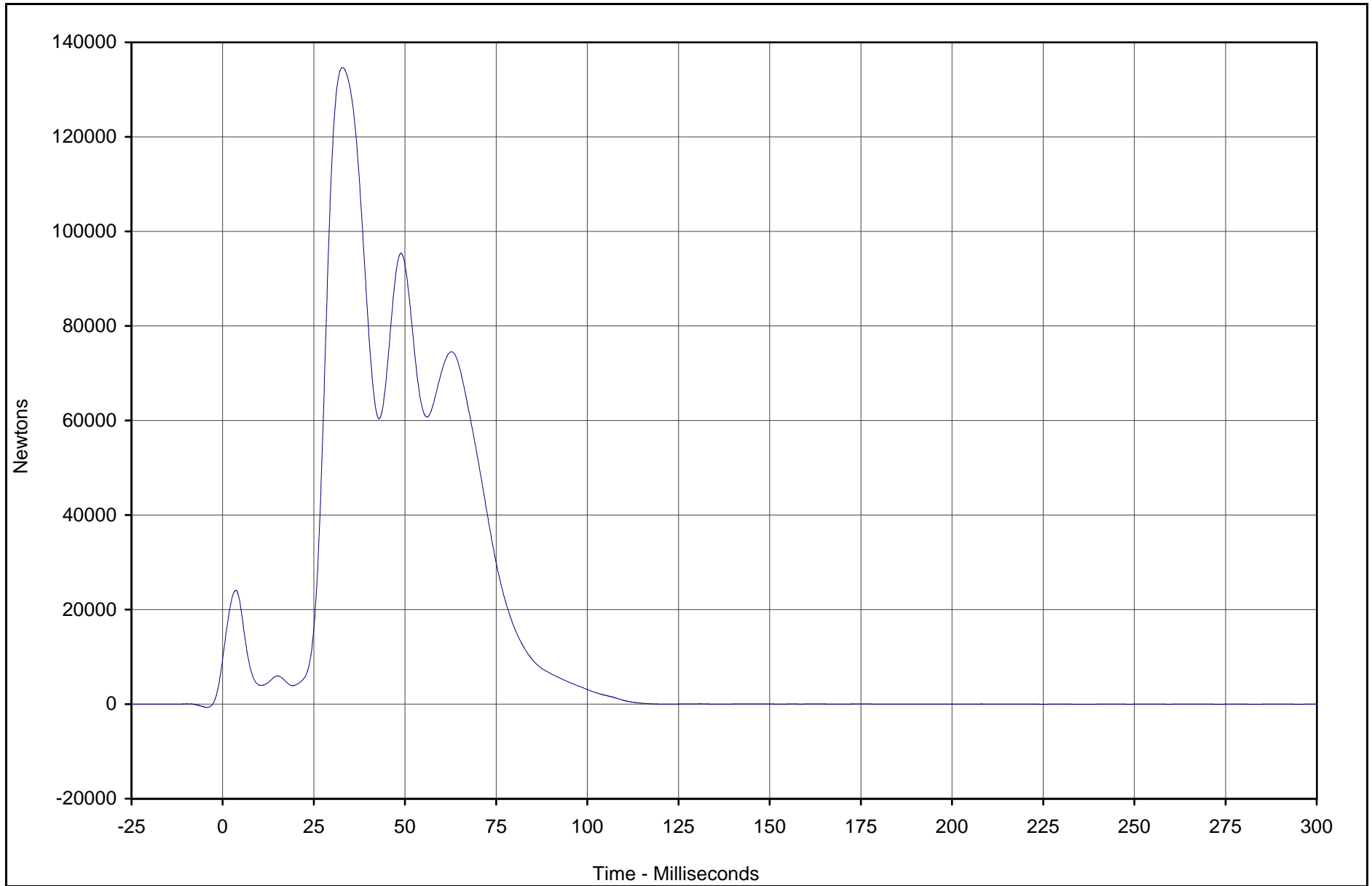


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B5	111	FIL	Newtons	134678.4	32.9	-41.1	282.8	60



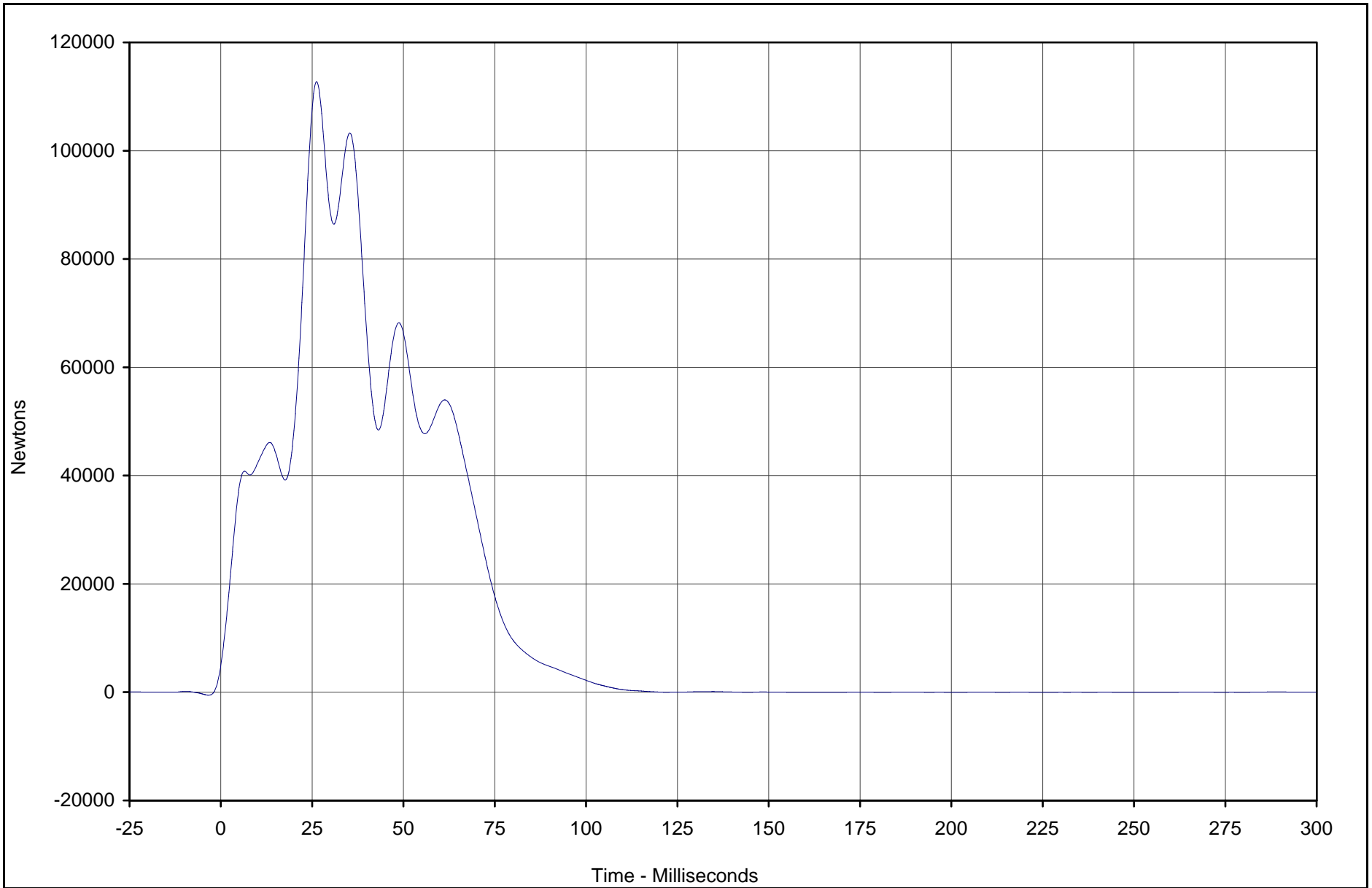
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B6	112	FIL	Newtons	112760.7	26.2	-31.9	158.8	60

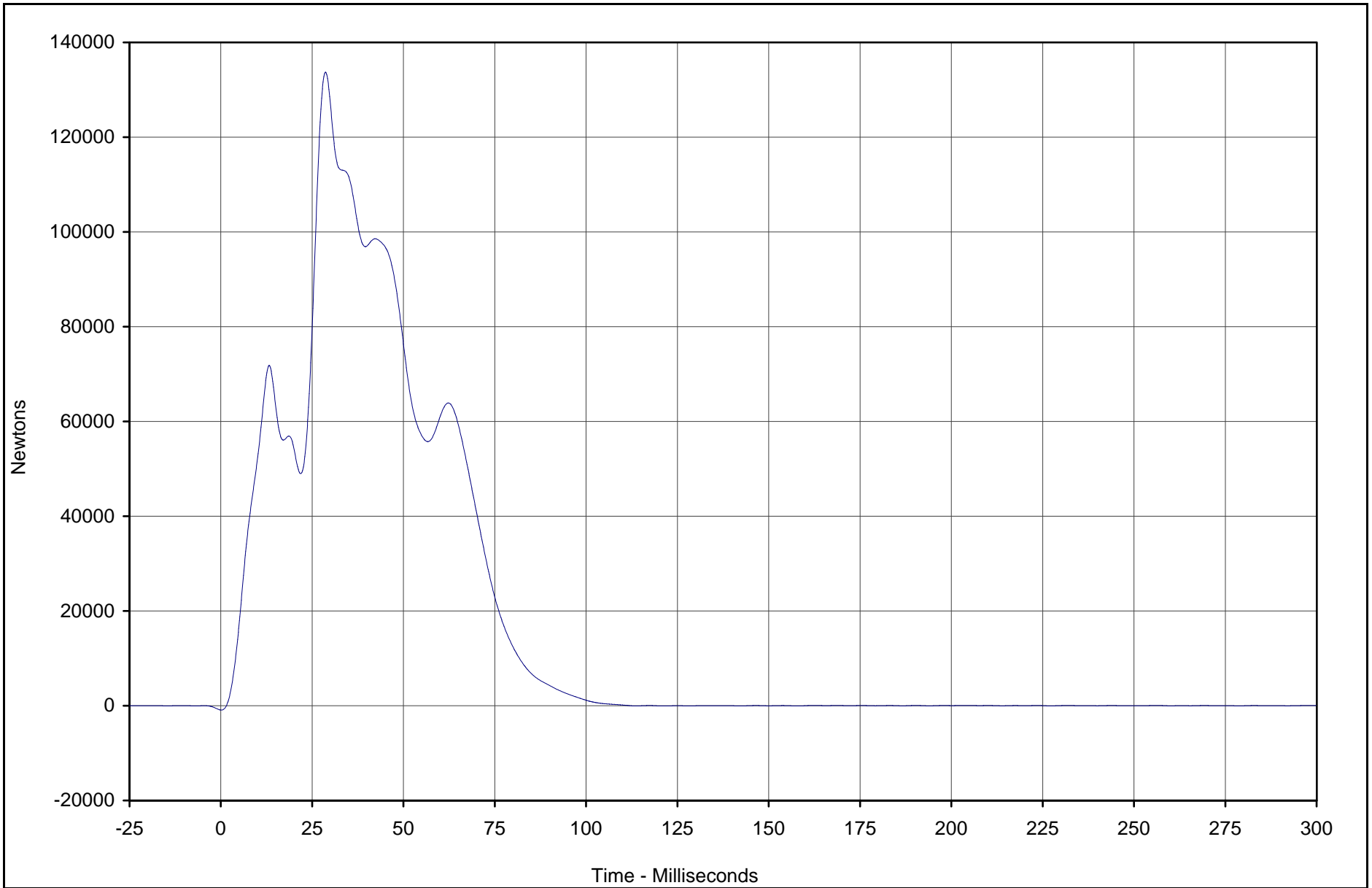


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B7	113	FIL	Newtons	133720.9	28.6	-914.8	0.1	60

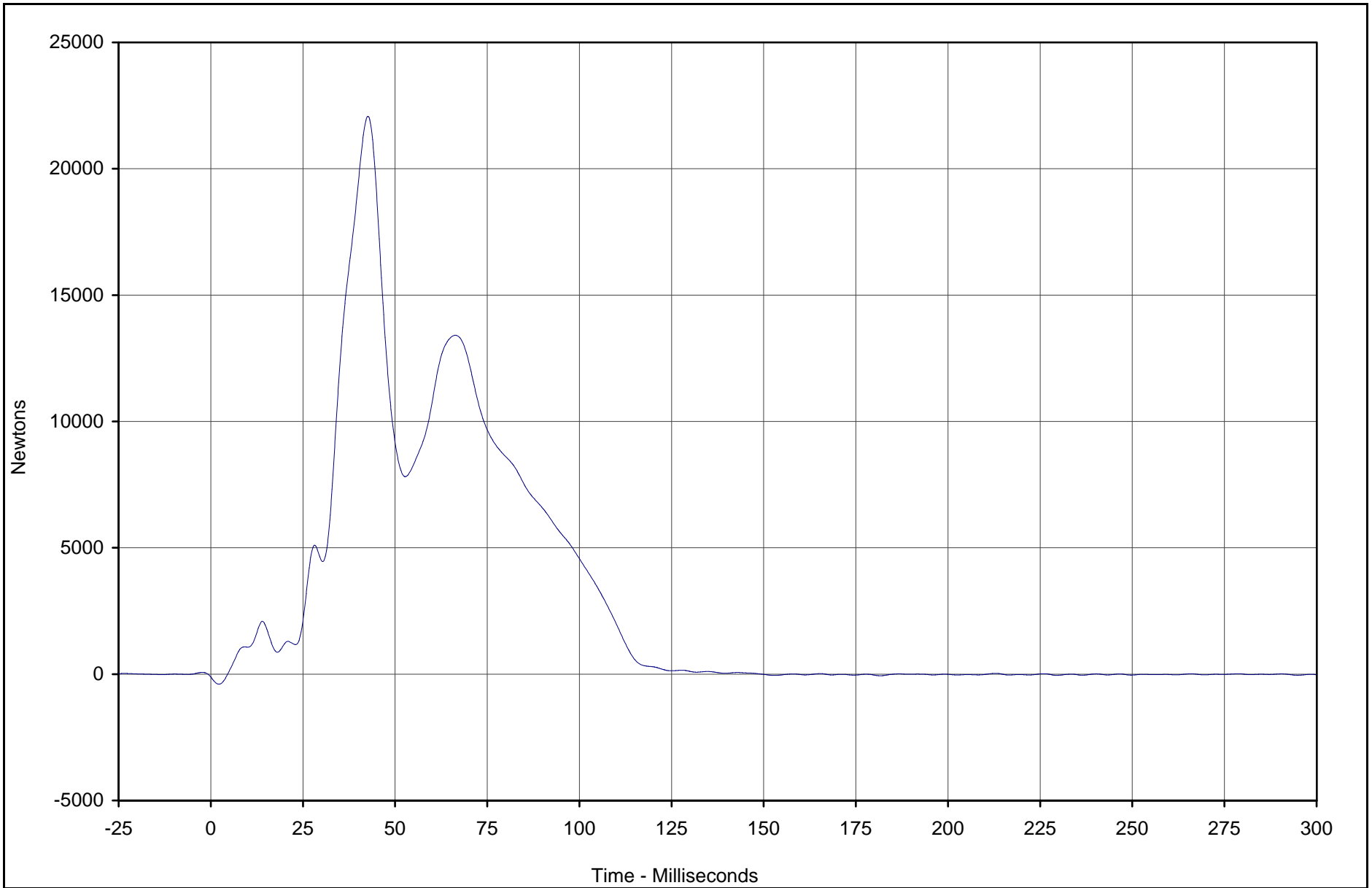


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

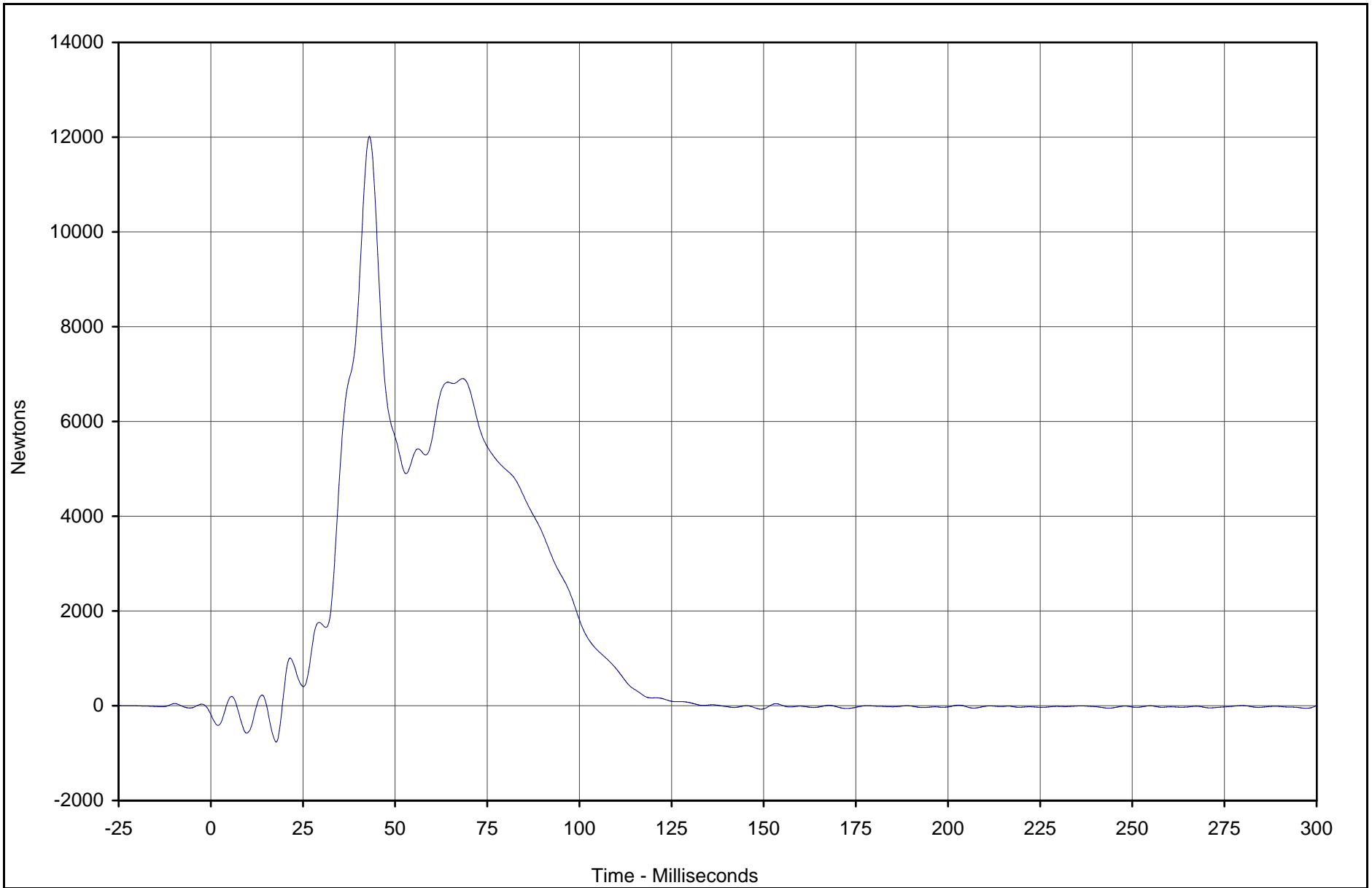


Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B8	114	FIL	Newtons	22072.7	42.6	-398.0	2.2	60



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback
 Test Program: 2003 NHTSA 35mph NCAP

Test Date: 1/7/03
 NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B9	115	FIL	Newtons	12016.1	43.0	-766.0	17.7	60

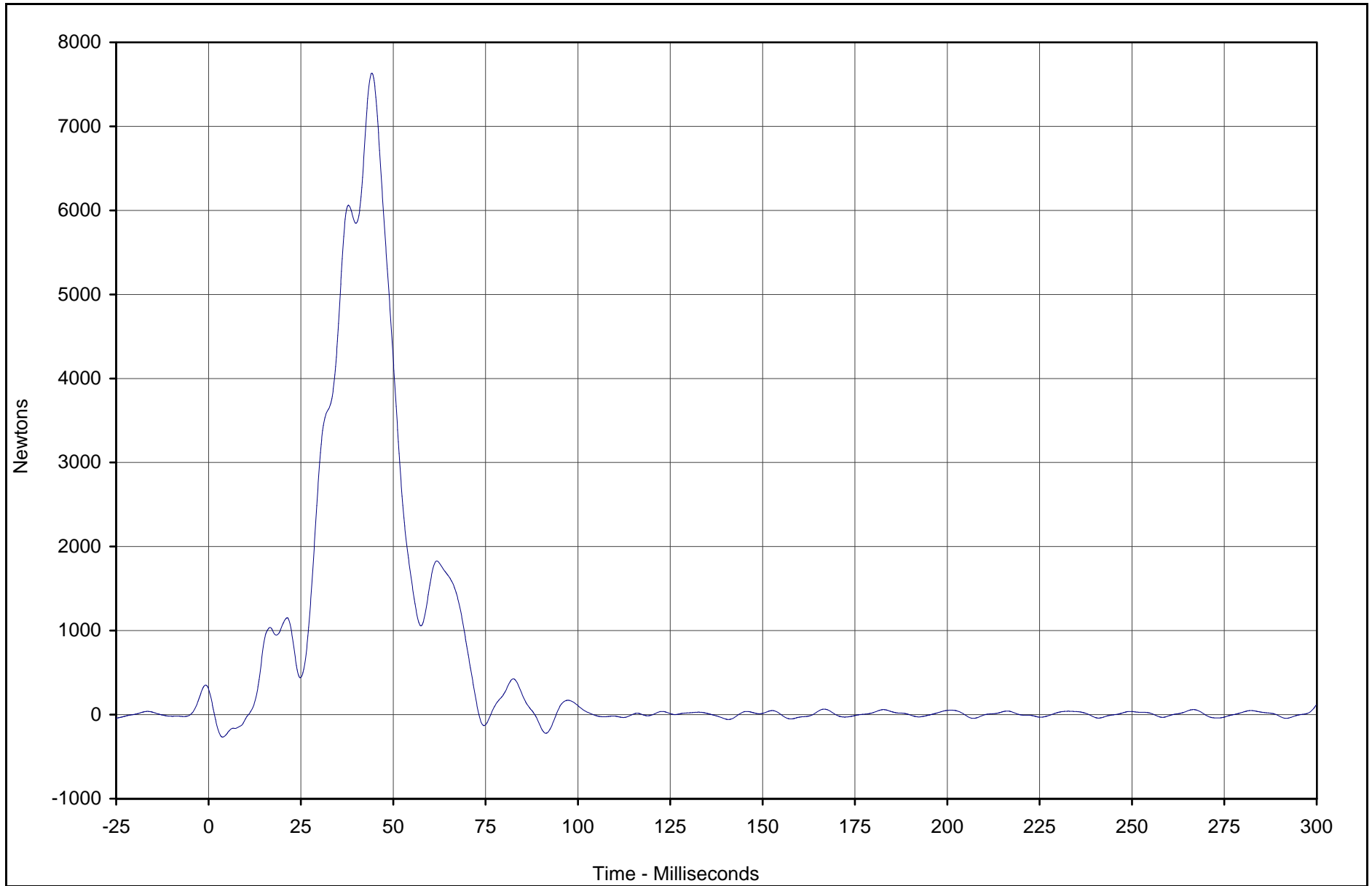


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C1	116	FIL	Newtons	7633.5	44.2	-266.7	3.8	60



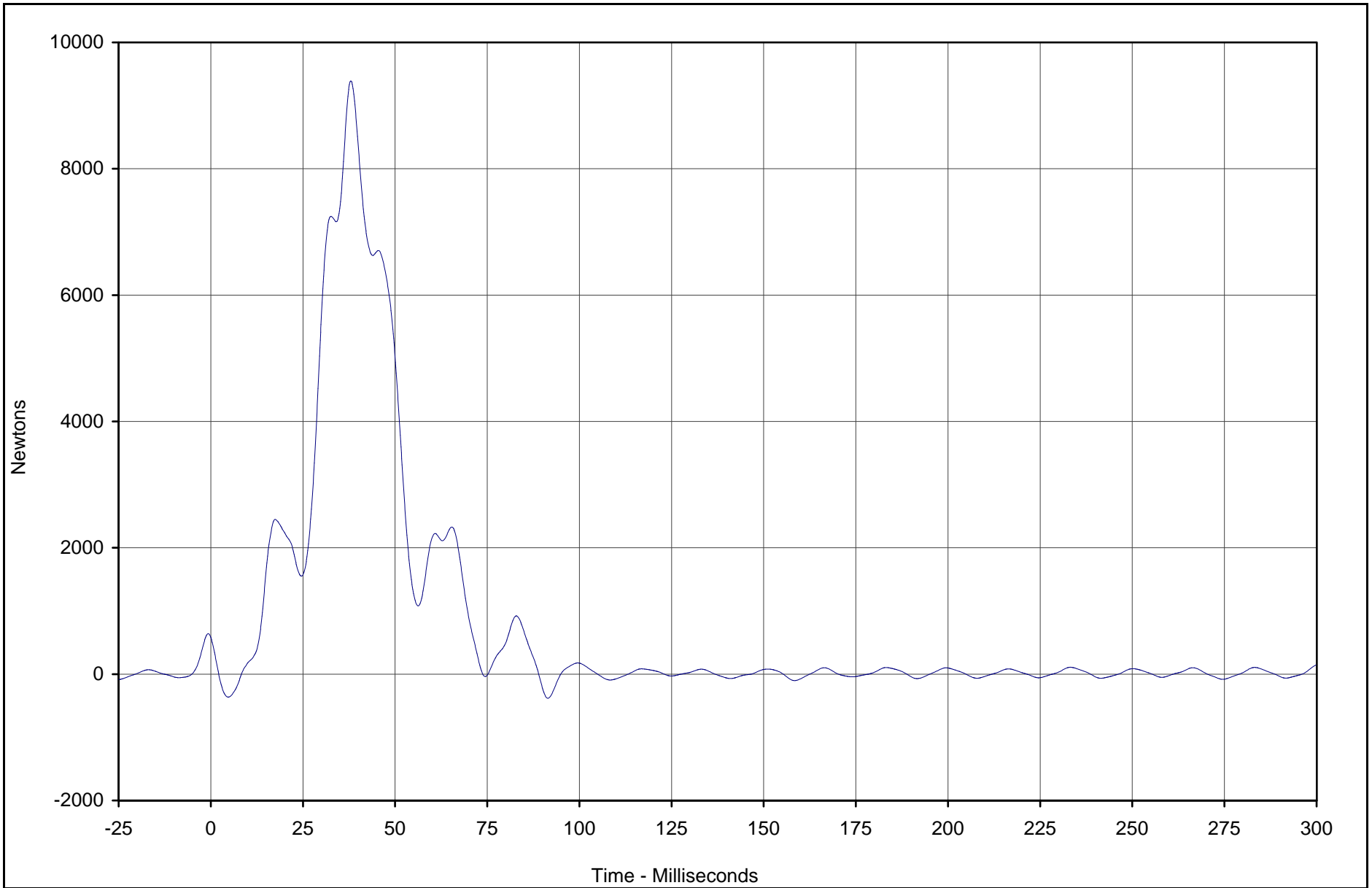
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C2	117	FIL	Newtons	9391.5	38.0	-382.2	91.5	60

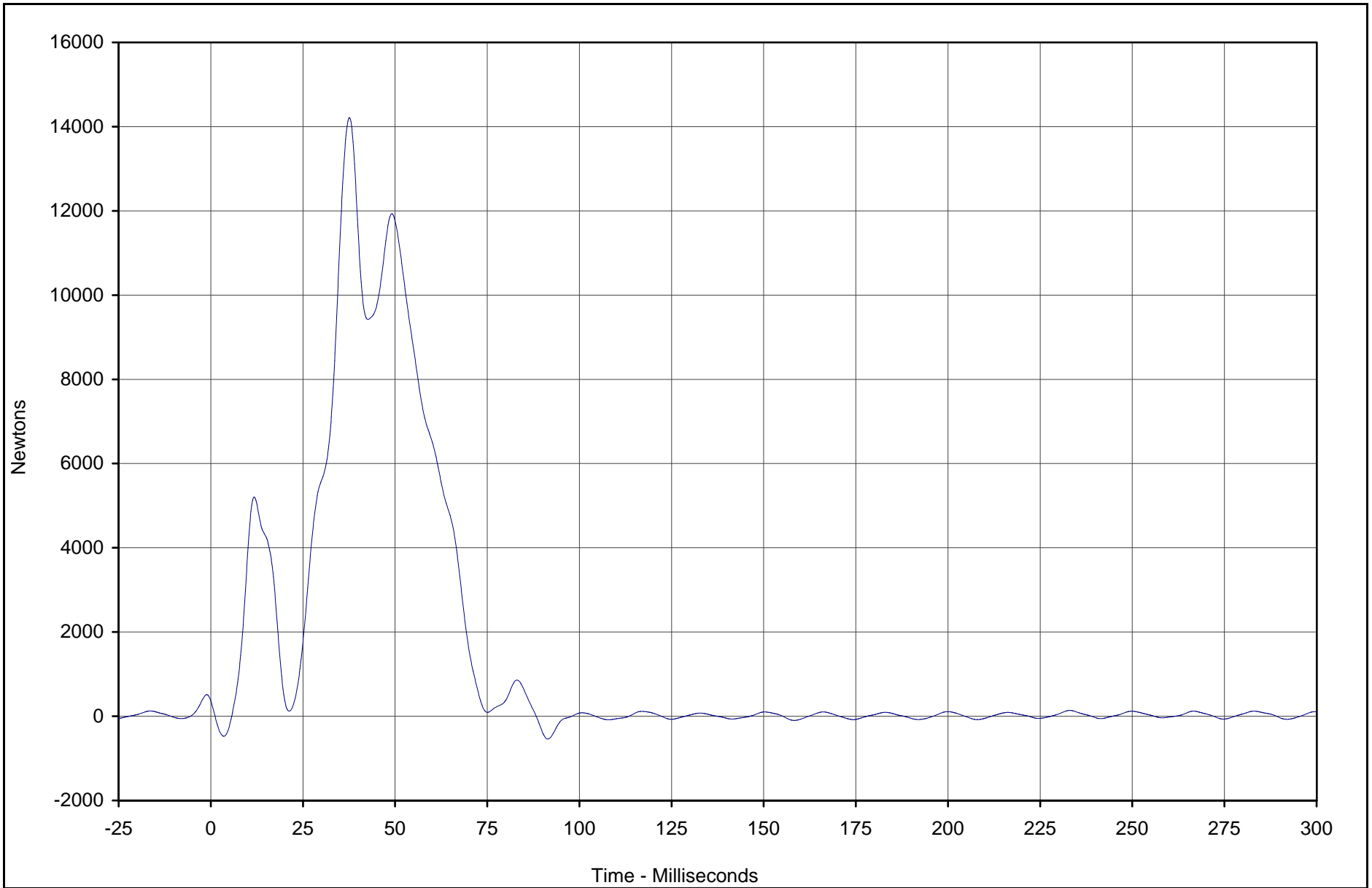


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C3	118	FIL	Newtons	14214.4	37.6	-541.8	91.4	60



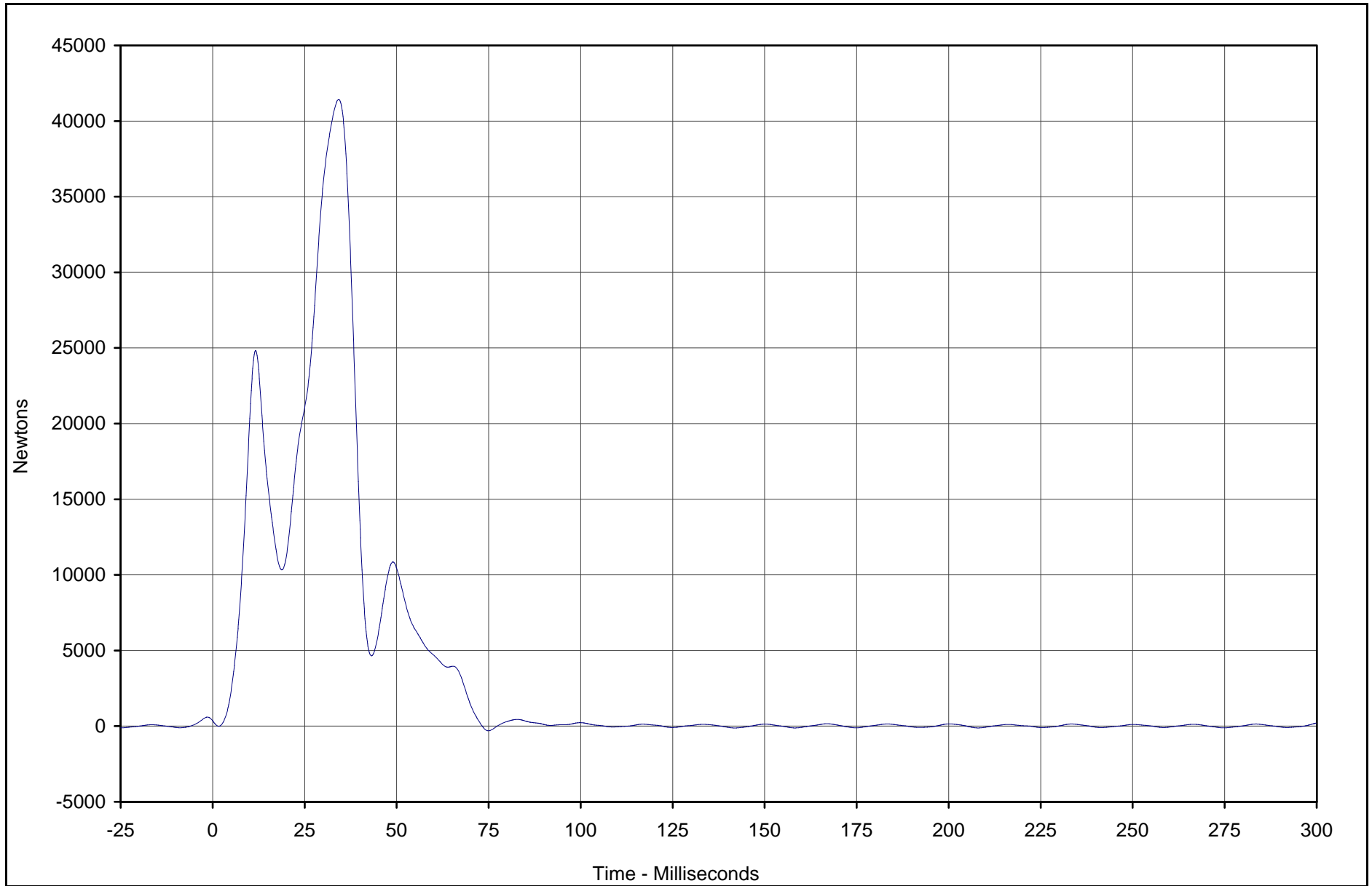
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C4	119	FIL	Newtons	41437.5	34.3	-304.9	74.9	60

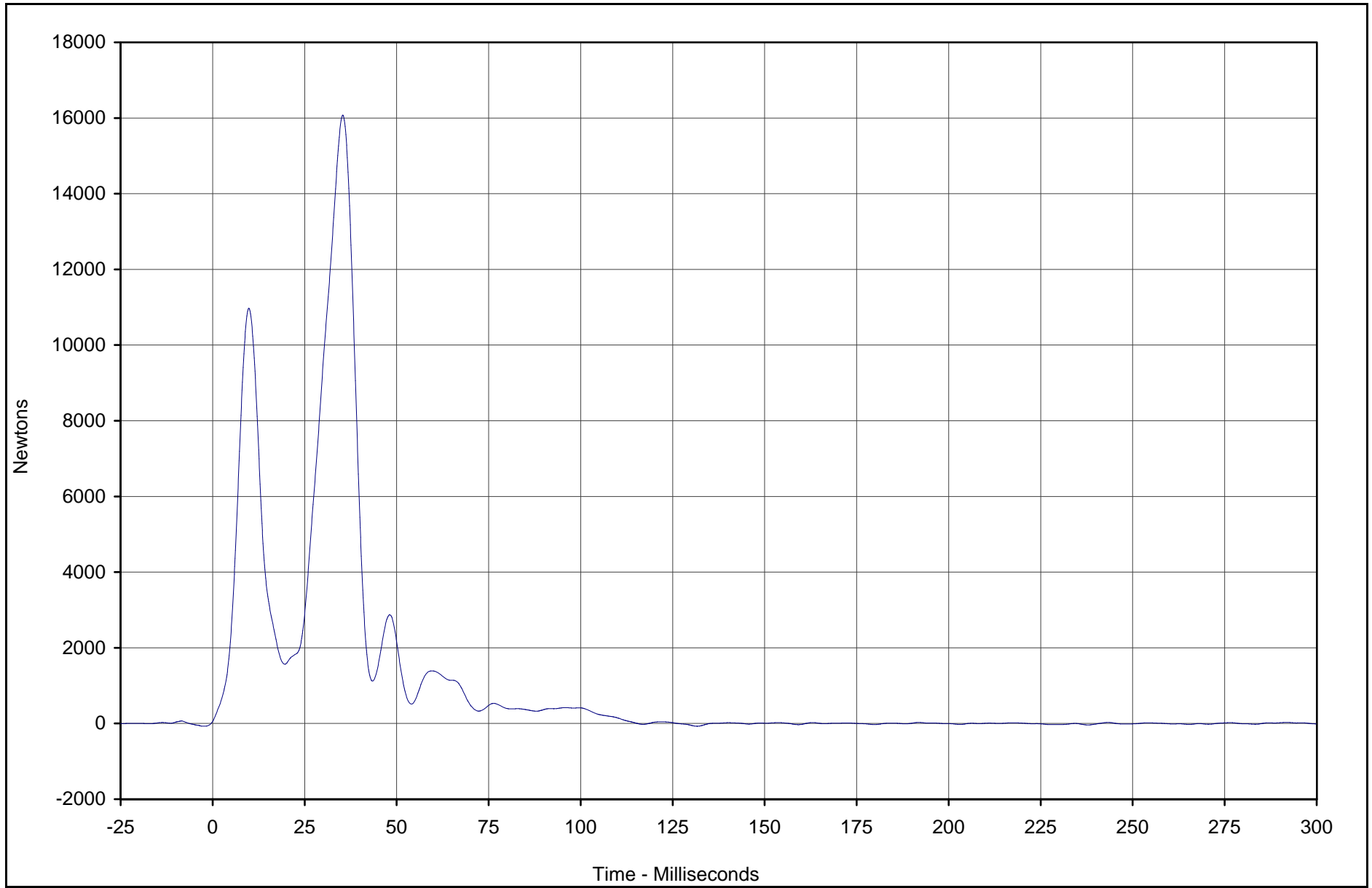


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C5	120	FIL	Newtons	16076.8	35.4	-72.5	131.6	60



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

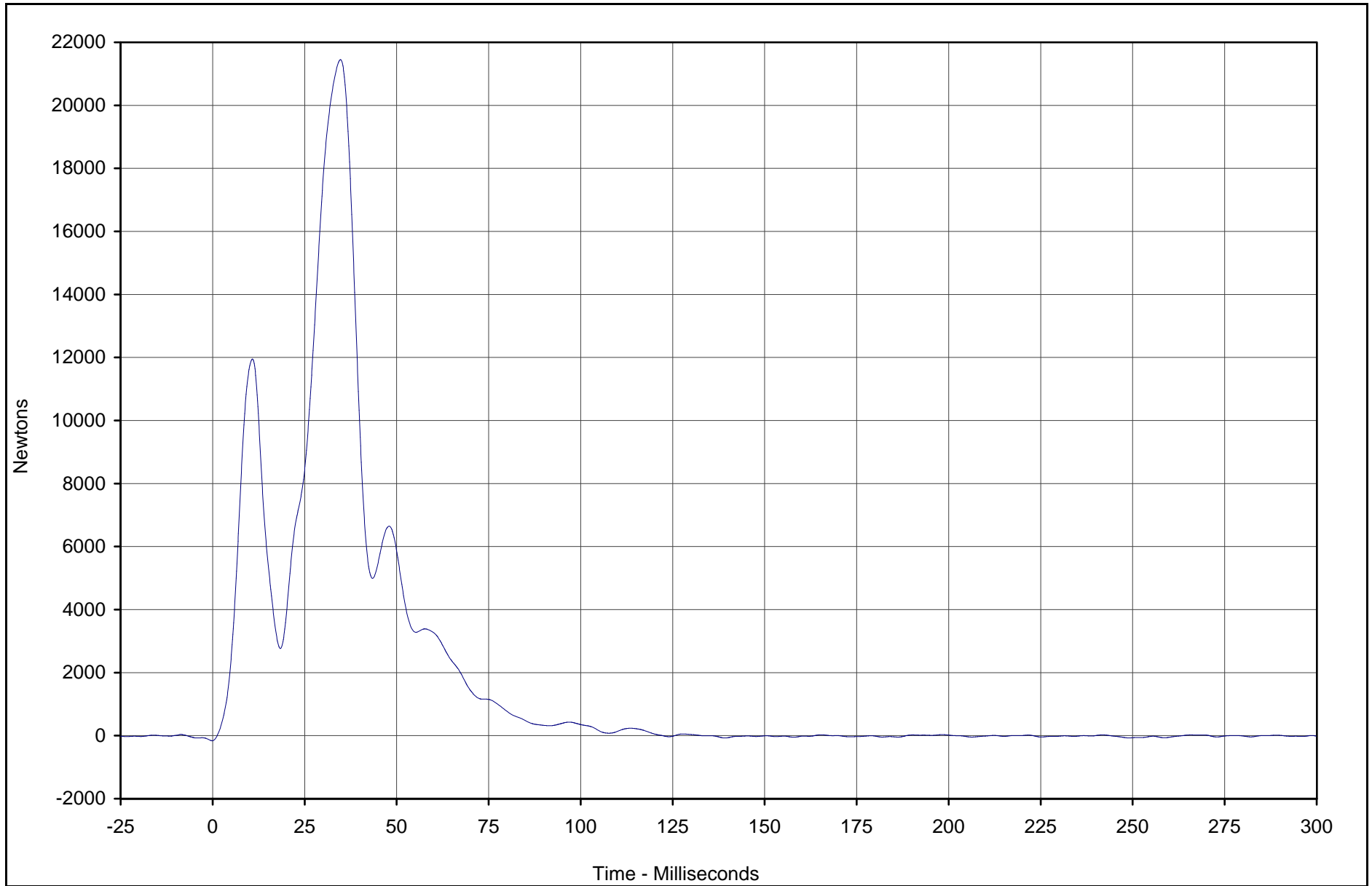
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

C-24

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C6	121	FIL	Newtons	21451.3	34.7	-160.9	0.0	60



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

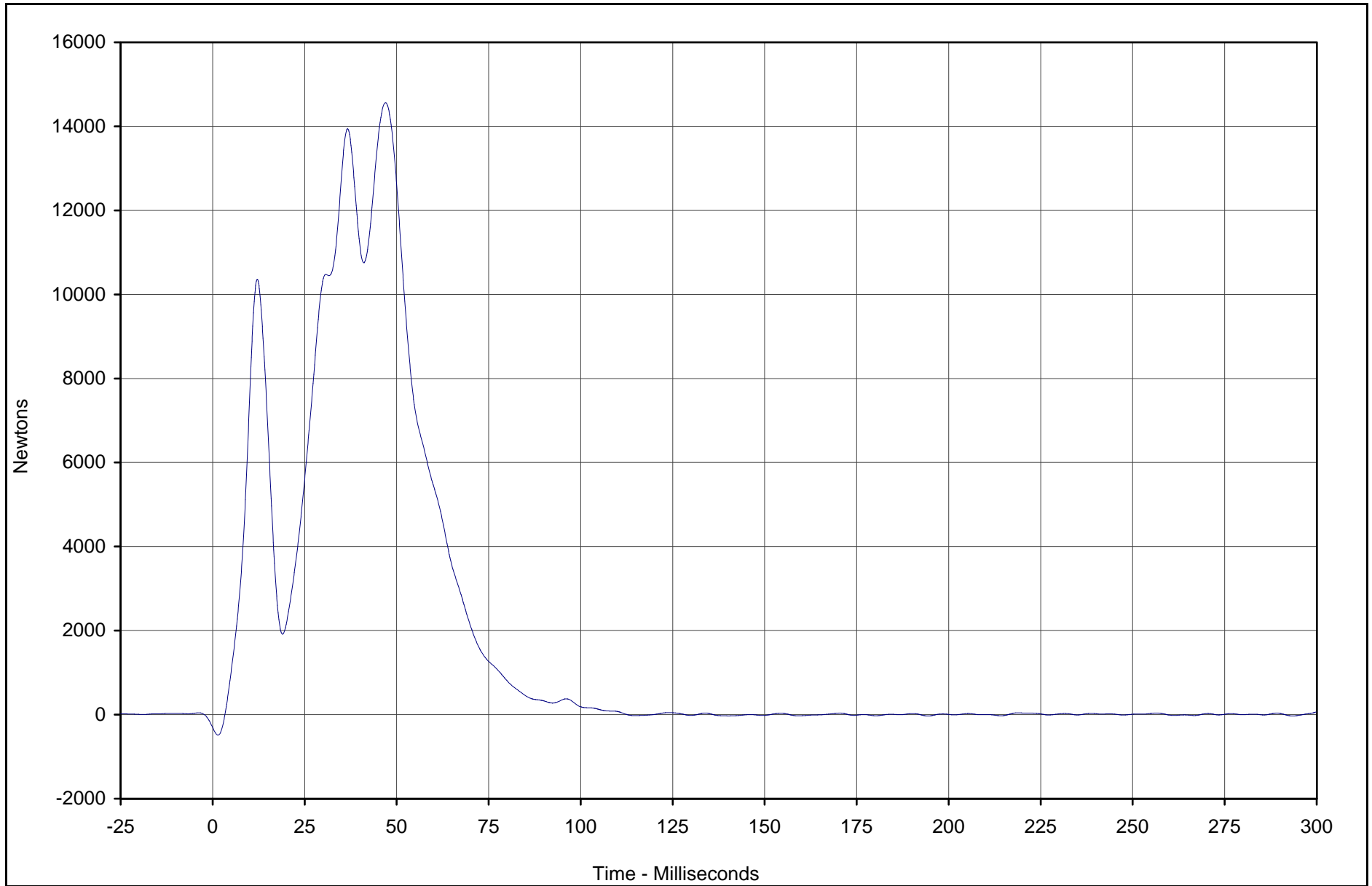
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

C-25

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C7	122	FIL	Newtons	14565.4	47.0	-488.3	1.5	60

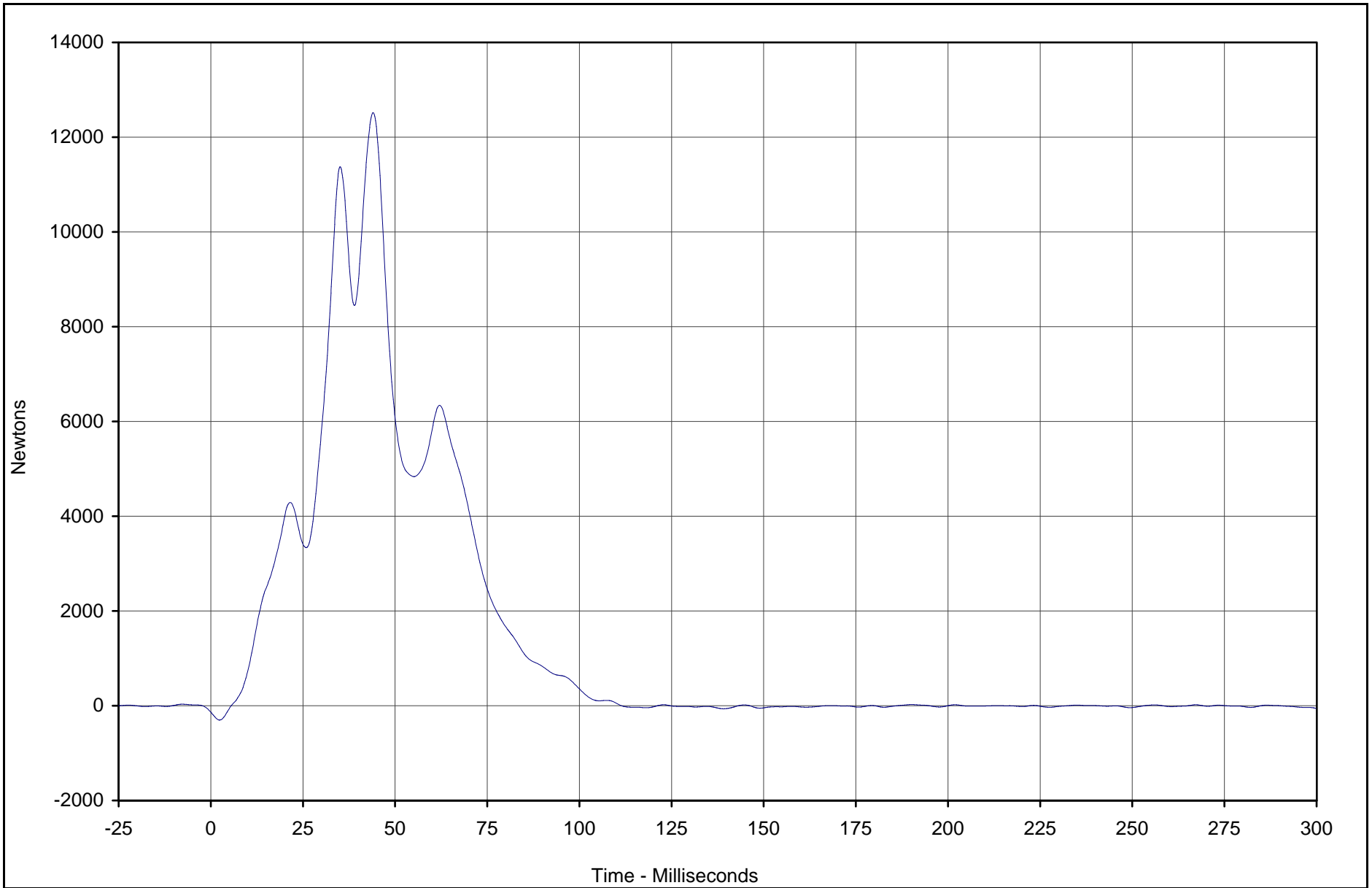


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C8	123	FIL	Newtons	12518.9	44.0	-302.4	2.4	60

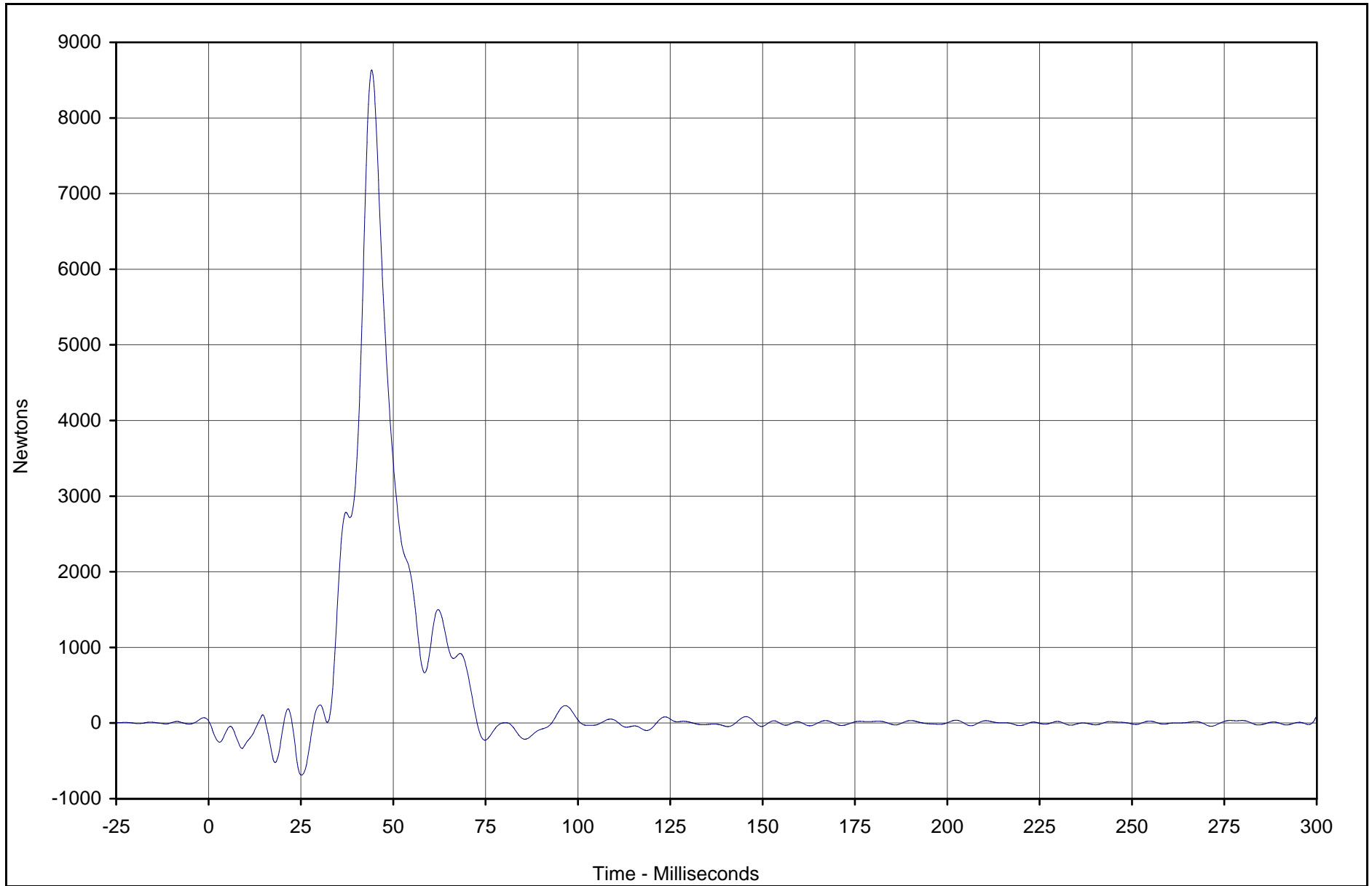


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C9	124	FIL	Newtons	8634.3	44.2	-687.6	25.2	60

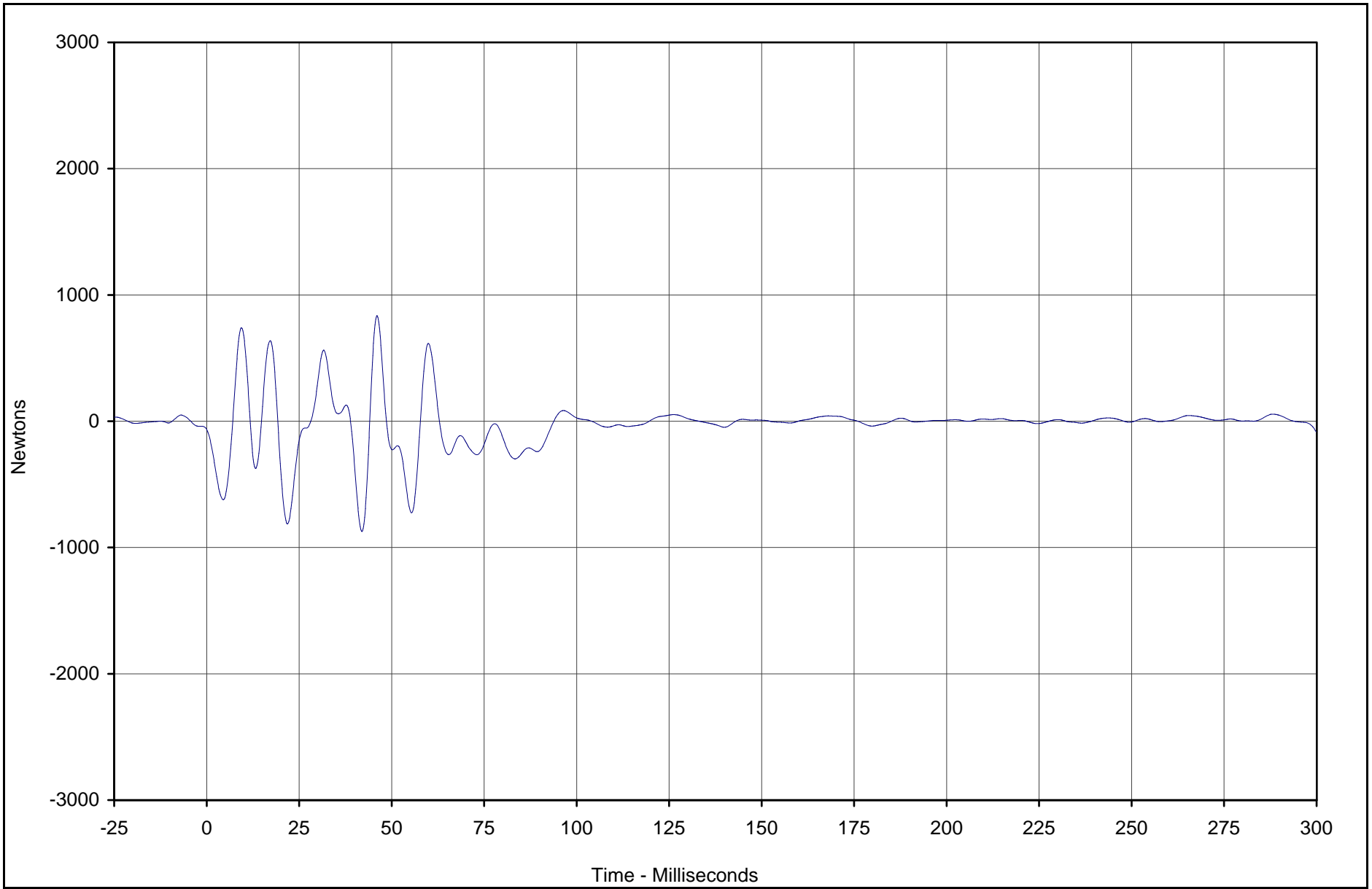


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D1	125	FIL	Newtons	835.7	46.0	-873.9	42.0	60

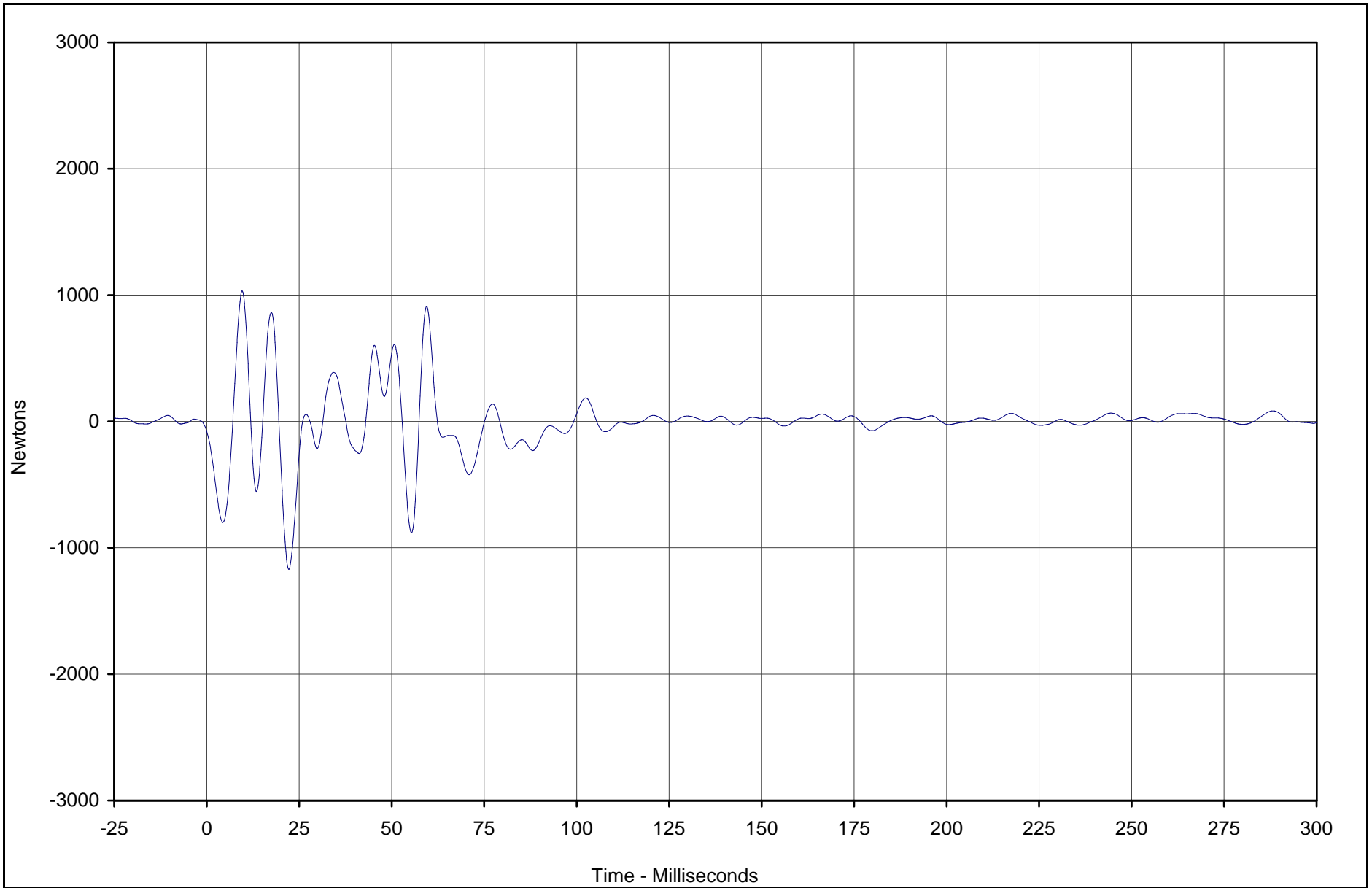


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D2	126	FIL	Newtons	1033.2	9.6	-1170.7	22.2	60



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

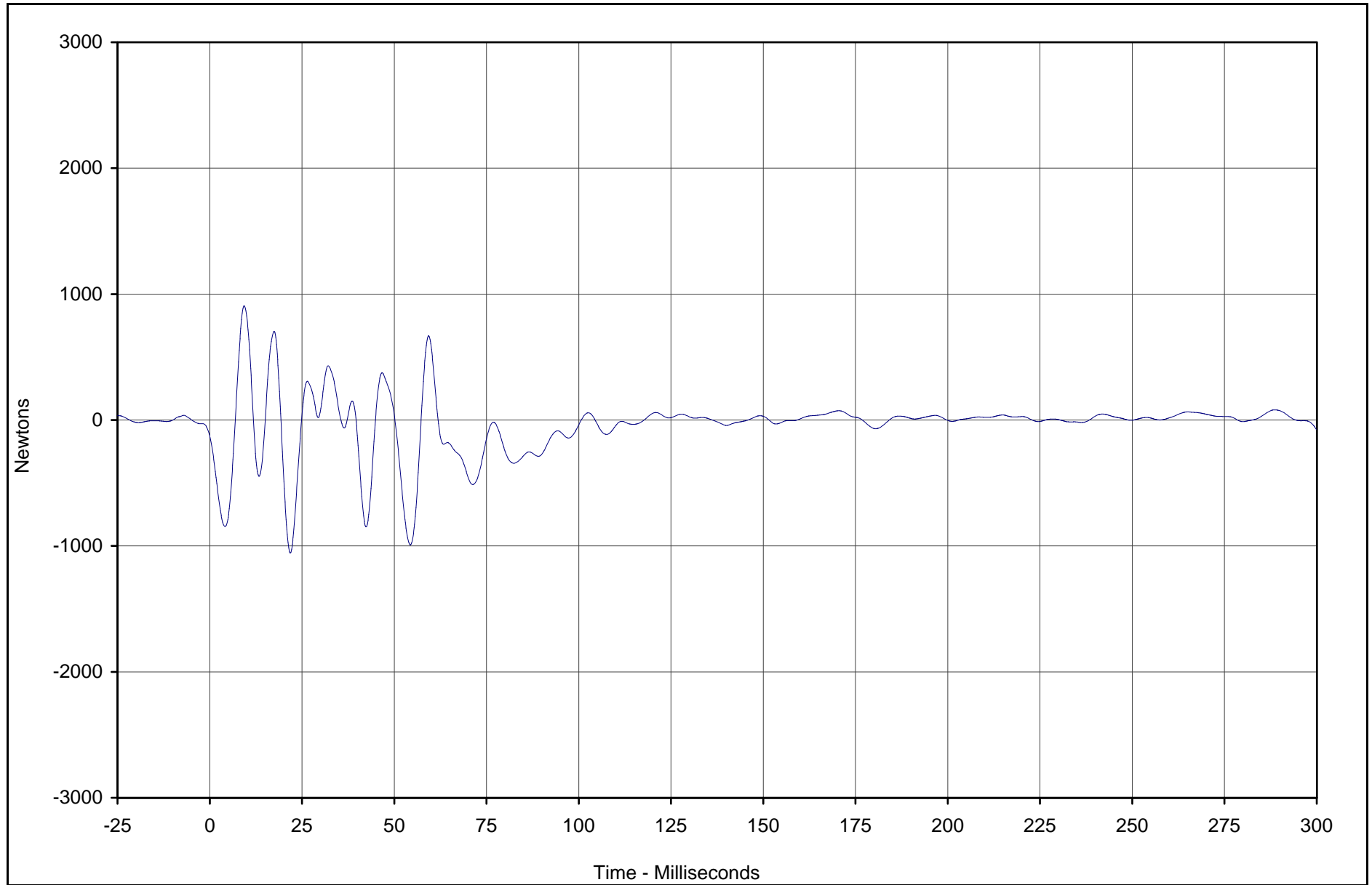
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

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TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D3	127	FIL	Newtons	907.5	9.3	-1056.8	21.8	60



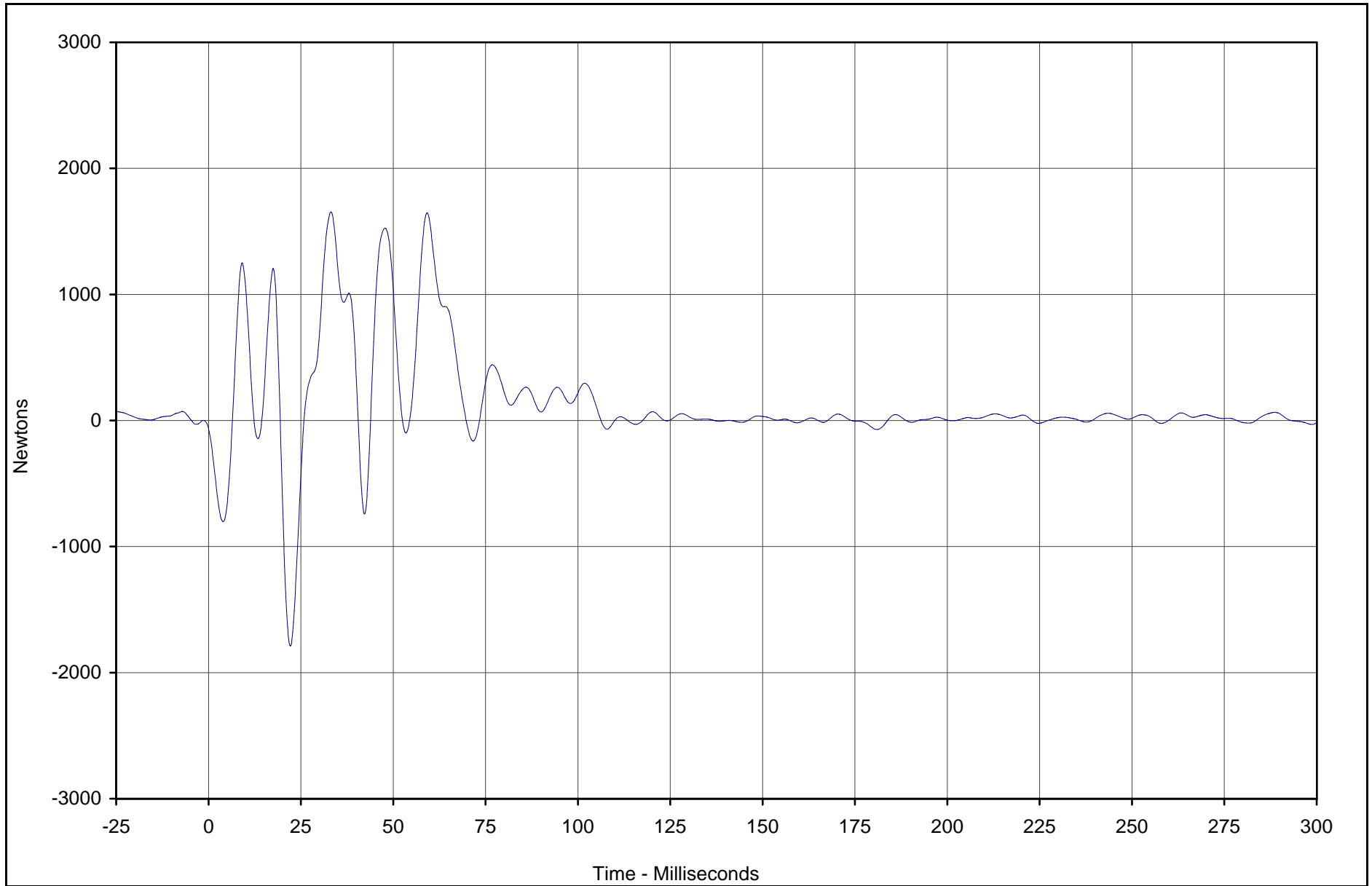
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

C-31



TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D4	128	FIL	Newtons	1653.3	33.1	-1788.7	22.2	60

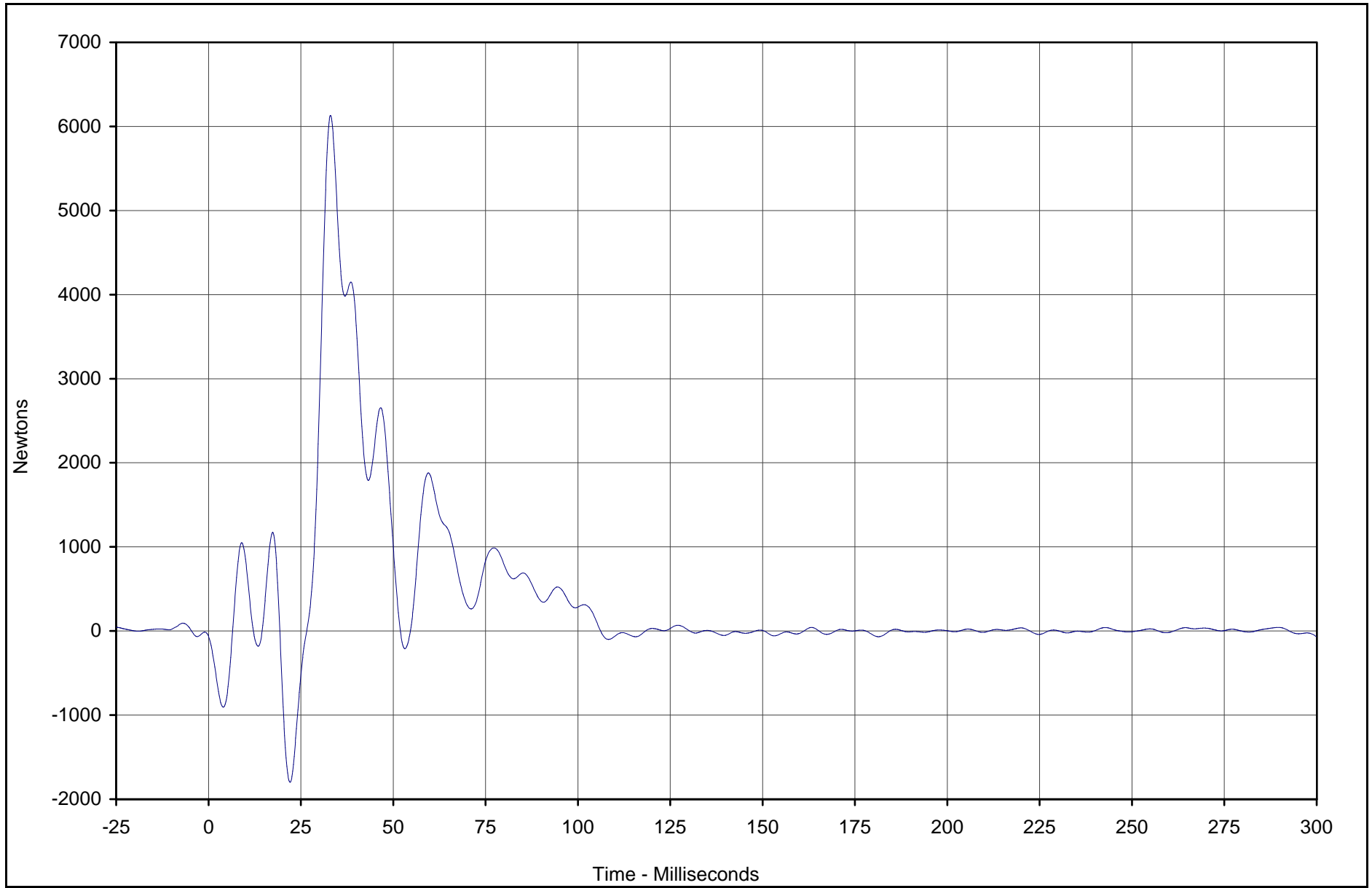


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D5	129	FIL	Newtons	6131.9	33.0	-1797.9	22.1	60



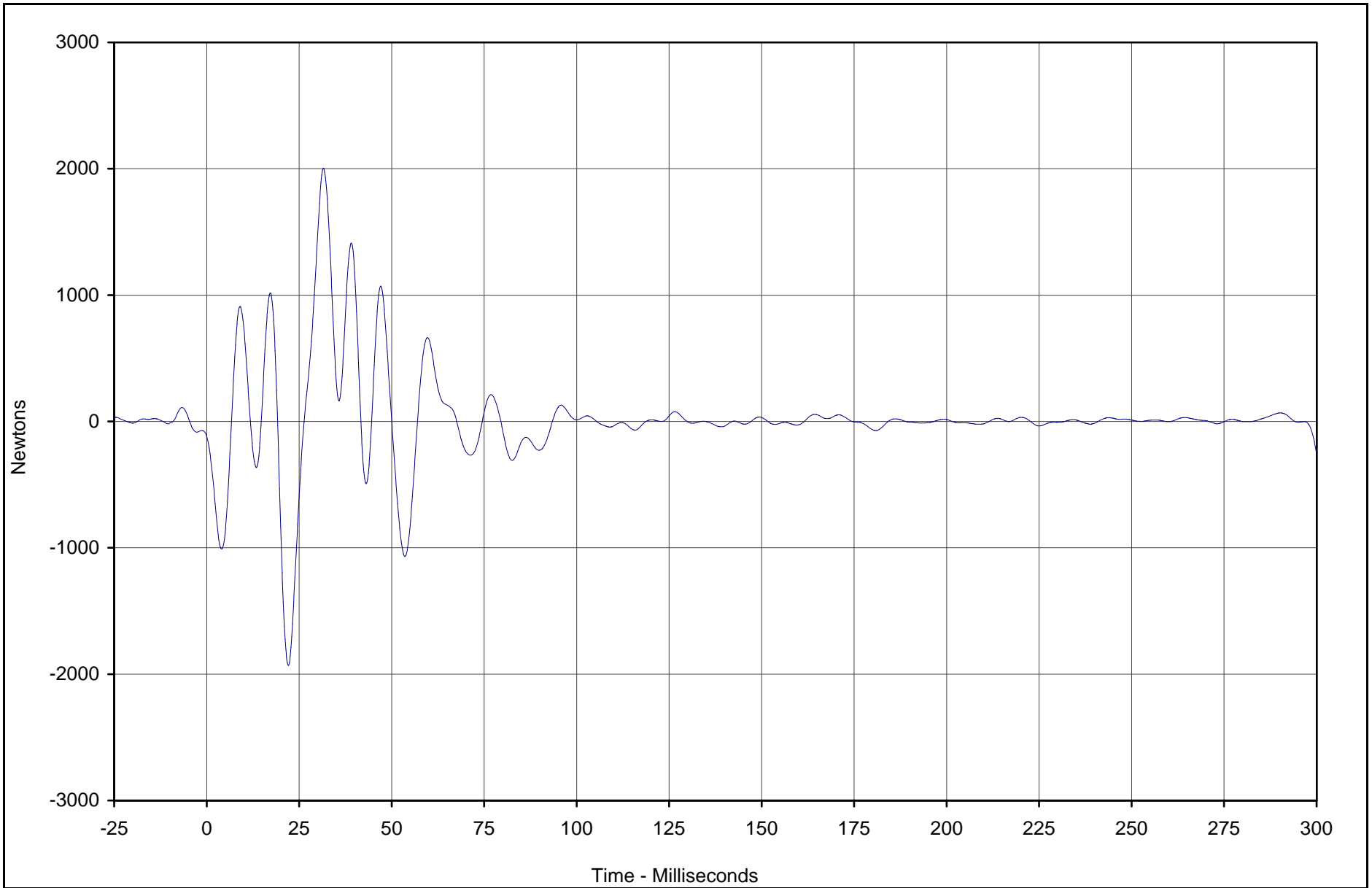
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

C-33



TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D6	130	FIL	Newtons	2003.7	31.5	-1930.5	22.1	60



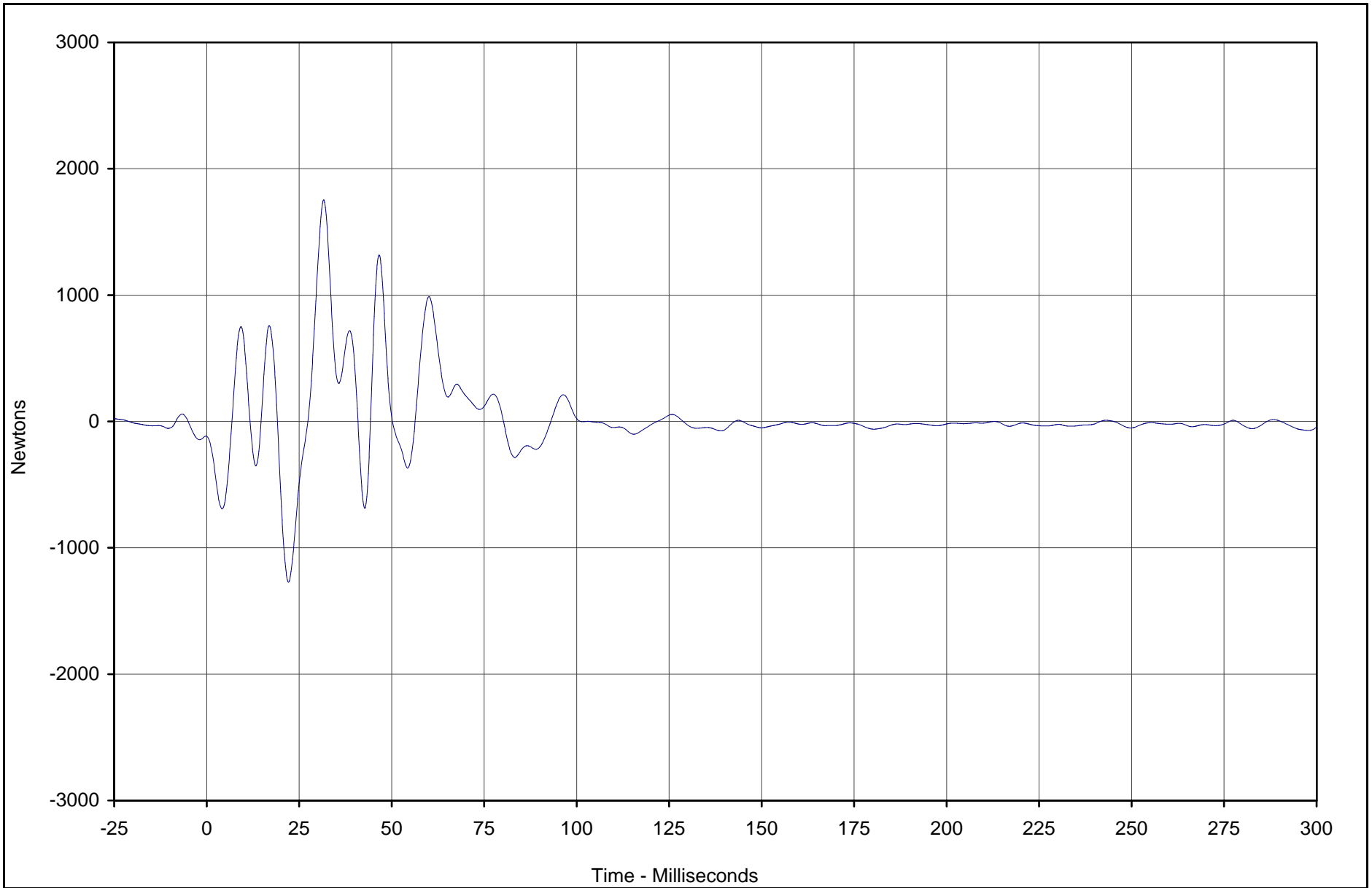
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

C-34



TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D7	131	FIL	Newtons	1754.7	31.6	-1272.6	22.1	60



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

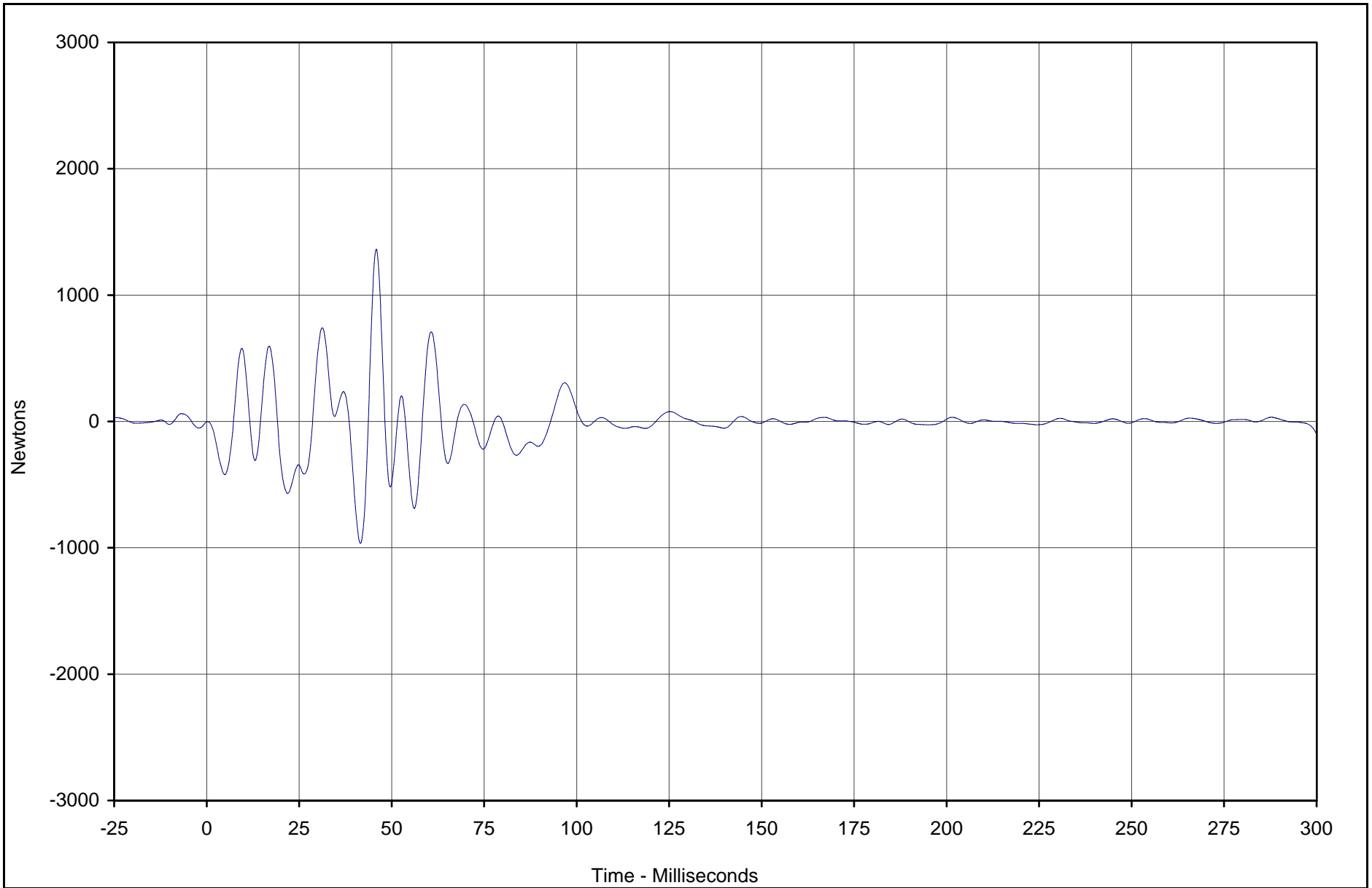
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

C-35

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D8	132	FIL	Newtons	1362.3	45.8	-964.1	41.6	60

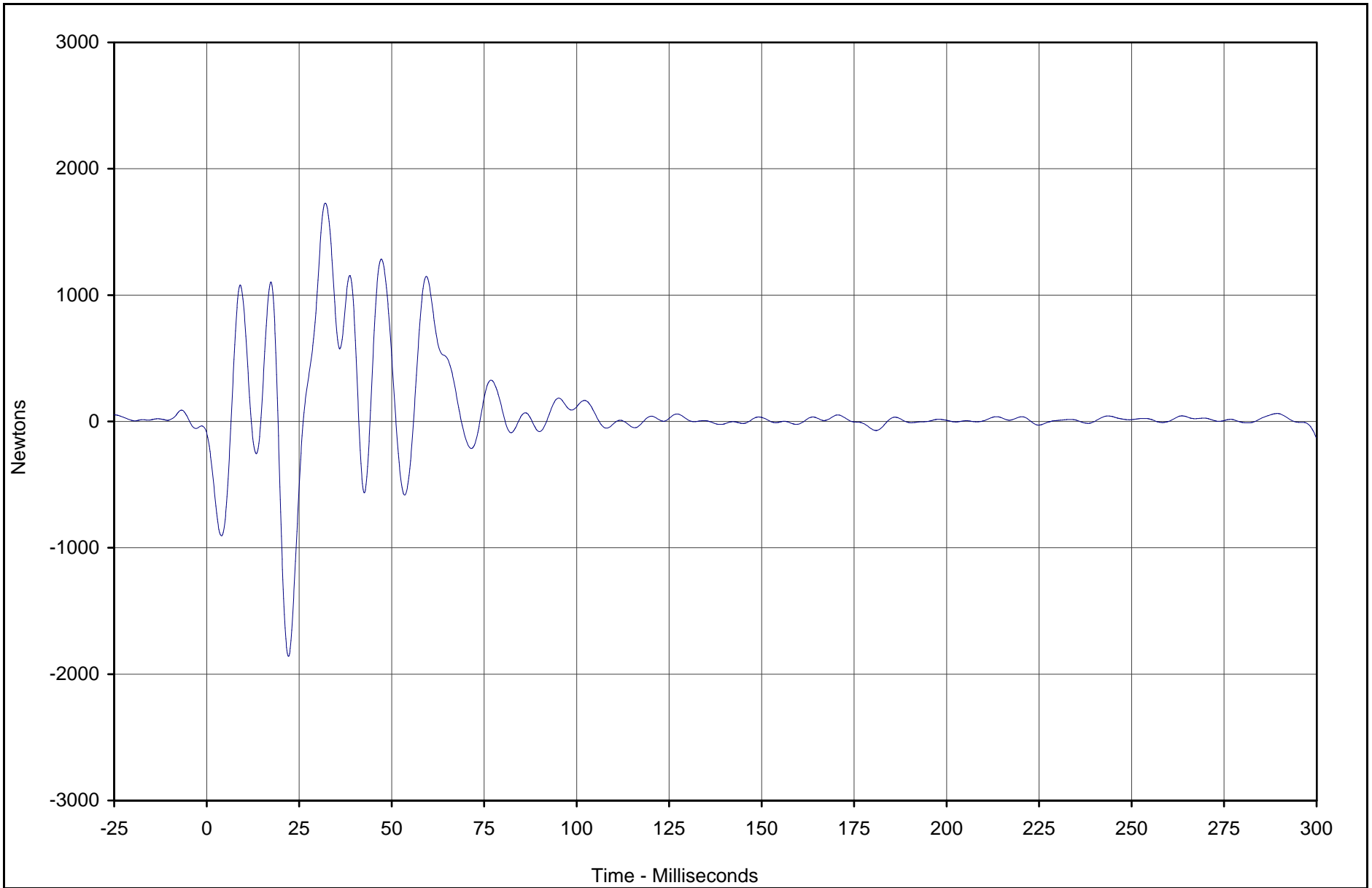


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D9	133	FIL	Newtons	1728.4	32.1	-1859.6	22.1	60

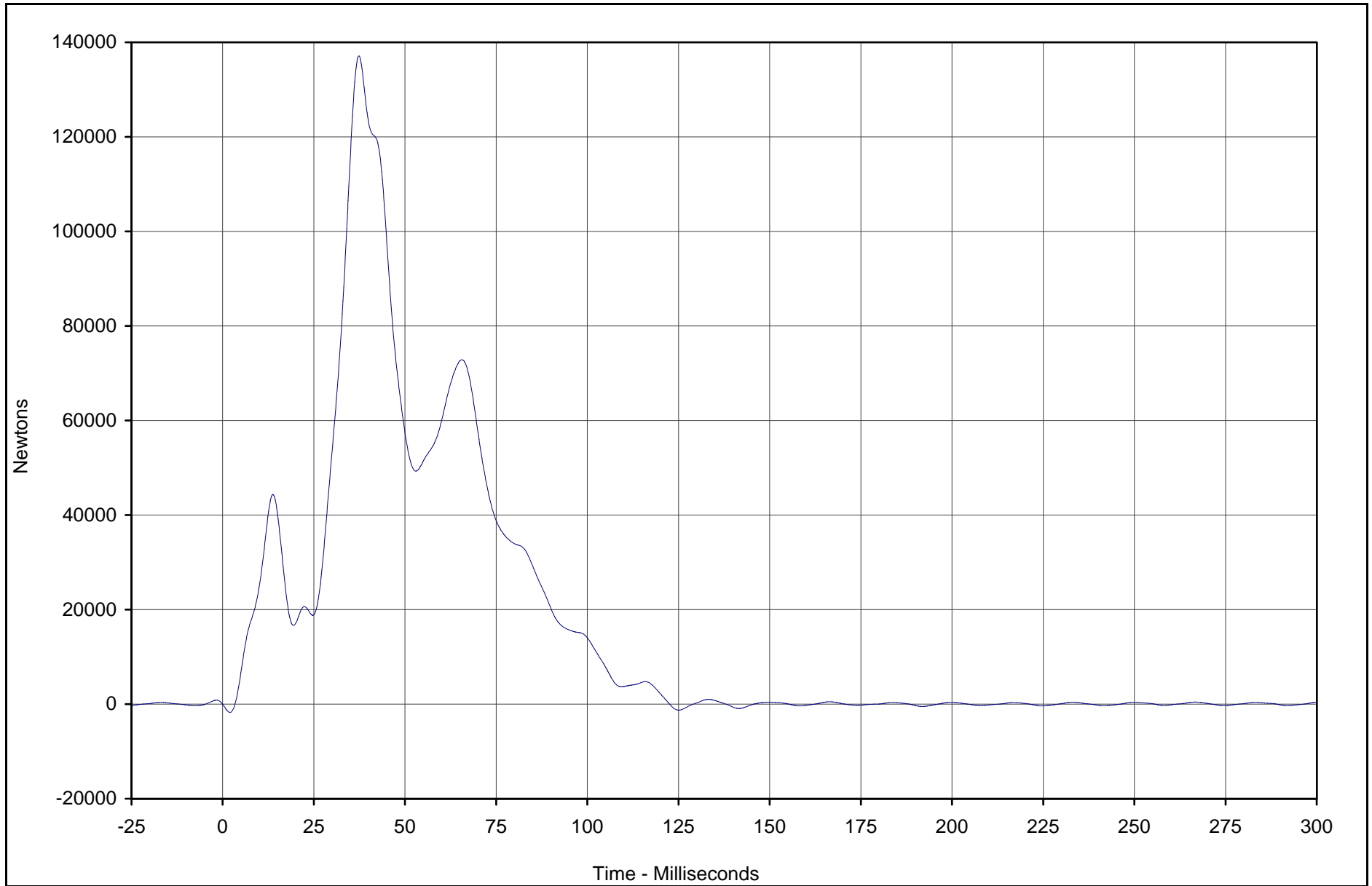


Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force Sum Group 1	001	SUM	Newtons	137141.4	37.3	-1740.1	2.0	60



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

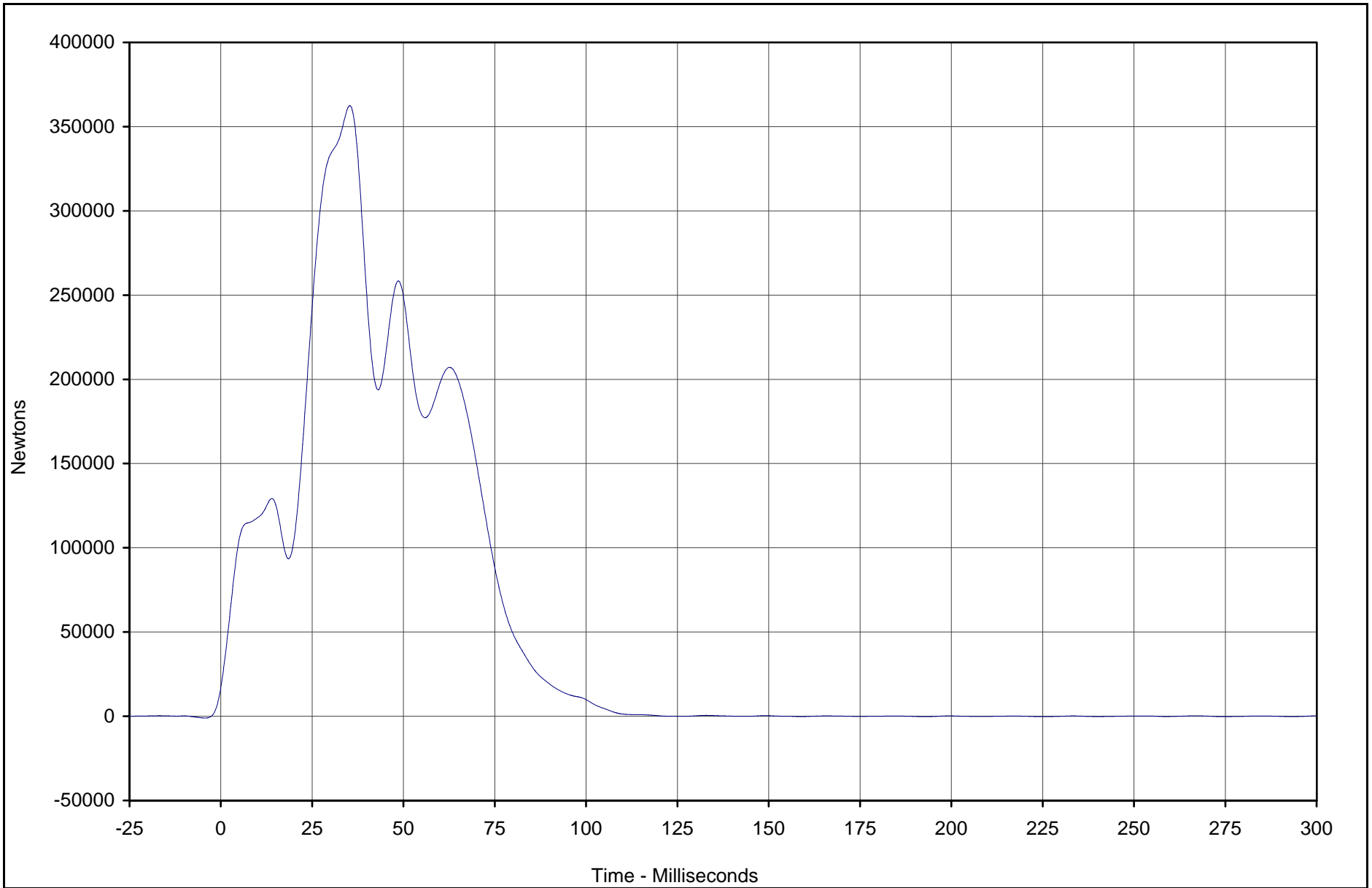
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

C-38

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force Sum Group 2	002	SUM	Newtons	362488.9	35.3	-255.3	224.8	60



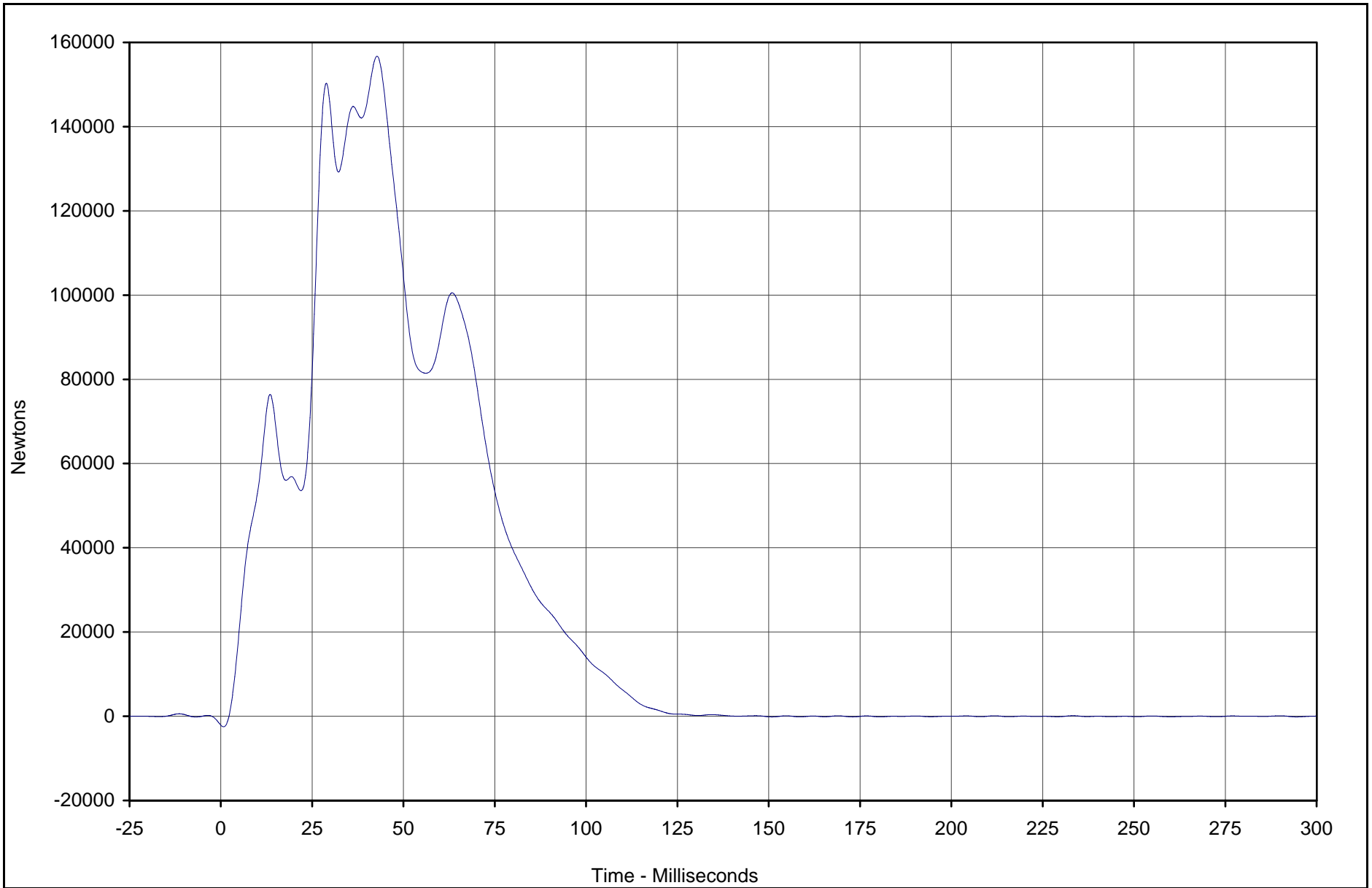
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

C-39



TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force Sum Group 3	003	SUM	Newtons	156722.8	42.8	-2509.0	0.8	60



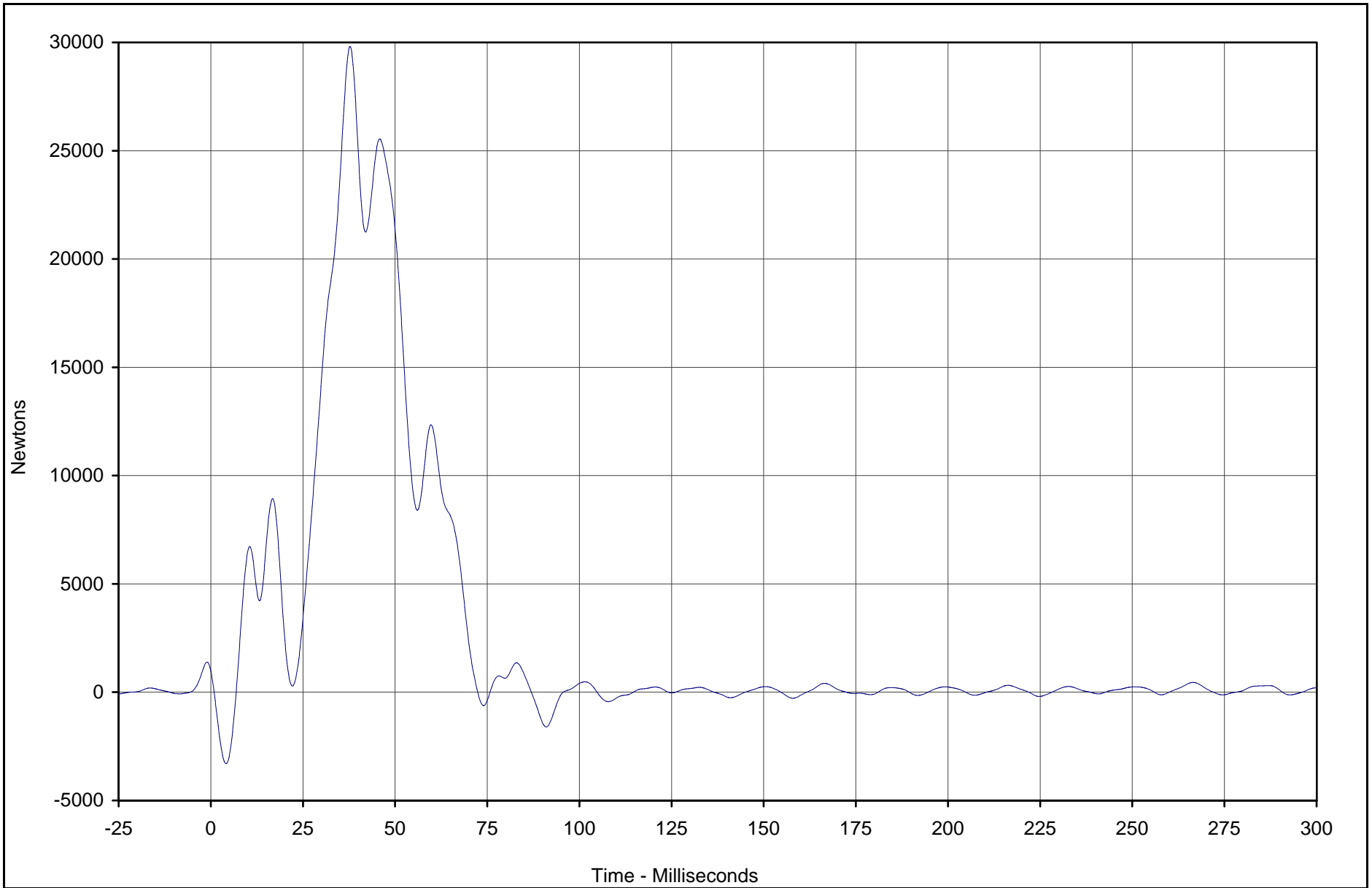
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

C-40



TR-P23001-05-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force Sum Group 4	004	SUM	Newtons	29810.9	37.8	-3299.7	4.1	60



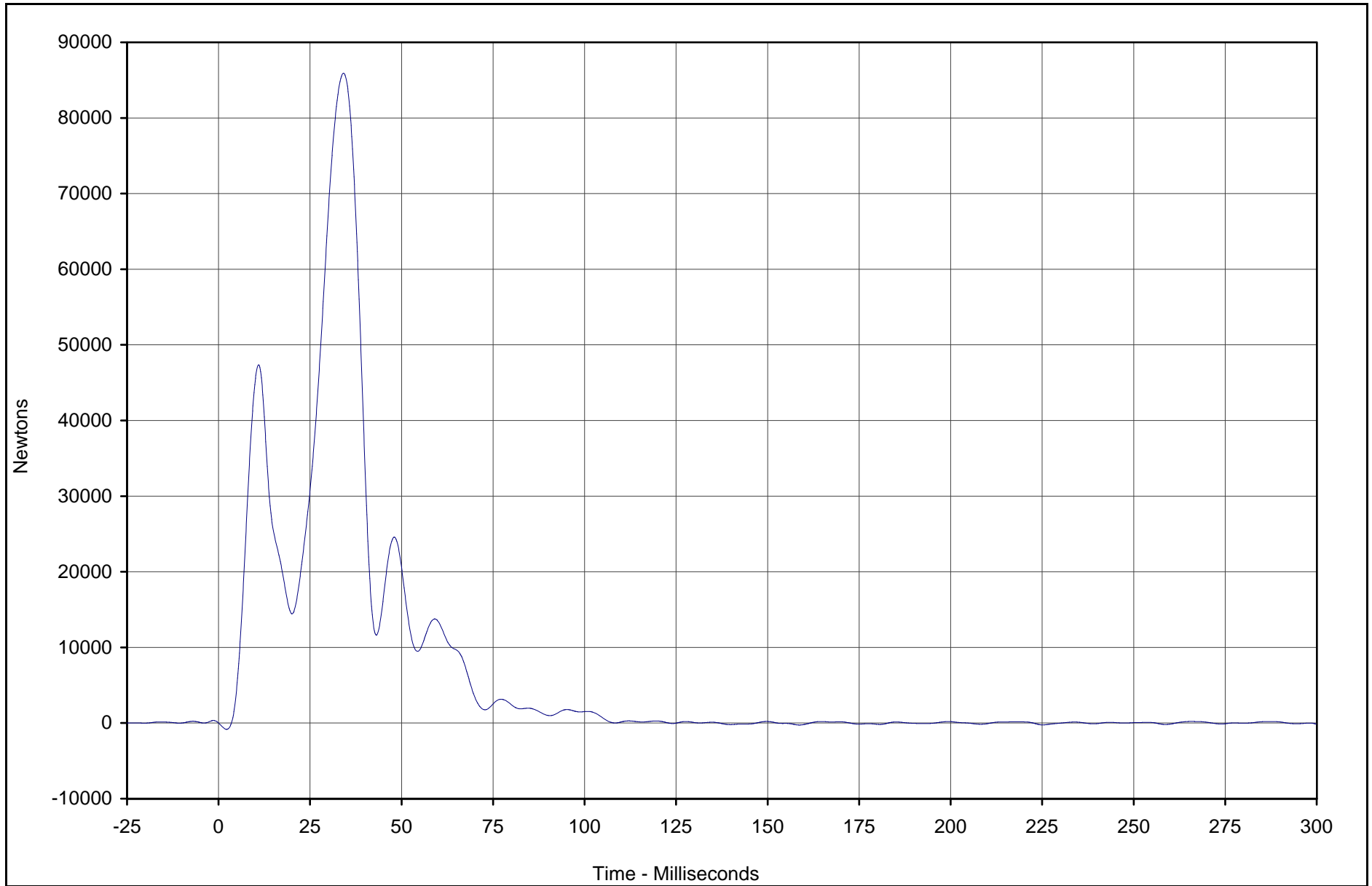
Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

C-41



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force Sum Group 5	005	SUM	Newtons	85908.3	34.1	-836.7	2.2	60



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

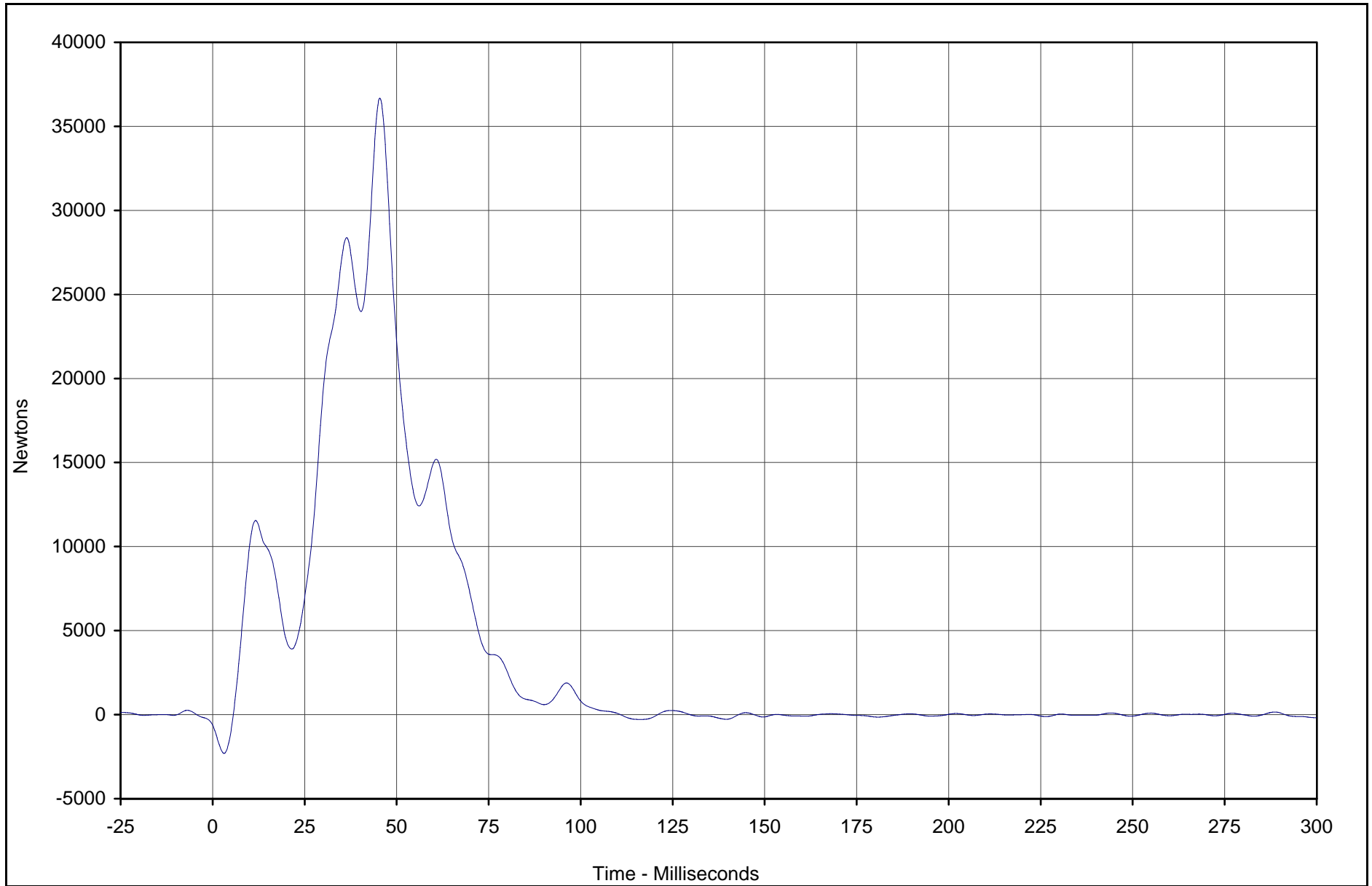
Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

TR-P23001-05-NC

C-42

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force Sum Group 6	006	SUM	Newtons	36672.9	45.4	-2304.5	3.1	60



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

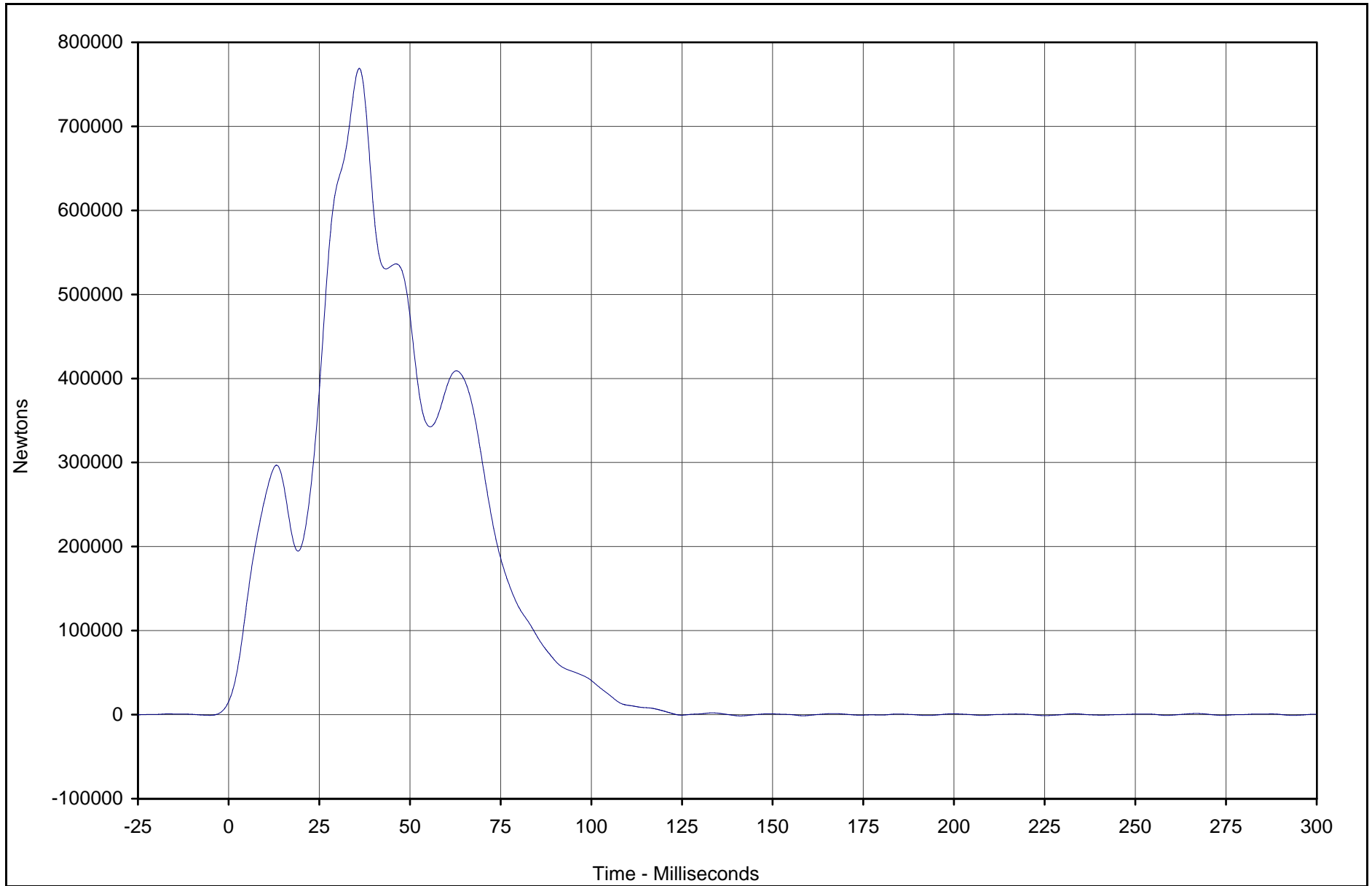
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

C-43

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force Total Sum	007	SUM	Newtons	769034	36.0	-1517.2	141.1	60



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

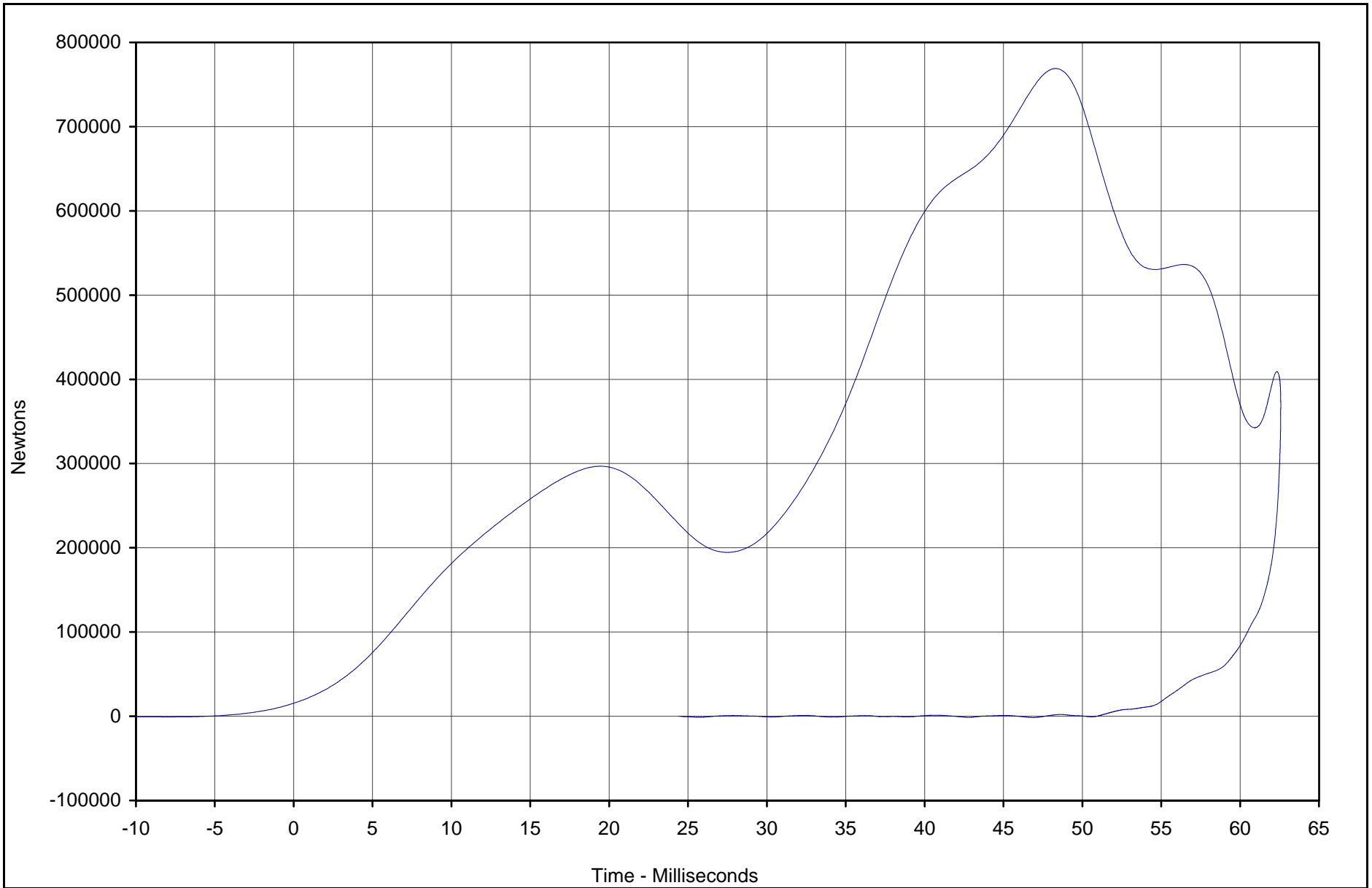
Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

C-44

TR-P23001-05-NC



Curve Description	CURNO	Type	Units	Max	CM	Energy (Joules)	SAE Class
Barrier Force Total Sum vs. Displ.	001	XVY	Newtons	769034	48.3	222579	60



Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

Test Date: 1/7/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35202

BARRIER LOAD CELL SUMMARY DATA

Test Vehicle: 2003 Nissan 350Z 2 Door Hatchback

NHTSA No.: M35202

Test Program: 2003 NHTSA 35mph NCAP

Test Date: 1/7/03

Location	Units	Max	Time	Min	Time
Barrier Force A1	Newtons	7066.9	42.7	-585.1	32.8
Barrier Force A2	Newtons	7989.2	42.2	-624.2	124.6
Barrier Force A3	Newtons	3352.2	37.1	-626.4	1.6
Barrier Force A4	Newtons	10478.1	37.4	-238.8	1.2
Barrier Force A5	Newtons	10428.8	67.6	-757.9	19.5
Barrier Force A6	Newtons	14295.8	67.5	-244.6	0.0
Barrier Force A7	Newtons	3834.2	38.4	-645.8	0.8
Barrier Force A8	Newtons	15501.2	42.7	-565.3	18.3
Barrier Force A9	Newtons	6355.0	43.1	-1104.2	32.9
Barrier Force B1	Newtons	10128.3	43.6	-639.5	17.8
Barrier Force B2	Newtons	37540.6	42.4	-651.7	141.6
Barrier Force B3	Newtons	99515.1	36.8	-744.1	1.5
Barrier Force B4	Newtons	124498.4	26.7	-354.5	108.8
Barrier Force B5	Newtons	134678.4	32.9	-41.1	282.8
Barrier Force B6	Newtons	112760.7	26.2	-31.9	158.8
Barrier Force B7	Newtons	133720.9	28.6	-914.8	0.1
Barrier Force B8	Newtons	22072.7	42.6	-398.0	2.2
Barrier Force B9	Newtons	12016.1	43.0	-766.0	17.7
Barrier Force C1	Newtons	7633.5	44.2	-266.7	3.8
Barrier Force C2	Newtons	9391.5	38.0	-382.2	91.5
Barrier Force C3	Newtons	14214.4	37.6	-541.8	91.4
Barrier Force C4	Newtons	41437.5	34.3	-304.9	74.9
Barrier Force C5	Newtons	16076.8	35.4	-72.5	131.6
Barrier Force C6	Newtons	21451.3	34.7	-160.9	0.0
Barrier Force C7	Newtons	14565.4	47.0	-488.3	1.5
Barrier Force C8	Newtons	12518.9	44.0	-302.4	2.4
Barrier Force C9	Newtons	8634.3	44.2	-687.6	25.2
Barrier Force D1	Newtons	835.7	46.0	-873.9	42.0
Barrier Force D2	Newtons	1033.2	9.6	-1170.7	22.2
Barrier Force D3	Newtons	907.5	9.3	-1056.8	21.8
Barrier Force D4	Newtons	1653.3	33.1	-1788.7	22.2
Barrier Force D5	Newtons	6131.9	33.0	-1797.9	22.1
Barrier Force D6	Newtons	2003.7	31.5	-1930.5	22.1
Barrier Force D7	Newtons	1754.7	31.6	-1272.6	22.1
Barrier Force D8	Newtons	1362.3	45.8	-964.1	41.6
Barrier Force D9	Newtons	1728.4	32.1	-1859.6	22.1
Barrier Force Sum Group 1	Newtons	137141.4	37.3	-1740.1	2.0
Barrier Force Sum Group 2	Newtons	362488.9	35.3	-255.3	224.8
Barrier Force Sum Group 3	Newtons	156722.8	42.8	-2509.0	0.8
Barrier Force Sum Group 4	Newtons	29810.9	37.8	-3299.7	4.1
Barrier Force Sum Group 5	Newtons	85908.3	34.1	-836.7	2.2
Barrier Force Sum Group 6	Newtons	36672.9	45.4	-2304.5	3.1
Barrier Force Total Sum	Newtons	769033.8	36.0	-1517.2	141.1

APPENDIX D

INSTRUMENTATION DATA CHANNEL ASSIGNMENTS

**2003 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 34
1/7/03
2003 Nissan 350Z 2 Door Hatchback**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
1	HEAD, PRIMARY	X	KEAC039	Accel.,1/2 bridge	Endevco	7264-2000	G
2	HEAD, PRIMARY	Y	KEAC038	Accel.,1/2 bridge	Endevco	7264-2000	G
3	HEAD, PRIMARY	Z	KEAC027	Accel.,1/2 bridge	Endevco	7264-2000	G
4	HEAD, REDUNDANT	X	KEAC031	Accel.,1/2 bridge	Endevco	7264-2000	G
5	HEAD, REDUNDANT	Y	KEAC032	Accel.,1/2 bridge	Endevco	7264-2000	G
6	HEAD, REDUNDANT	Z	KEAC026	Accel.,1/2 bridge	Endevco	7264-2000	G
7	NECK FORCE	X	GPUN02FX	Load cell, six axis neck	R. A. Denton	1716A	N
8	NECK FORCE	Y	GPUN02FY	Load cell, six axis neck	R. A. Denton	1716A	N
9	NECK FORCE	Z	GPUN02FZ	Load cell, six axis neck	R. A. Denton	1716A	N
10	NECK MOMENT	X	GPUN02MX	Load cell, six axis neck	R. A. Denton	1716A	Nm
11	NECK MOMENT	Y	GPUN02MY	Load cell, six axis neck	R. A. Denton	1716A	Nm
12	NECK MOMENT	Z	GPUN02MZ	Load cell, six axis neck	R. A. Denton	1716A	Nm
13	CHEST , PRIMARY	X	GPAC031	Accel., 1/2 bridge	Endevco	7264-2000	G
14	CHEST , PRIMARY	Y	GPAC024	Accel., 1/2 bridge	Endevco	7264-2000	G
15	CHEST , PRIMARY	Z	GPAC029	Accel., 1/2 bridge	Endevco	7264-2000	G
16	CHEST , REDUNDANT	X	KEAC023	Accel.,1/2 bridge	Endevco	7264-200	G
17	CHEST , REDUNDANT	Y	KEAC022	Accel.,1/2 bridge	Endevco	7264-200	G
18	CHEST , REDUNDANT	Z	KEAC024	Accel.,1/2 bridge	Endevco	7264-200	G
19	CHEST DISPLACEMENT	X	GPCP001	Rotary Pot Chest	Servo	14CBI	MM
20	PELVIS, PRIMARY	X	KEAC019	Accel.,1/2 bridge	Endevco	7264-200	G
21	PELVIS, PRIMARY	Y	KEAC020	Accel.,1/2 bridge	Endevco	7264-200	G
22	PELVIS, PRIMARY	Z	KEAC021	Accel.,1/2 bridge	Endevco	7264-200	G
23	LEFT FEMUR FORCE	Z	KEFF001	Load cell, Femur	R.A. Denton	2121	N
24	RIGHT FEMUR FORCE	Z	KEFF002	Load cell, Femur	R.A. Denton	2121	N

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**2003 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 34
1/7/03
2003 Nissan 350Z 2 Door Hatchback**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
25	UP. TIBIA LEFT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
26	UP. TIBIA LEFT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
27	UP. TIBIA RIGHT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
28	UP. TIBIA RIGHT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
29	LWR. TIBIA LEFT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
30	LWR. TIBIA LEFT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
31	LWR. TIBIA LEFT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
32	LWR. TIBIA RIGHT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
33	LWR. TIBIA RIGHT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
34	LWR. TIBIA RIGHT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
35	FOOT LEFT, AFT	X	KEIC003X	Accel., Foot Triax	I.C. Sensor	3031-500	G
36	FOOT LEFT, AFT	Z	KEIC003Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
37	FOOT LEFT, FORE	Z	KEIC003Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
38	FOOT RIGHT, AFT	X	KEIC004X	Accel., Foot Triax	I.C. Sensor	3031-500	G
39	FOOT RIGHT, AFT	Z	KEIC004Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
40	FOOT RIGHT, FORE	Z	KEIC004Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
41	LAP BELT FORCE	X	KELC001	Load cell, Seat belt	Lebow	3371	N
42	SHOULDER BELT FORCE	X	KELC002	Load cell, Seat belt	Lebow	3371	N
43	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celesco	PTX101-0030	CM
44	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

**2003 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Passenger A.T.D. Serial Number 35
1/7/03
2003 Nissan 350Z 2 Door Hatchback**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
45	HEAD, PRIMARY	X	GPAC027	Accel., 1/2 bridge	Endevco	7264-2000	G
46	HEAD, PRIMARY	Y	GPAC002	Accel., 1/2 bridge	Endevco	7264-2000	G
47	HEAD, PRIMARY	Z	GPAC003	Accel., 1/2 bridge	Endevco	7264-2000	G
48	HEAD, REDUNDANT	X	GPAC032	Accel., 1/2 bridge	Endevco	7264-2000	G
49	HEAD, REDUNDANT	Y	GPAC021	Accel., 1/2 bridge	Endevco	7264-2000	G
50	HEAD, REDUNDANT	Z	GPAC026	Accel., 1/2 bridge	Endevco	7264-2000	G
51	NECK FORCE	X	GPUN01FX	Load cell, six axis neck	R. A. Denton	1716A	N
52	NECK FORCE	Y	GPUN01FY	Load cell, six axis neck	R. A. Denton	1716A	N
53	NECK FORCE	Z	GPUN01FZ	Load cell, six axis neck	R. A. Denton	1716A	N
54	NECK MOMENT	X	GPUN01MX	Load cell, six axis neck	R. A. Denton	1716A	Nm
55	NECK MOMENT	Y	GPUN01MY	Load cell, six axis neck	R. A. Denton	1716A	Nm
56	NECK MOMENT	Z	GPUN01MZ	Load cell, six axis neck	R. A. Denton	1716A	Nm
57	CHEST , PRIMARY	X	GPAC005	Accel., 1/2 bridge	Endevco	7264-2000	G
58	CHEST , PRIMARY	Y	GPAC011	Accel., 1/2 bridge	Endevco	7264-2000	G
59	CHEST , PRIMARY	Z	GPAC010	Accel., 1/2 bridge	Endevco	7264-2000	G
60	CHEST , REDUNDANT	X	GPAC034	Accel., 1/2 bridge	Endevco	7264-2000	G
61	CHEST , REDUNDANT	Y	GPAC023	Accel., 1/2 bridge	Endevco	7264-2000	G
62	CHEST , REDUNDANT	Z	GPAC020	Accel., 1/2 bridge	Endevco	7264-2000	G
63	CHEST DISPLACEMENT	X	GPCP002	Rotary Pot Chest	Servo	14CBI	MM
64	PELVIS, PRIMARY	X	GPAC025	Accel., 1/2 bridge	Endevco	7264-2000	G
65	PELVIS, PRIMARY	Y	GPAC022	Accel., 1/2 bridge	Endevco	7264-2000	G
66	PELVIS, PRIMARY	Z	GPAC019	Accel., 1/2 bridge	Endevco	7264-2000	G
67	LEFT FEMUR FORCE	Z	KEFF003	Load cell, Femur	R.A. Denton	2121	N
68	RIGHT FEMUR FORCE	Z	KEFF004	Load cell, Femur	R.A. Denton	2121	N

**2003 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Passenger A.T.D. Serial Number 35
1/7/03
2003 Nissan 350Z 2 Door Hatchback**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
69	UP. TIBIA LEFT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
70	UP. TIBIA LEFT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
71	UP. TIBIA RIGHT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
72	UP. TIBIA RIGHT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
73	LWR. TIBIA LEFT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
74	LWR. TIBIA LEFT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
75	LWR. TIBIA LEFT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
76	LWR. TIBIA RIGHT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
77	LWR. TIBIA RIGHT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
78	LWR. TIBIA RIGHT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
79	FOOT LEFT, AFT	X	KEIC002X	Accel., Foot Triax	I.C. Sensor	3031-500	G
80	FOOT LEFT, AFT	Z	KEIC002Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
81	FOOT LEFT, FORE	Z	KEIC002Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
82	FOOT RIGHT, AFT	X	KEIC001X	Accel., Foot Triax	I.C. Sensor	3031-500	G
83	FOOT RIGHT, AFT	Z	KEIC001Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
84	FOOT RIGHT, FORE	Z	KEIC001Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
85	LAP BELT FORCE	X	KELC003	Load cell, Seat belt	Lebow	3371	N
86	SHOULDER BELT FORCE	X	KELC004	Load cell, Seat belt	Lebow	3371	N
87	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celesco	PTX101-0030	MM
88	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

**2003 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Vehicle Accelerometers
1/7/03
2003 Nissan 350Z 2 Door Hatchback**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
89	Left Rear	X	KEVA002	Accel., Pre-Amp	I.C.S/Karco	3031-500	G
90	Right Rear	X	KEVA006	Accel., Vehicle block	I.C. Sensor	3031-200	G
91	Engine Top	X	KEVA009	Accel., Vehicle block	I.C. Sensor	3031-500	G
92	Engine Bottom	X	KEVA007	Accel., Vehicle block	I.C. Sensor	3031-500	G
93	Left Brake Caliper	X	KEVA008	Accel., Vehicle block	I.C. Sensor	3031-500	G
94	Right Brake Caliper	X	KEVA012	Accel., Vehicle block	I.C. Sensor	3031-500	G
95	Instrument Panel	X	KEVA011	Accel., Vehicle block	I.C. Sensor	3031-200	G
96	Left Rear	Z	KEVA001	Accel., Vehicle block	I.C. Sensor	3031-500	G
97	Right Rear	Z	KEVA010	Accel., Vehicle block	I.C. Sensor	3031-200	G

**2003 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Rigid Load Cell Barrier
1/7/03
2003 Nissan 350Z 2 Door Hatchback**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
98	BARRIER FORCE A1	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
99	BARRIER FORCE A2	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
100	BARRIER FORCE A3	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
101	BARRIER FORCE A4	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
102	BARRIER FORCE A5	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
103	BARRIER FORCE A6	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
104	BARRIER FORCE A7	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
105	BARRIER FORCE A8	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
106	BARRIER FORCE A9	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
107	BARRIER FORCE B1	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
108	BARRIER FORCE B2	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
109	BARRIER FORCE B3	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
110	BARRIER FORCE B4	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
111	BARRIER FORCE B5	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
112	BARRIER FORCE B6	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
113	BARRIER FORCE B7	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
114	BARRIER FORCE B8	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
115	BARRIER FORCE B9	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N

**2003 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Rigid Load Cell Barrier
1/7/03
2003 Nissan 350Z 2 Door Hatchback**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
116	BARRIER FORCE C1	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
117	BARRIER FORCE C2	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
118	BARRIER FORCE C3	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
119	BARRIER FORCE C4	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
120	BARRIER FORCE C5	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
121	BARRIER FORCE C6	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
122	BARRIER FORCE C7	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
123	BARRIER FORCE C8	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
124	BARRIER FORCE C9	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
125	BARRIER FORCE D1	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
126	BARRIER FORCE D2	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
127	BARRIER FORCE D3	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
128	BARRIER FORCE D4	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
129	BARRIER FORCE D5	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
130	BARRIER FORCE D6	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
131	BARRIER FORCE D7	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
132	BARRIER FORCE D8	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
133	BARRIER FORCE D9	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N

APPENDIX E

DUMMY CALIBRATION DATA



Calibration Data Sheet Hybrid III 50th Percentile Male Knee Impact Test

ATD Serial No.: 034

Location: Left Knee

Test I.D.: KK07E

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.12	Pass
Peak Probe Force	N	4715 to 5782	5055	Pass
Overall Test Results				Pass

ATD Serial No.: 034

Location: Right Knee

Test I.D.: KK07F

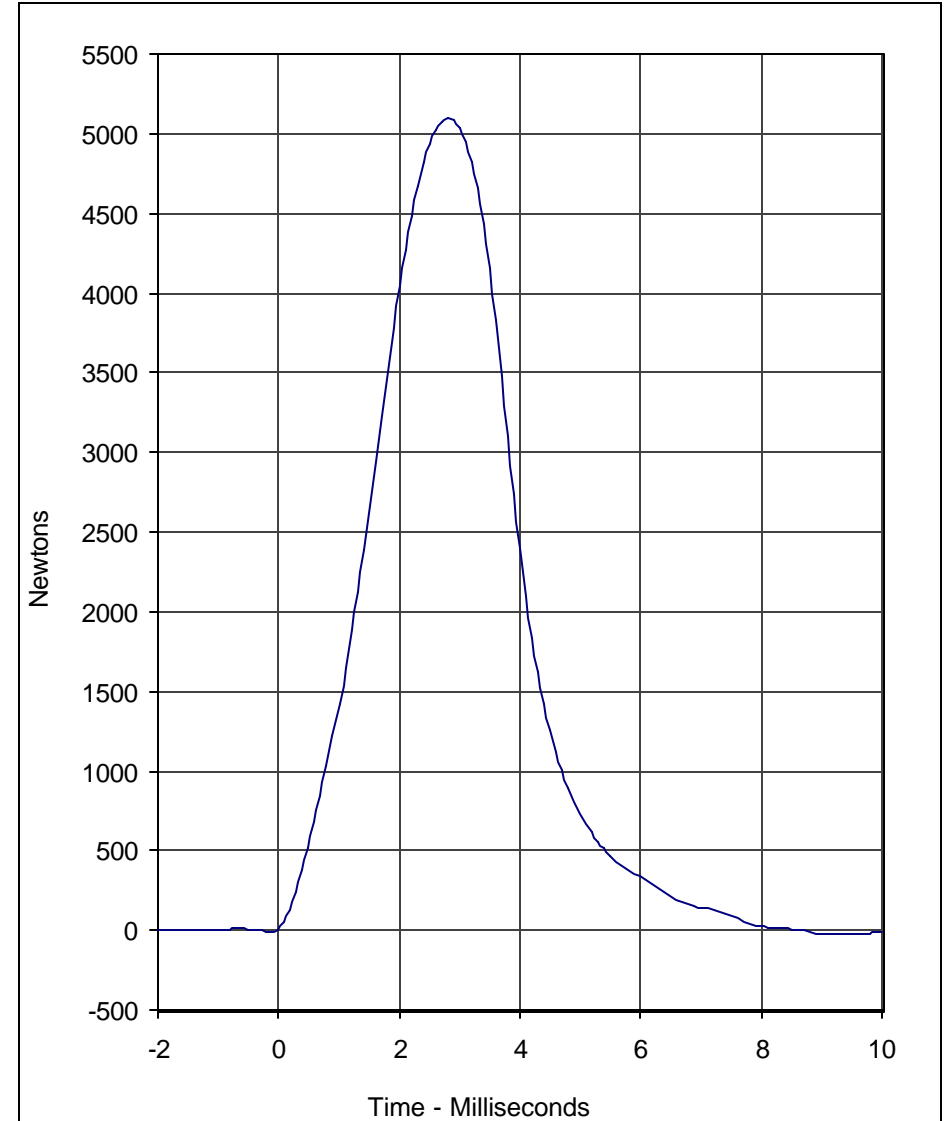
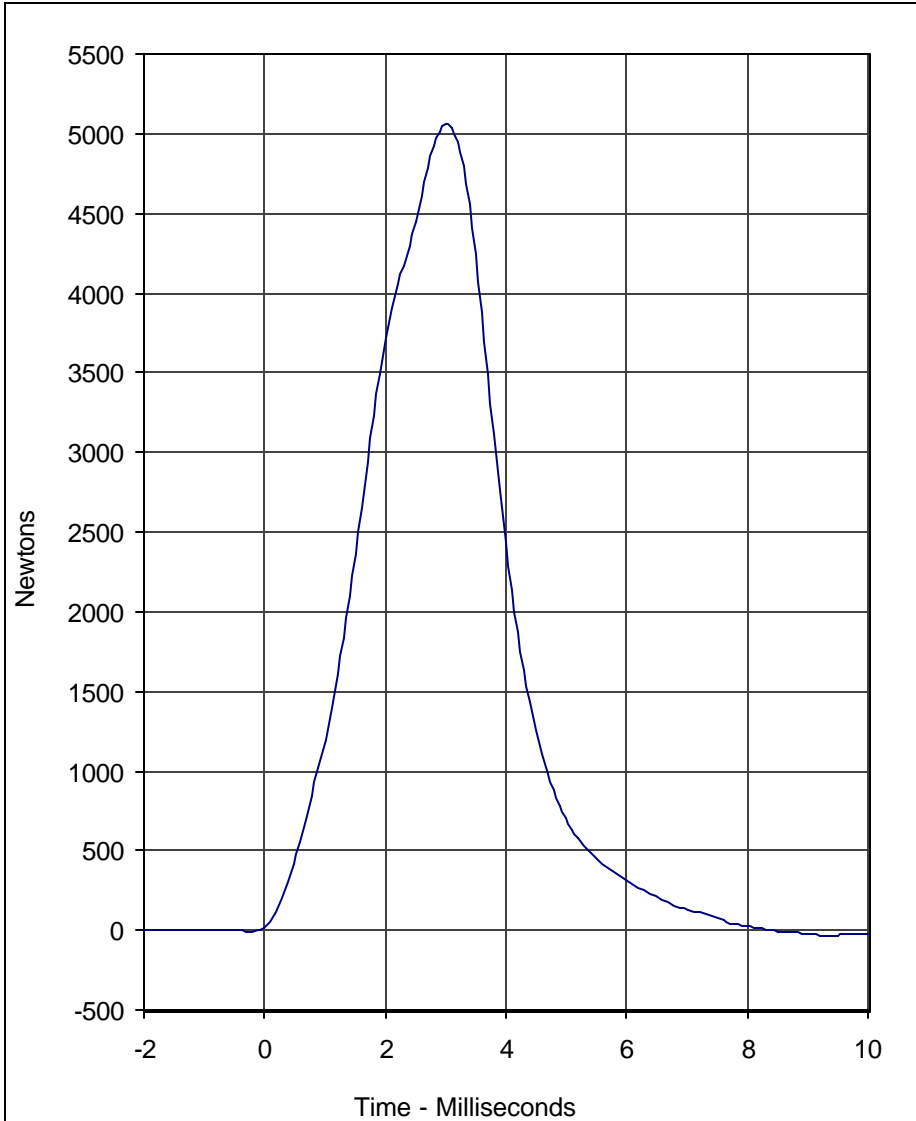
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.11	Pass
Peak Probe Force	N	4715 to 5782	5096	Pass
Overall Test Results				Pass

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Curve Description	Location	Test I.D.	CURNO	Type
Probe Force	Left Knee	KK07E	001	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	5054.5	3.0	-32.1	9.3	600

Curve Description	Location	Test I.D.	CURNO	Type
Probe Force	Right Knee	KK07F	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	5095.6	2.8	-27.9	9.3	600

Test Program: Hybrid III 50th Percentile Male Knee Impact Test
 Test Date: 12/22/02

A.T.D. Serial No.: 034





Calibration Data Sheet Hybrid III 50th Percentile Male Head Drop Test

ATD Serial No.: 034

Test I.D.: KH07A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	225.0 to 275.0	229.7	Pass
Peak Lateral Acceleration	G's	≤15.0	2.9	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

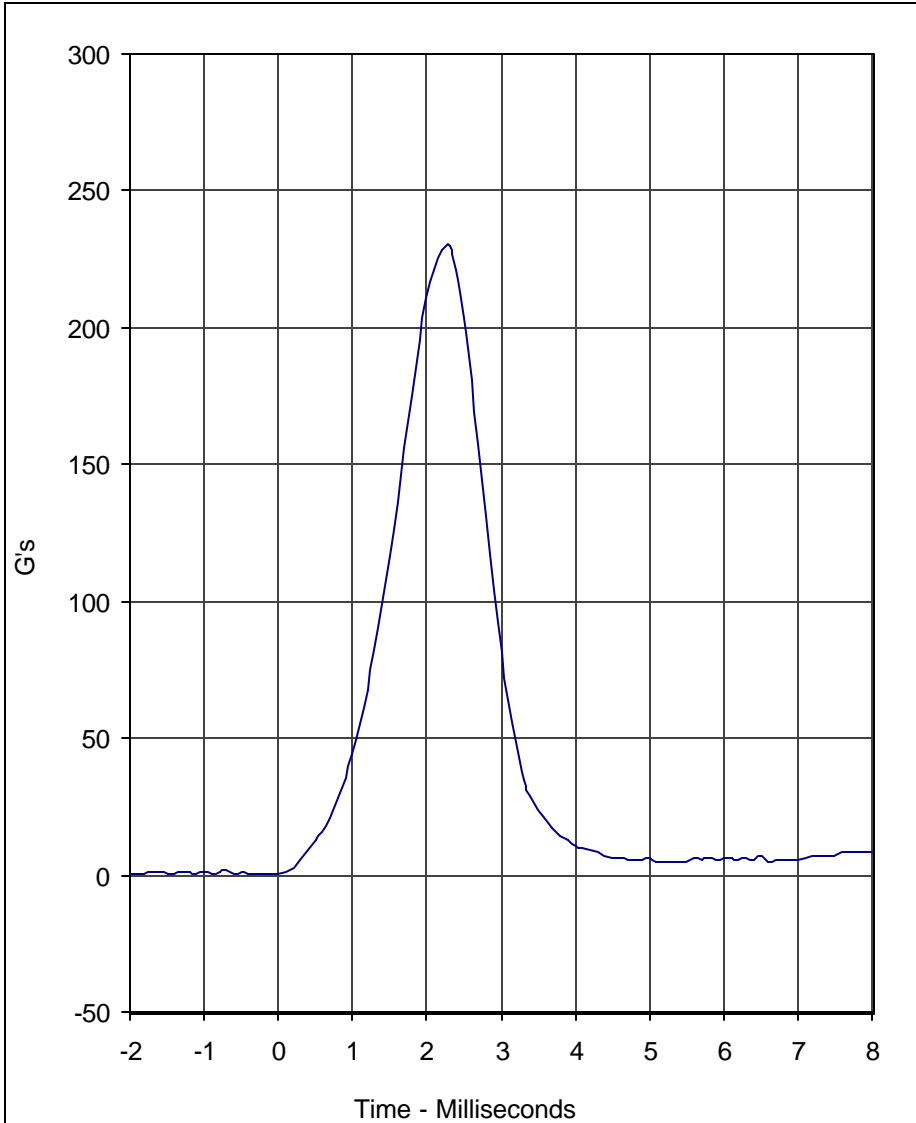
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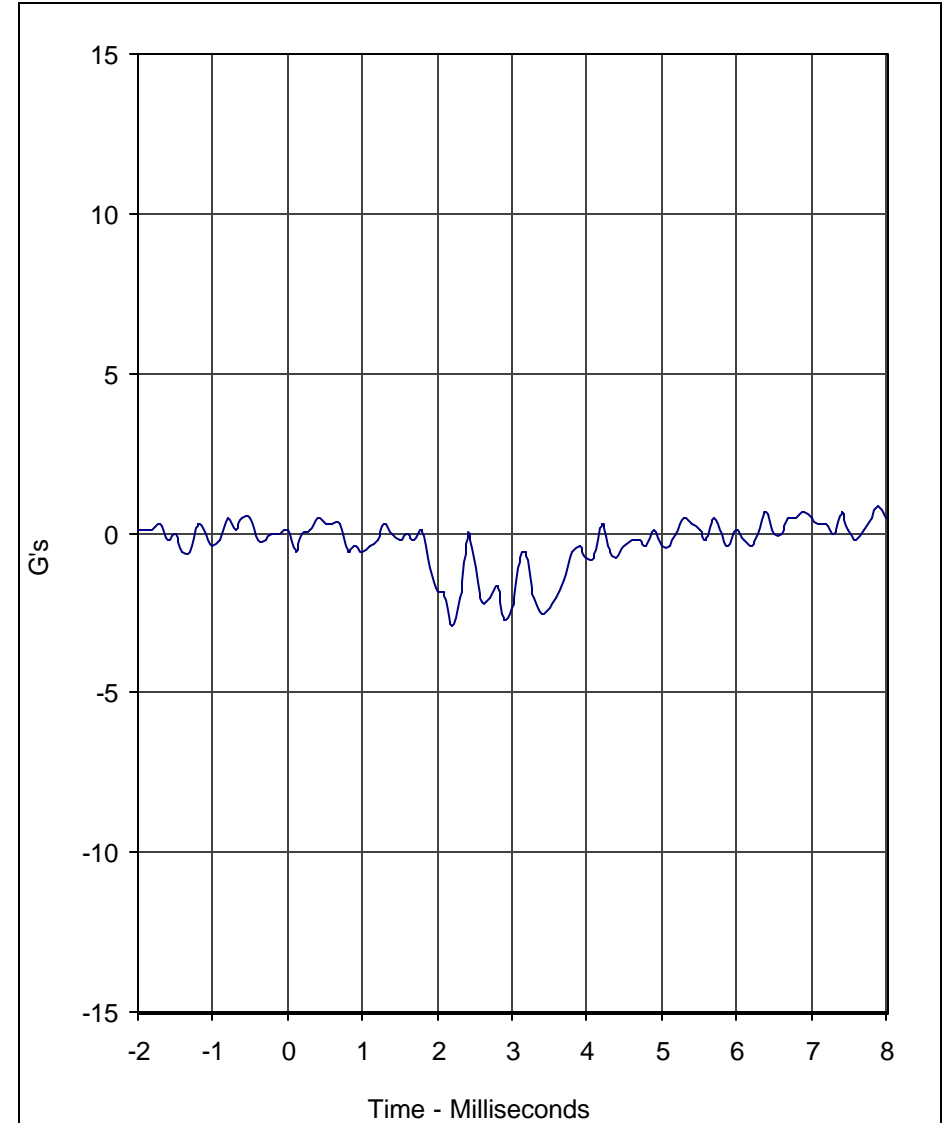
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Curve Description	CURNO	Type
Head Resultant	001	RES

Units	Max	Time	Min	Time	SAE Class
G's	229.7	2.3	0.2	-0.1	1000

Test Program: Hybrid III 50th Percentile Male Head Drop Test
 Test Date: 12/22/02



Curve Description	CURNO	Type
Head Y	002	FIL

Units	Max	Time	Min	Time	SAE Class
G's	0.5	-0.8	-2.9	2.2	1000

A.T.D. Serial No.: 034
 Test I.D.: KH07A





Calibration Data Sheet

Hybrid III 50th Percentile Male Thorax Impact Test

ATD Serial No.: 034

Test I.D.: CH12A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	6.58 to 6.82	6.61	Pass
Peak Probe Force	Newtons	5159 to 5893	5743	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.49	Pass
Internal Hysteresis	%	69 to 85	77.6	Pass
Overall Test Results				Pass

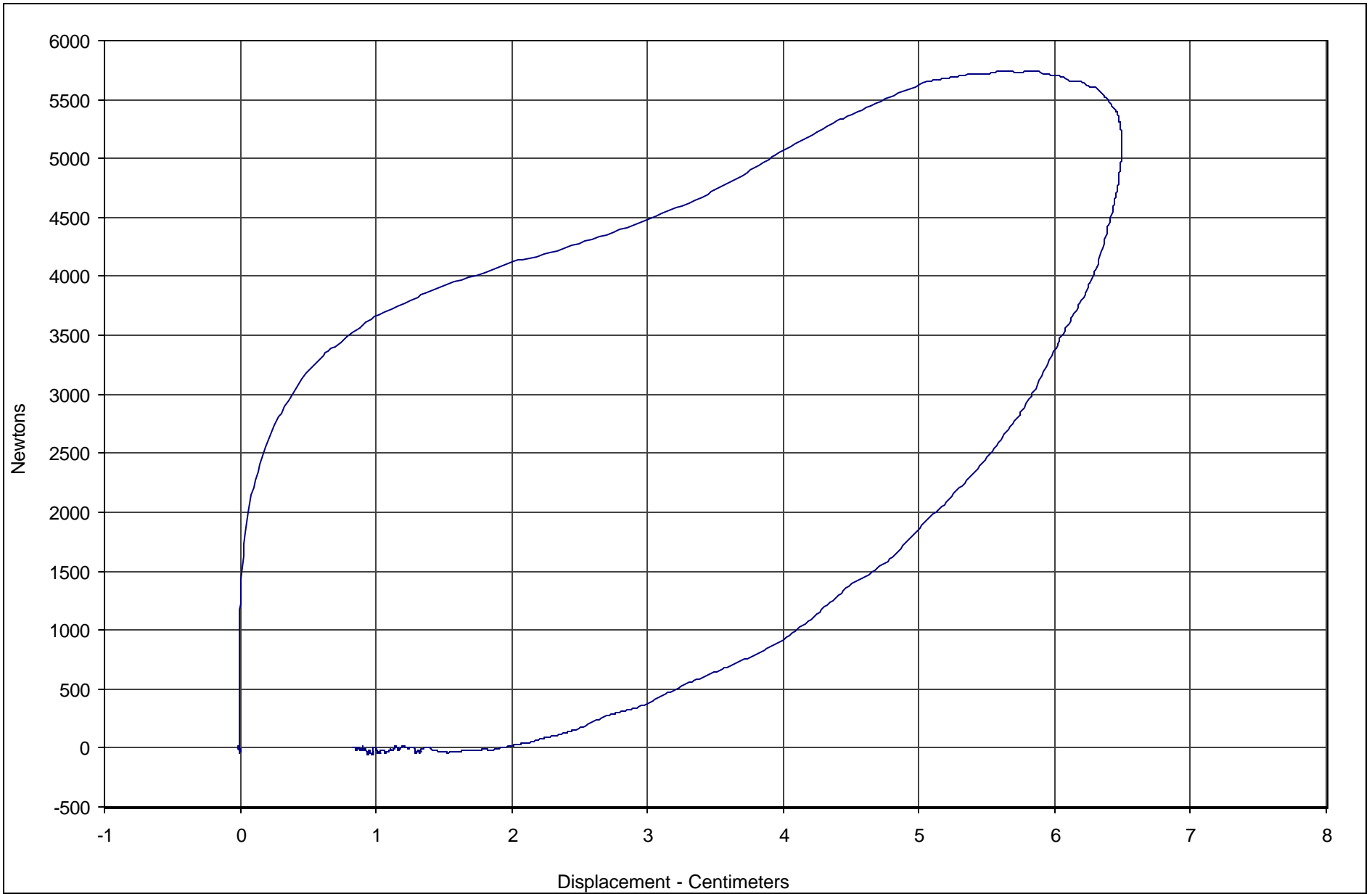
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Test Date



Curve Description	CURNO	Type	Hysteresis	Peak Chest Displ.	Peak Probe Force	SAE Class
Probe Force vs. Chest Displacement	001	FIL	77.6	6.49	5742.5	180



Test Program: Hybrid III 50th Percentile Male Thorax Impact

A.T.D. Serial No.: 034

Test Date: 12/23/02

Test I.D.: CH12A



Calibration Data Sheet Hybrid III 50th Percentile Male Neck Flexion Test

ATD Serial No.: 034

Test I.D.: NF06C

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	6.89 to 7.13	6.98	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	23.3	Pass
	20 Msec.	G's	17.6 to 22.6	20.2	Pass
	30 Msec.	G's	12.5 to 18.5	18.1	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	18.1	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	37.0	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	65.5	Pass
	Time	Msec.	57.0 to 64.0	57.5	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	113.2	Pass
Moment About Occipital Condyle	Maximum	Nm	84.1 to 108.5	89.6	Pass
	Time	Msec.	47.0 to 58.0	54.2	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	97.1	Pass
Overall Test Results					Pass

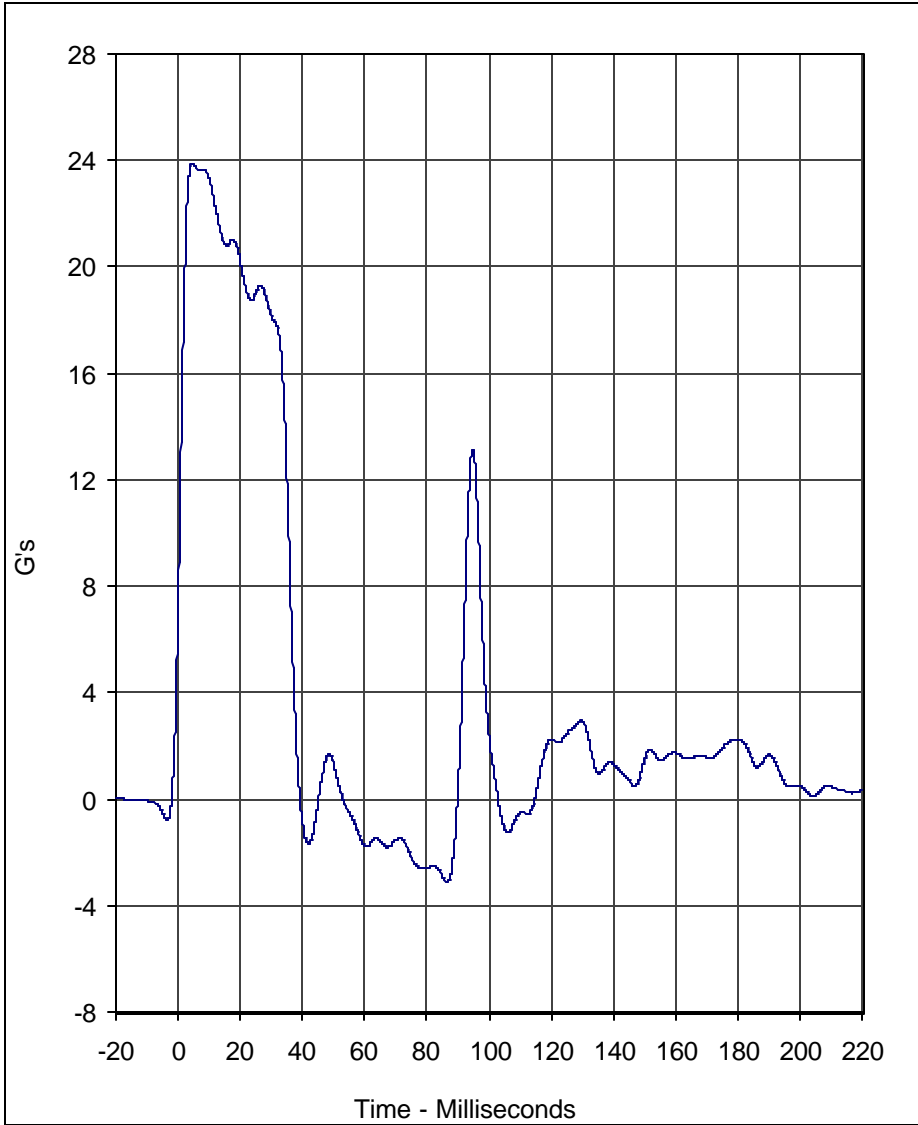
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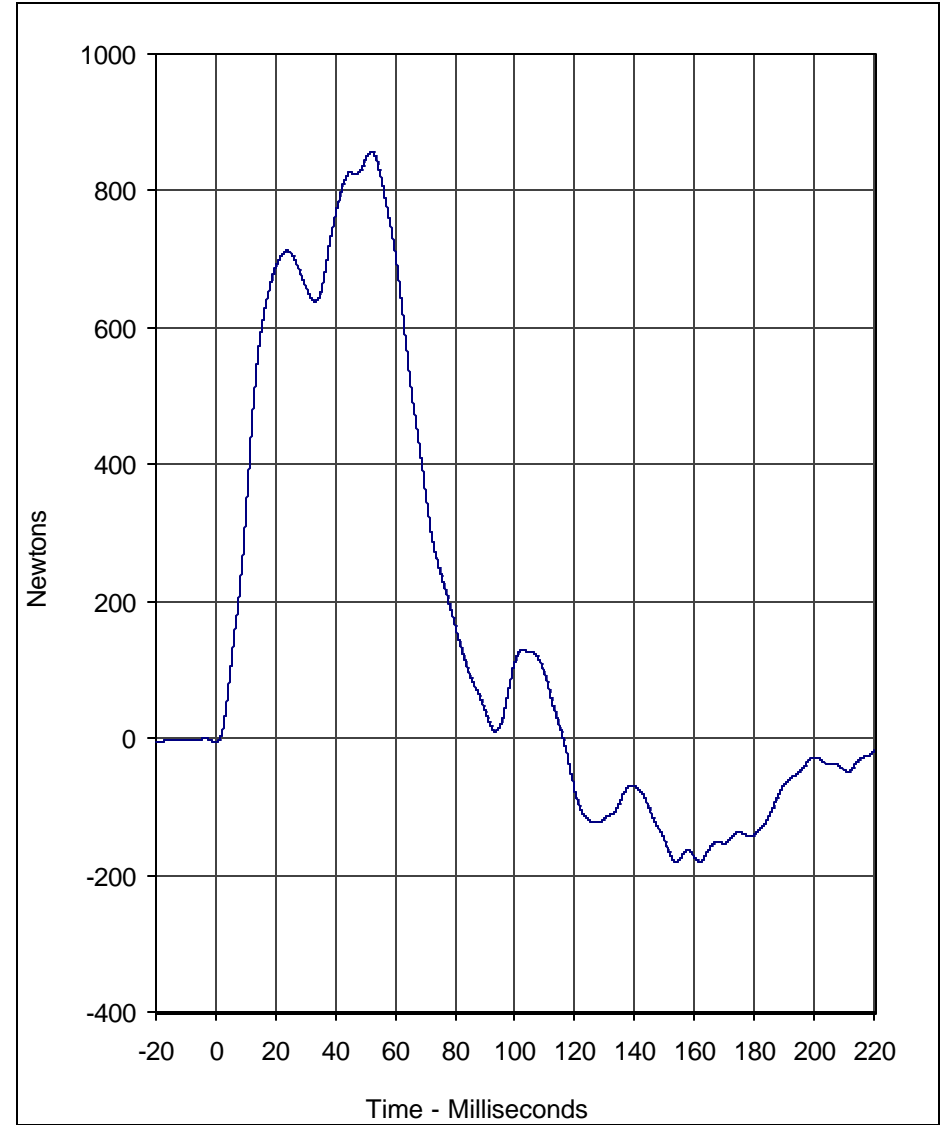
December 22, 2002

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Curve Description	CURNO	Type
Pendulum Deceleration	001	FIL

Units	Max	Time	Min	Time	SAE Class
G's	23.9	4.5	-3.1	86.5	60



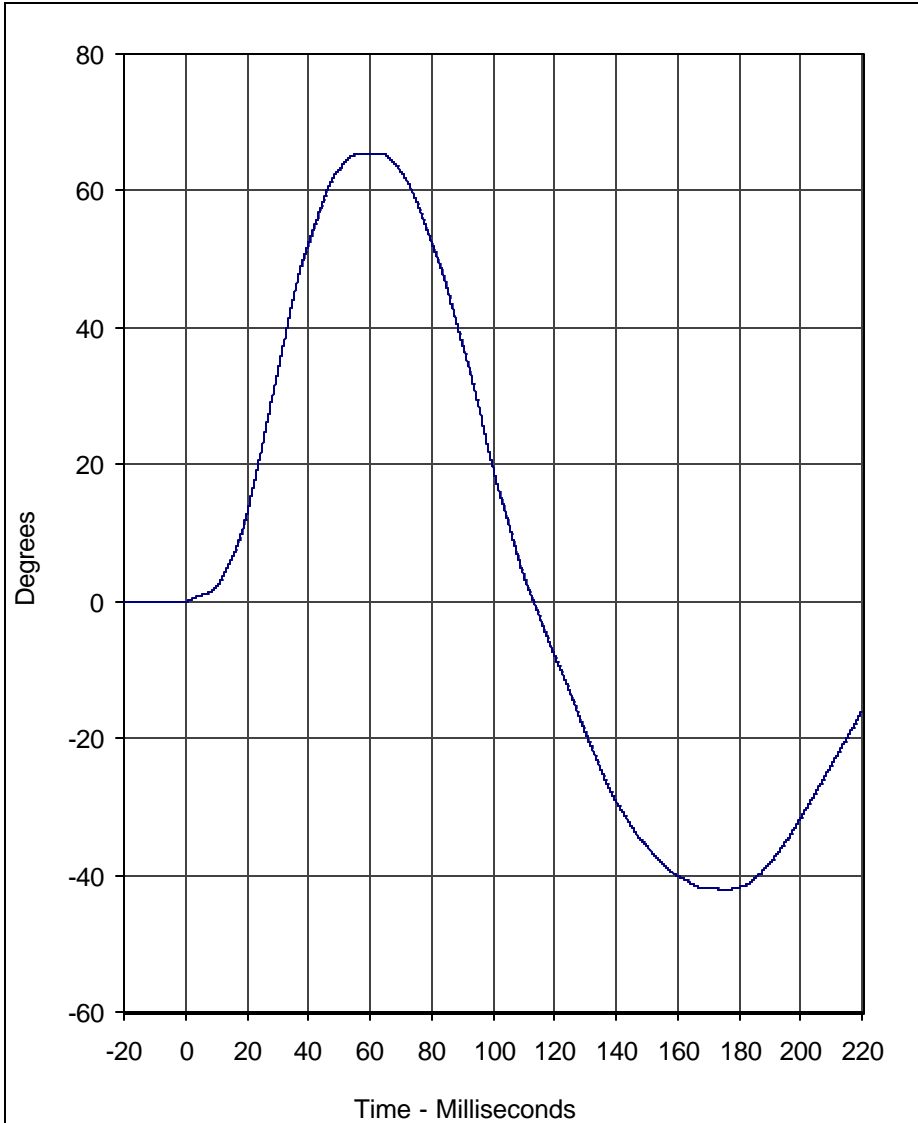
Curve Description	CURNO	Type
Neck Force X	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	857.4	52.0	-180.9	153.8	60

Test Program: Hybrid III 50th Percentile Male Neck Flexion Test
 Test Date: 12/22/02

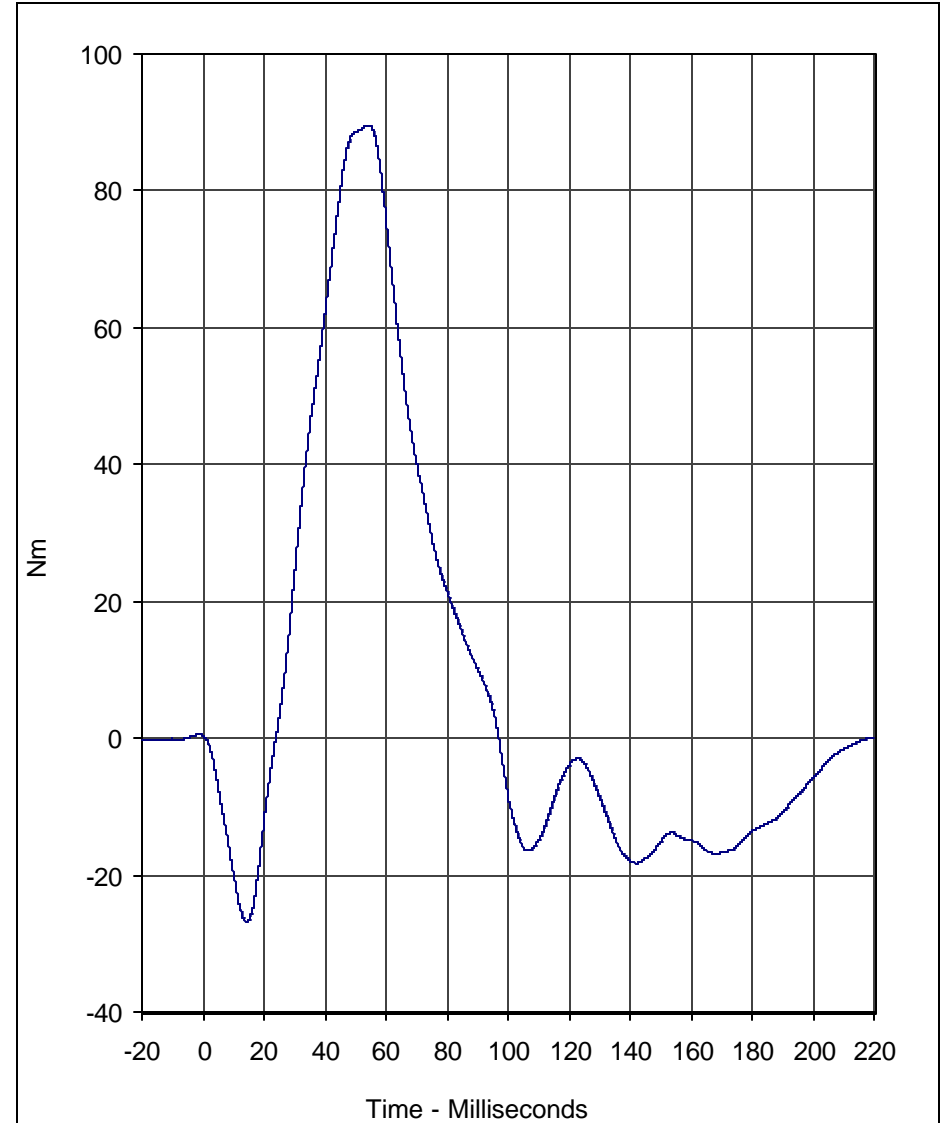
A.T.D. Serial No.: 034
 Test I.D.: NF06C





Curve Description	CURNO	Type
"D" Plane Rotation	003	FIL

Units	Max	Time	Min	Time	SAE Class
Degrees	65.5	57.5	-42.1	175.8	60



Curve Description	CURNO	Type
Moment About Occipital Condyle	004	FIL

Units	Max	Time	Min	Time	SAE Class
Nm	89.6	54.2	-26.8	14.3	60

Test Program: Hybrid III 50th Percentile Male Neck Flexion Test
 Test Date: 12/22/02

A.T.D. Serial No.: 034
 Test I.D.: NF06C





Calibration Data Sheet Hybrid III 50th Percentile Male Neck Extension Test

ATD Serial No.: 034

Test I.D.: NE12V

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	5.94 to 6.19	6.16	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	17.9	Pass
	20 Msec.	G's	14.0 to 19.0	16.6	Pass
	30 Msec.	G's	11.0 to 16.0	15.4	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	15.4	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	45.0	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	92.3	Pass
	Time	Msec.	72.0 to 82.0	79.9	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	153.6	Pass
Moment About Occipital Condyle	Maximum	Nm	-52.9 to- 79.9	-64.4	Pass
	Time	Msec.	65.0 to 79.0	67.0	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	137.6	Pass
Overall Test Results					Pass

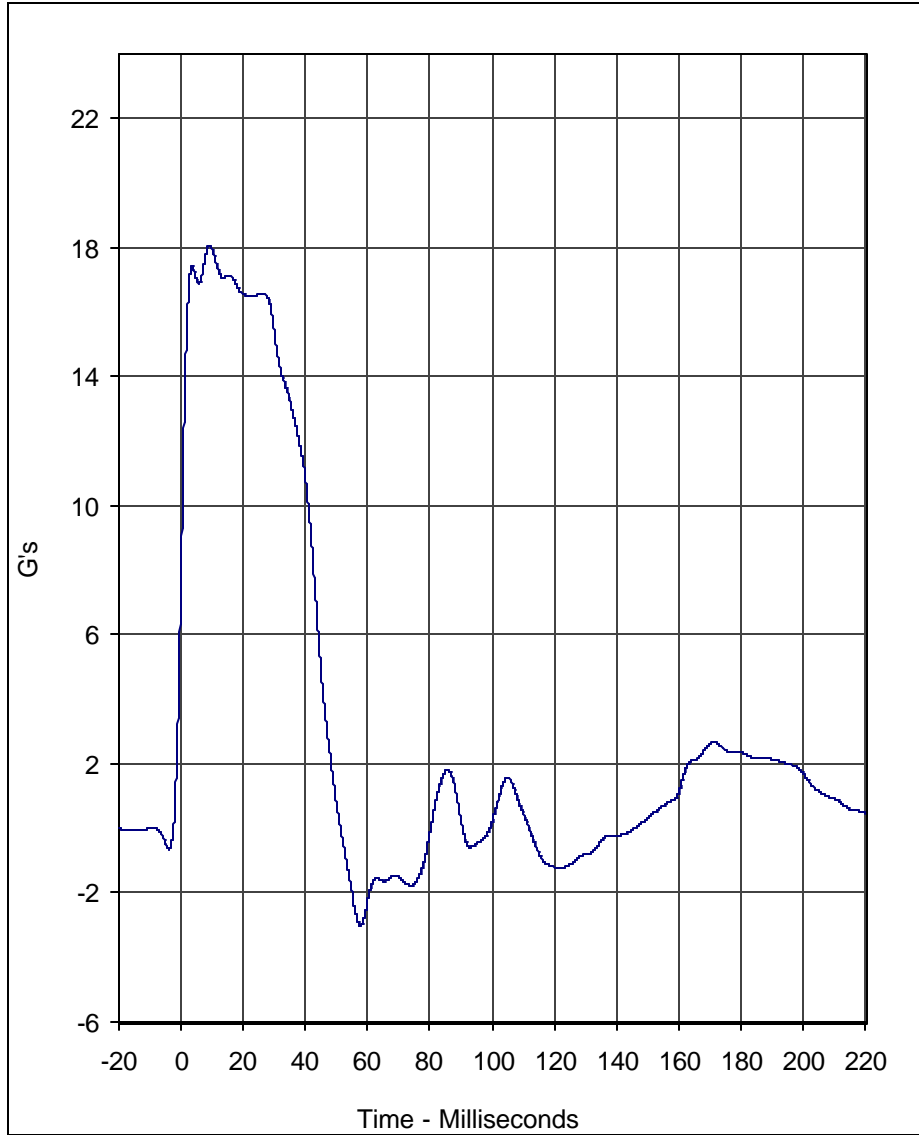
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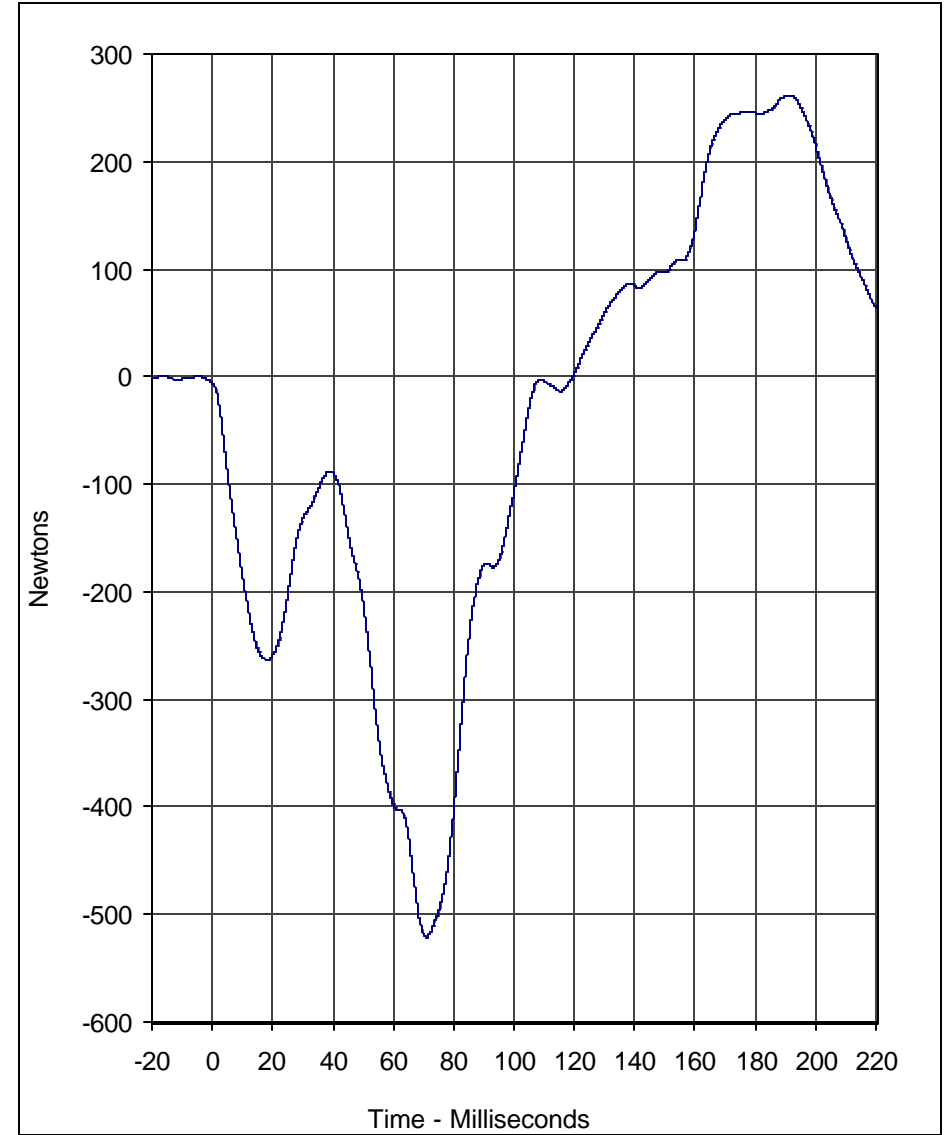
December 22, 2002

Test Date



Curve Description				CURNO	Type
Pendulum Deceleration				001	FIL

Units	Max	Time	Min	Time	SAE Class
G's	18.1	9.2	-3.0	57.7	60



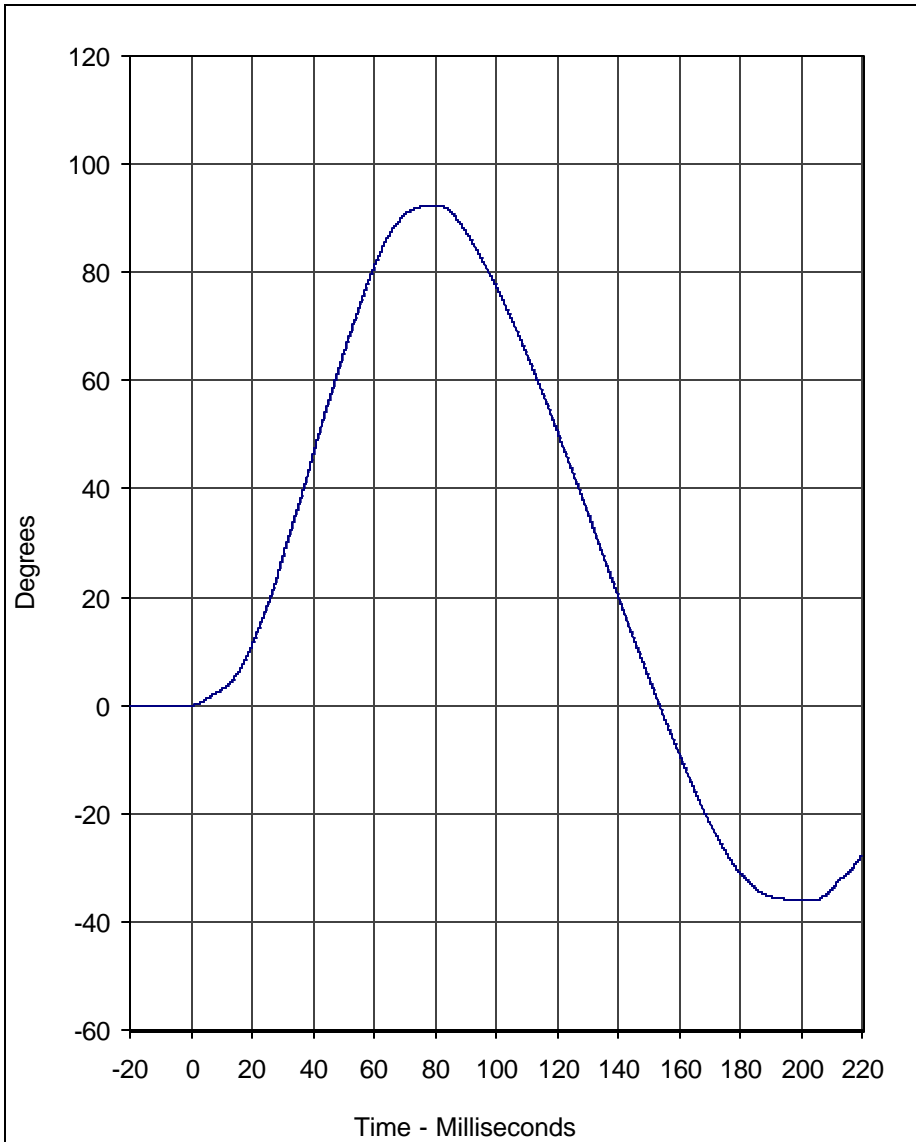
Curve Description				CURNO	Type
Neck Force X				002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	261.9	191.0	-521.3	70.9	60

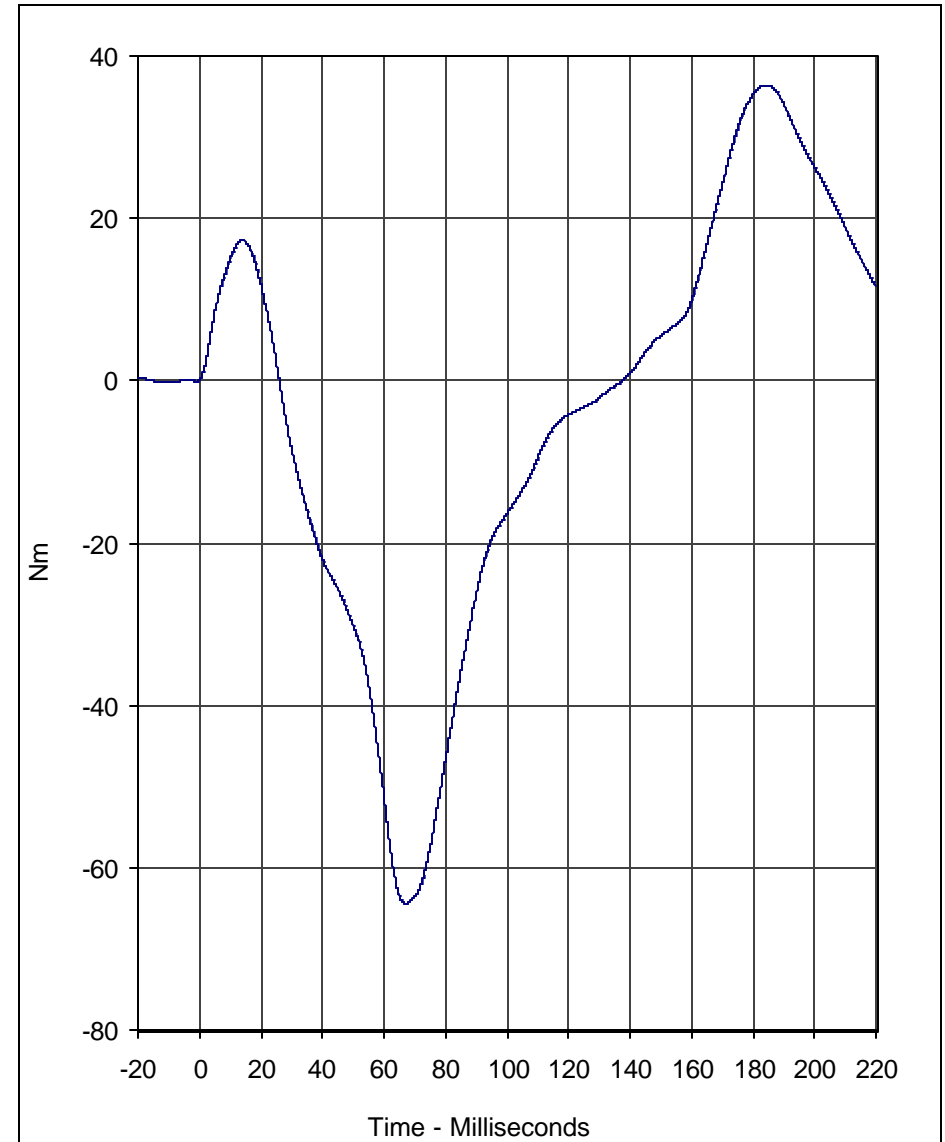
Test Program: Hybrid III 50th Percentile Male Neck Extension Test
 Test Date: 12/22/02

A.T.D. Serial No.: 034
 Test I.D.: NE12V





Curve Description				CURNO	Type
"D" Plane Rotation				003	FIL
Units	Max	Time	Min	Time	SAE Class
Degrees	92.3	79.9	-36.1	203.6	60



Curve Description				CURNO	Type
Moment About Occipital Condyle				004	FIL
Units	Max	Time	Min	Time	SAE Class
Nm	36.4	184.5	-64.4	67.0	60

Test Program: Hybrid III 50th Percentile Male Neck Extension Test
 Test Date: 12/22/02

A.T.D. Serial No.: 034
 Test I.D.: NE12V





Calibration Data Sheet

Hybrid III 50th Percentile Male

External Measurements

ATD Serial No.: 034

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	20.8	Pass
Laboratory Relative Humidity	%	10 to 70	35	Pass
A - Total sitting height	mm	879 to 889	885	Pass
B - Shoulder pivot height	mm	505 to 521	510	Pass
C - "H" point height	mm	84 to 89	85	Pass
D - "H" point from seat back	mm	135 to 140	135	Pass
E - Shoulder pivot from back	mm	84 to 94	90	Pass
F - Thigh clearance	mm	140 to 155	150	Pass
G - Elbow back to wrist pivot	mm	290 to 305	295	Pass
H - Skull cap to back line	mm	41 to 46	45	Pass
I - Shoulder to elbow length	mm	330 to 345	340	Pass
J - Elbow rest height	mm	190 to 211	210	Pass
K - Buttock to knee length	mm	579 to 604	600	Pass
L - Popliteal length	mm	429 to 455	440	Pass
M - Knee pivot height	mm	485 to 500	490	Pass
N - Buttock popliteal length	mm	452 to 477	475	Pass
O - Chest depth	mm	213 to 229	225	Pass
P - Foot length	mm	251 to 267	260	Pass
V - Shoulder breadth	mm	422 to 437	430	Pass
W - Foot breadth	mm	91 to 107	105	Pass
Y - Chest circumference	mm	970 to 1001	990	Pass
Z - Waist circumference	mm	836 to 866	855	Pass
AA - Location for chest circumference	mm	429 to 434	430	Pass
BB - Location for waist circumference	mm	226 to 231	230	Pass
			Overall Test Results	Pass

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Calibration Data Sheet Hybrid III 50th Percentile Male Knee Impact Test

ATD Serial No.: 035

Location: Left Knee

Test I.D.: RK10A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.09	Pass
Peak Probe Force	N	4715 to 5782	4906	Pass
Overall Test Results				Pass

ATD Serial No.: 035

Location: Right Knee

Test I.D.: RK10B

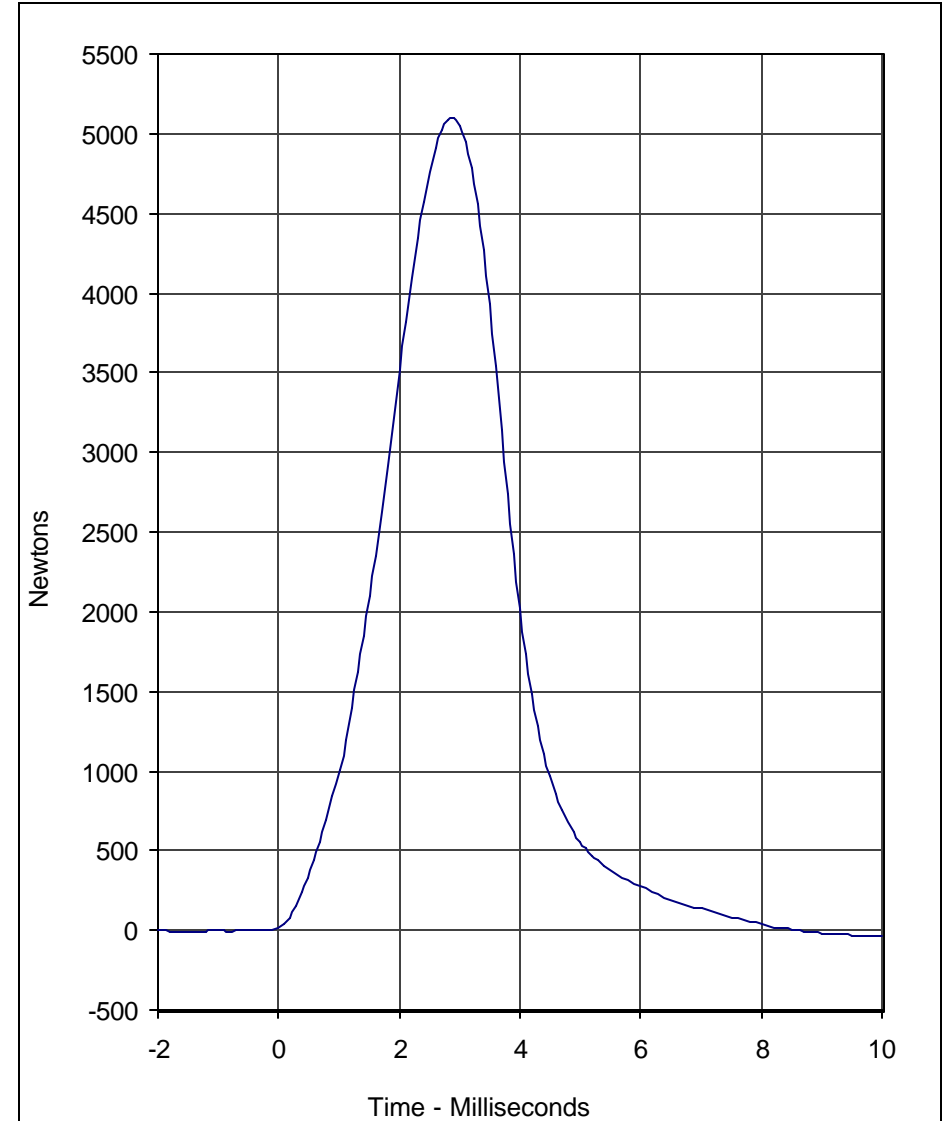
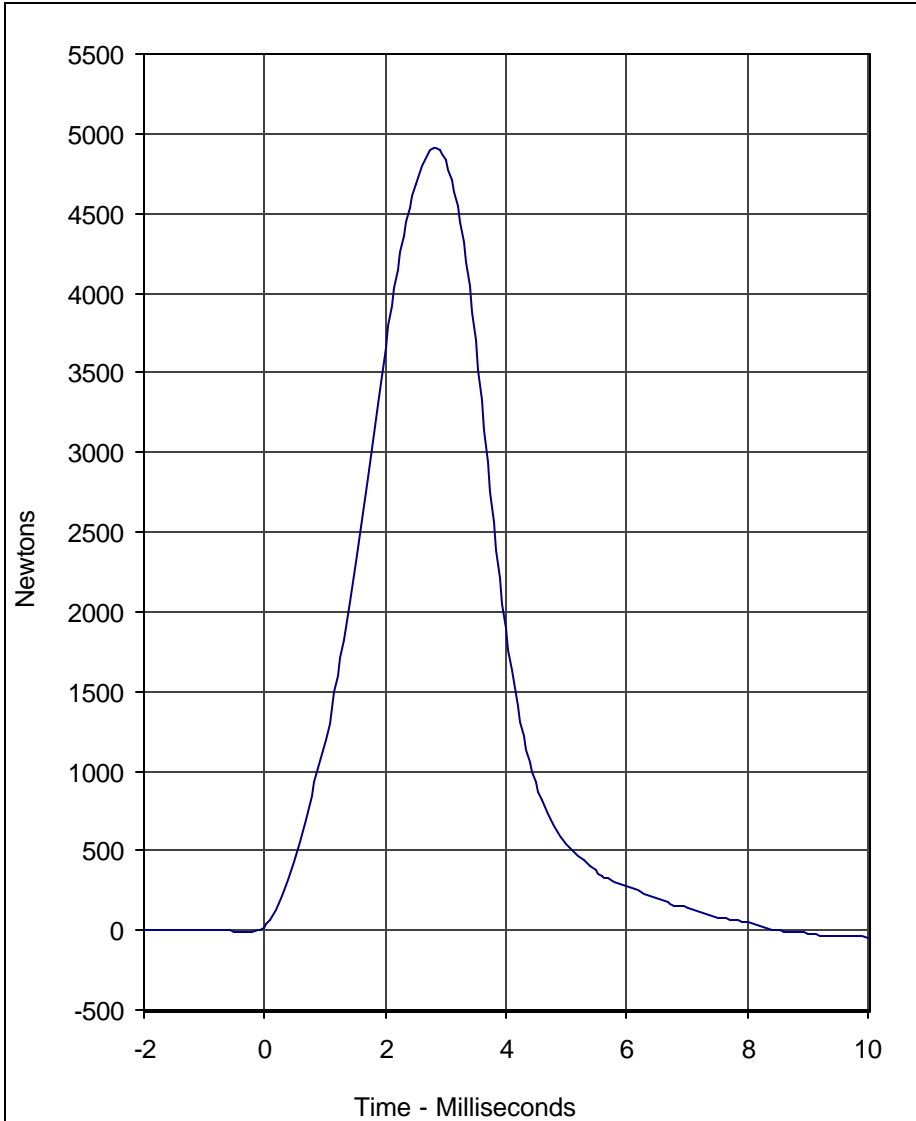
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.10	Pass
Peak Probe Force	N	4715 to 5782	5099	Pass
Overall Test Results				Pass

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Curve Description	Location	Test I.D.	CURNO	Type
Probe Force	Left Knee	RK10A	001	FIL

Curve Description	Location	Test I.D.	CURNO	Type
Probe Force	Right Knee	RK10B	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	4905.7	2.8	-42.2	10.0	600

Units	Max	Time	Min	Time	SAE Class
Newtons	5099.0	2.9	-37.3	9.9	600

Test Program: Hybrid III 50th Percentile Male Knee Impact Test
 Test Date: 12/22/02

A.T.D. Serial No.: 035





Calibration Data Sheet Hybrid III 50th Percentile Male Head Drop Test

ATD Serial No.: 035

Test I.D.: KH07B

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	225.0 to 275.0	235.1	Pass
Peak Lateral Acceleration	G's	≤15.0	4.7	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

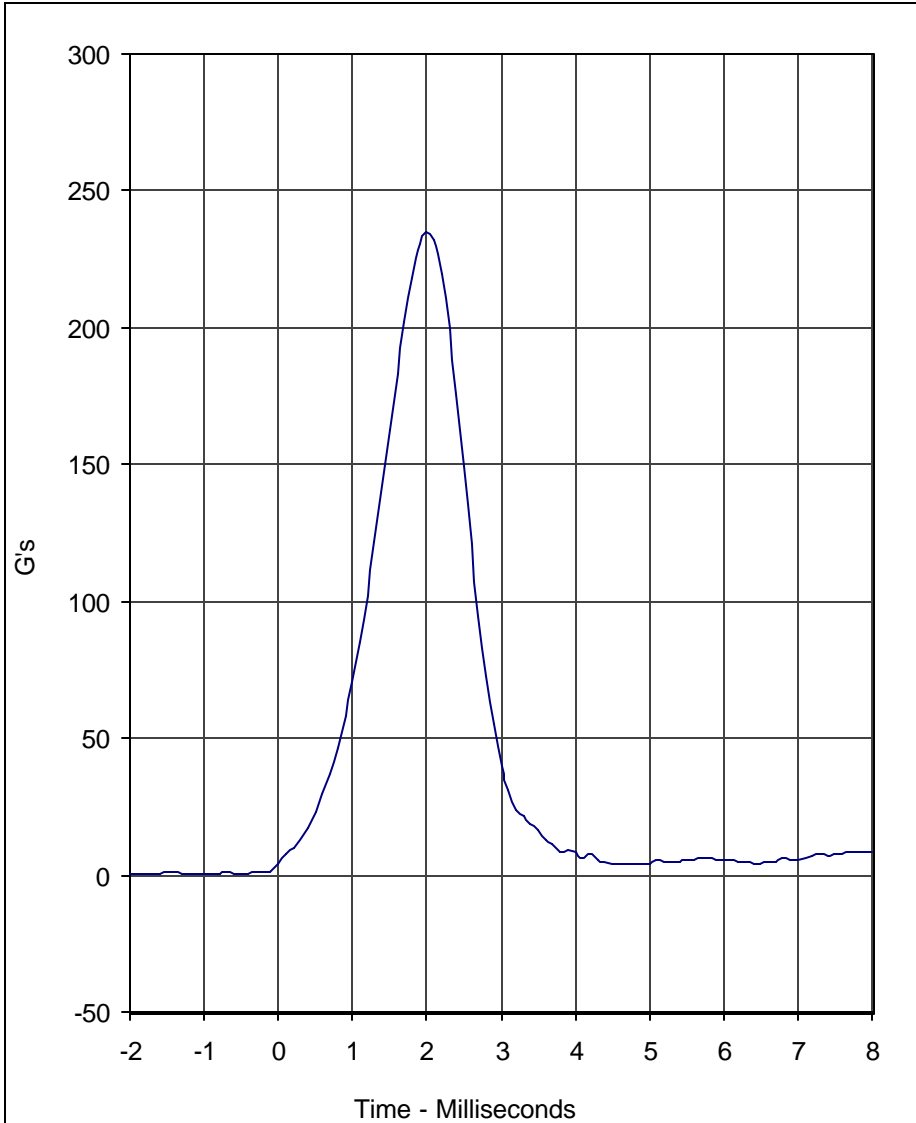
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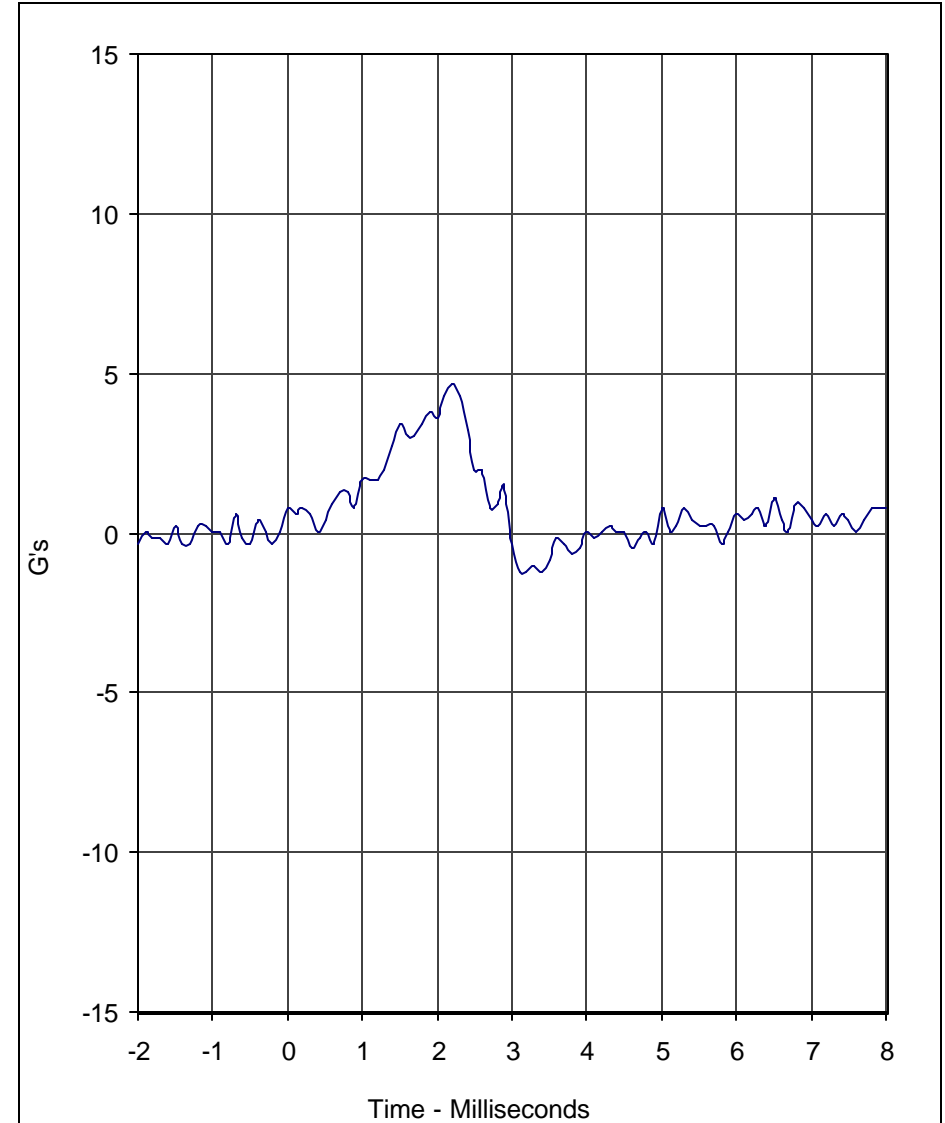
Test Date



Curve Description	CURNO	Type
Head Resultant	001	RES

Units	Max	Time	Min	Time	SAE Class
G's	235.1	2.0	0.1	-0.9	1000

Test Program: Hybrid III 50th Percentile Male Head Drop Test
 Test Date: 12/22/02



Curve Description	CURNO	Type
Head Y	002	FIL

Units	Max	Time	Min	Time	SAE Class
G's	4.7	2.2	-1.2	3.1	1000

A.T.D. Serial No.: 035
 Test I.D.: KH07B





Calibration Data Sheet Hybrid III 50th Percentile Male Thorax Impact Test

ATD Serial No.: 035

Test I.D.: CH12B

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	6.58 to 6.82	6.74	Pass
Peak Probe Force	Newtons	5159 to 5893	5448	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.65	Pass
Internal Hysteresis	%	69 to 85	76.6	Pass
Overall Test Results				Pass

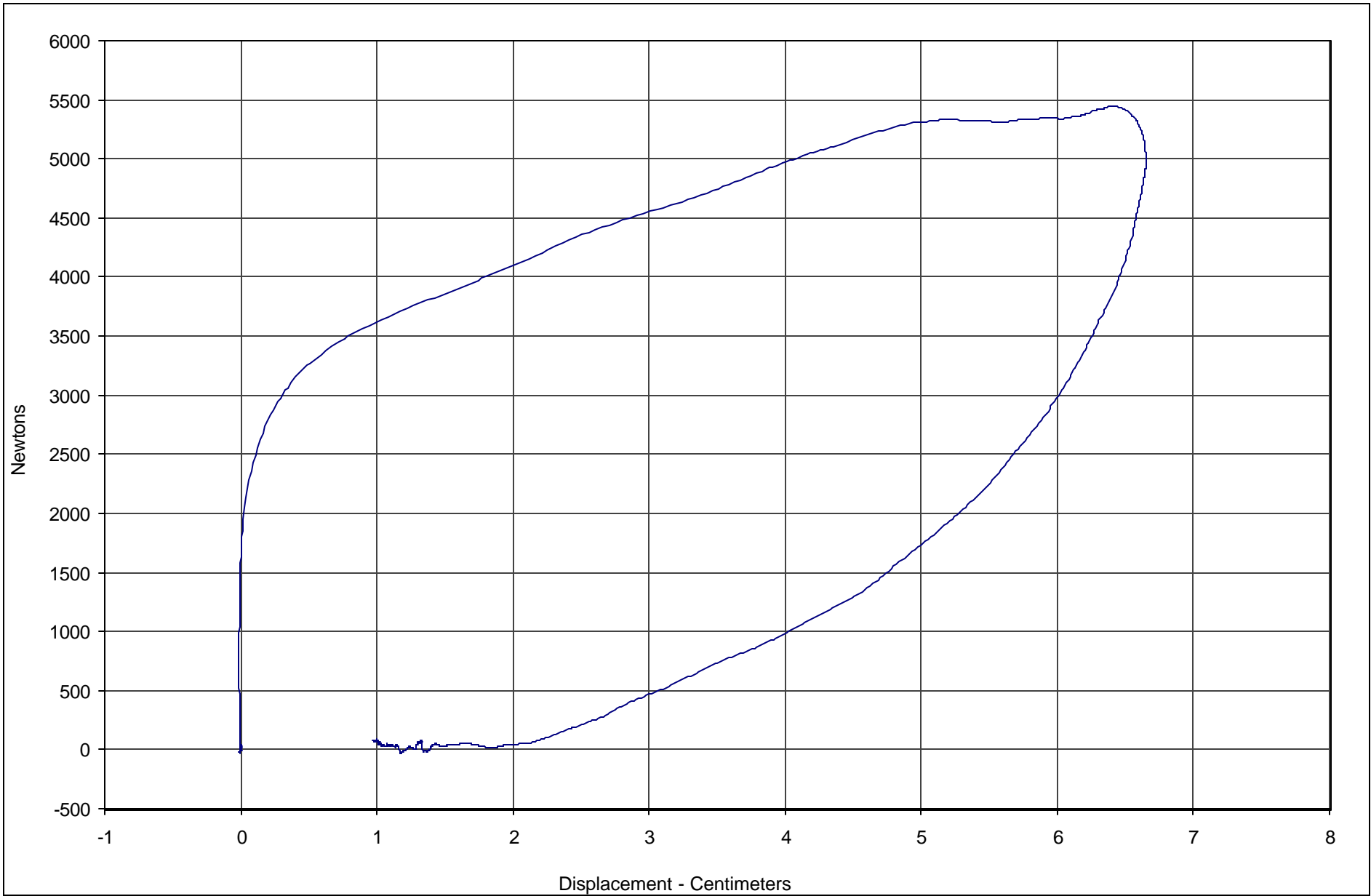
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Test Date



Curve Description	CURNO	Type	Hysteresis	Peak Chest Displ.	Peak Probe Force	SAE Class
Probe Force vs. Chest Displacement	001	FIL	76.6	6.65	5447.6	180



Test Program: Hybrid III 50th Percentile Male Thorax Impact

A.T.D. Serial No.: 035

Test Date: 12/23/02

Test I.D.: CH12B



Calibration Data Sheet Hybrid III 50th Percentile Male Neck Flexion Test

ATD Serial No.: 035

Test I.D.: NF10D

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	6.89 to 7.13	7.12	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	26.1	Pass
	20 Msec.	G's	17.6 to 22.6	22.2	Pass
	30 Msec.	G's	12.5 to 18.5	17.4	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	17.4	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	41.2	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	73.7	Pass
	Time	Msec.	57.0 to 64.0	58.7	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	115.2	Pass
Moment About Occipital Condyle	Maximum	Nm	84.1 to 108.5	92.2	Pass
	Time	Msec.	47.0 to 58.0	52.8	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	97.5	Pass
Overall Test Results					Pass

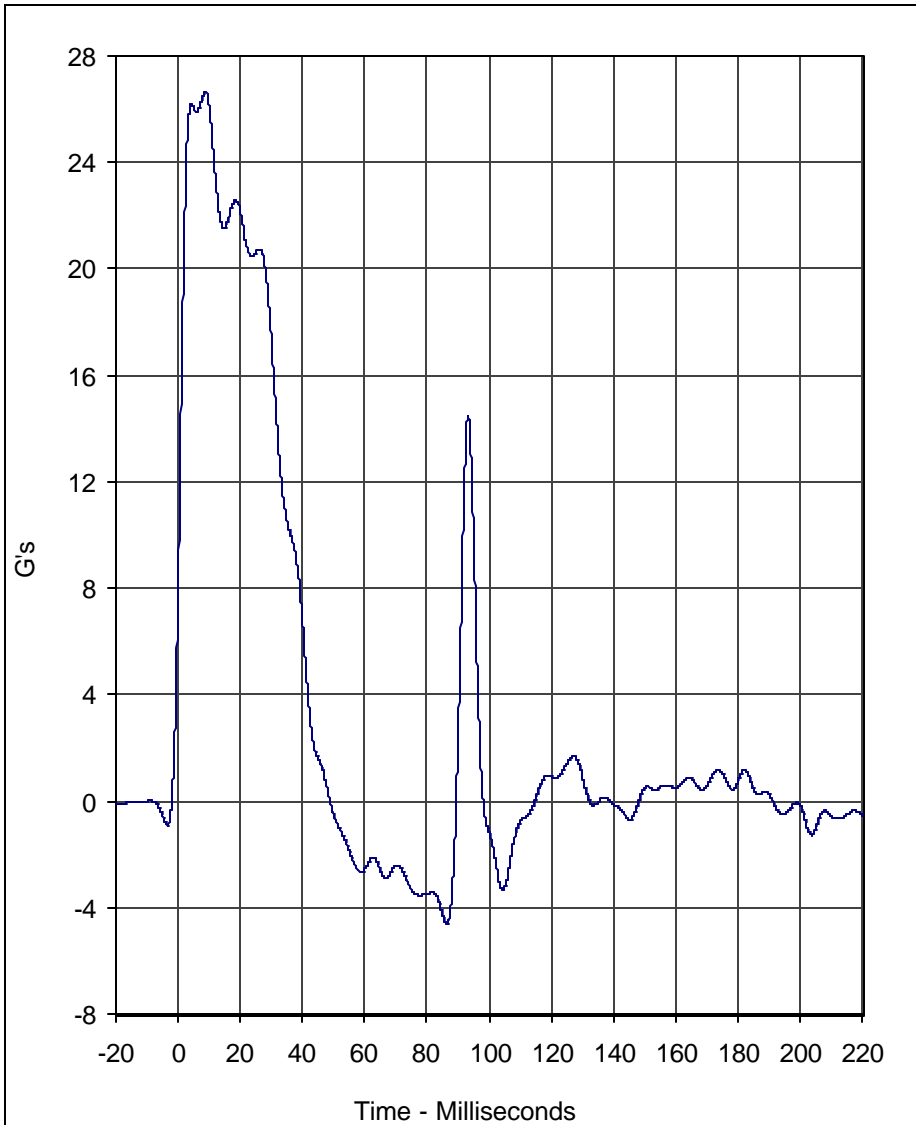
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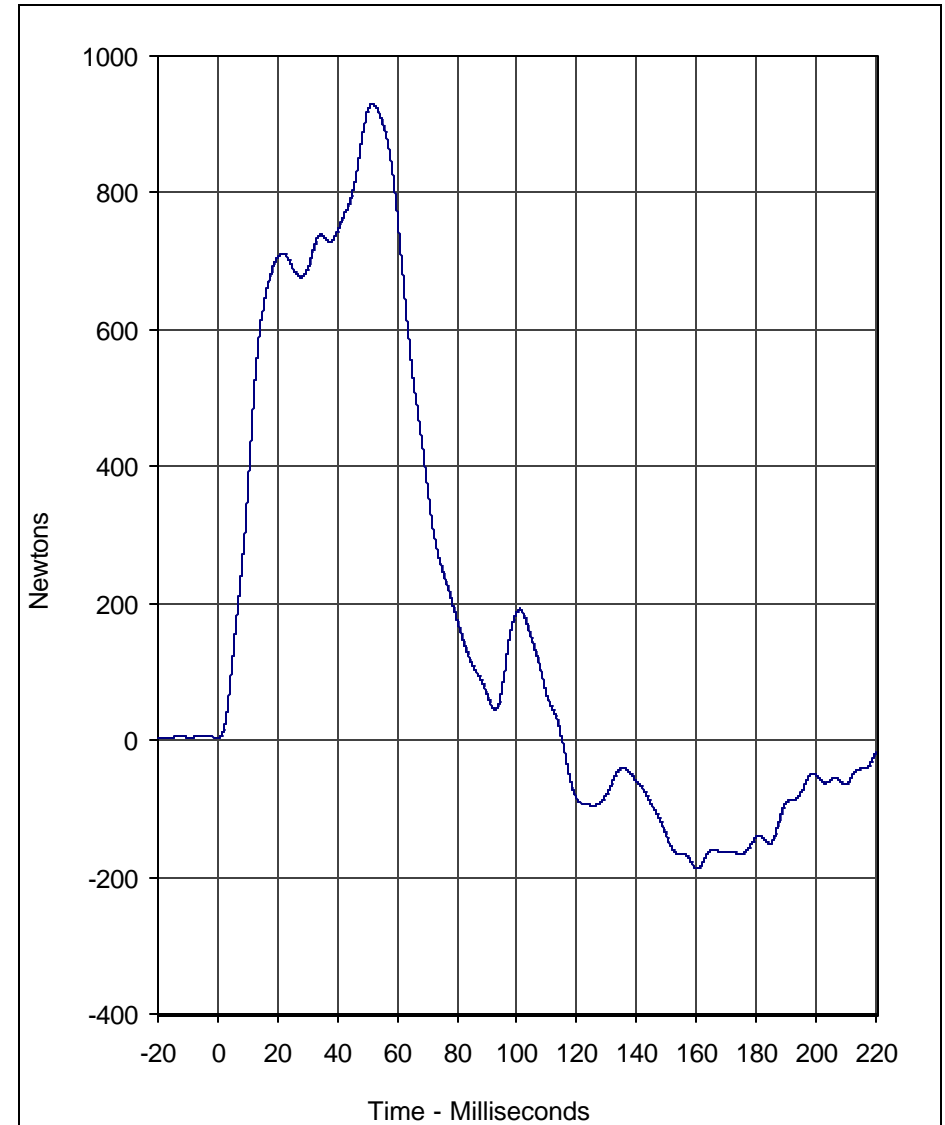
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Test Date



Curve Description				CURNO	Type
Pendulum Deceleration				001	FIL
Units	Max	Time	Min	Time	SAE Class
G's	26.7	8.8	-4.6	86.4	60

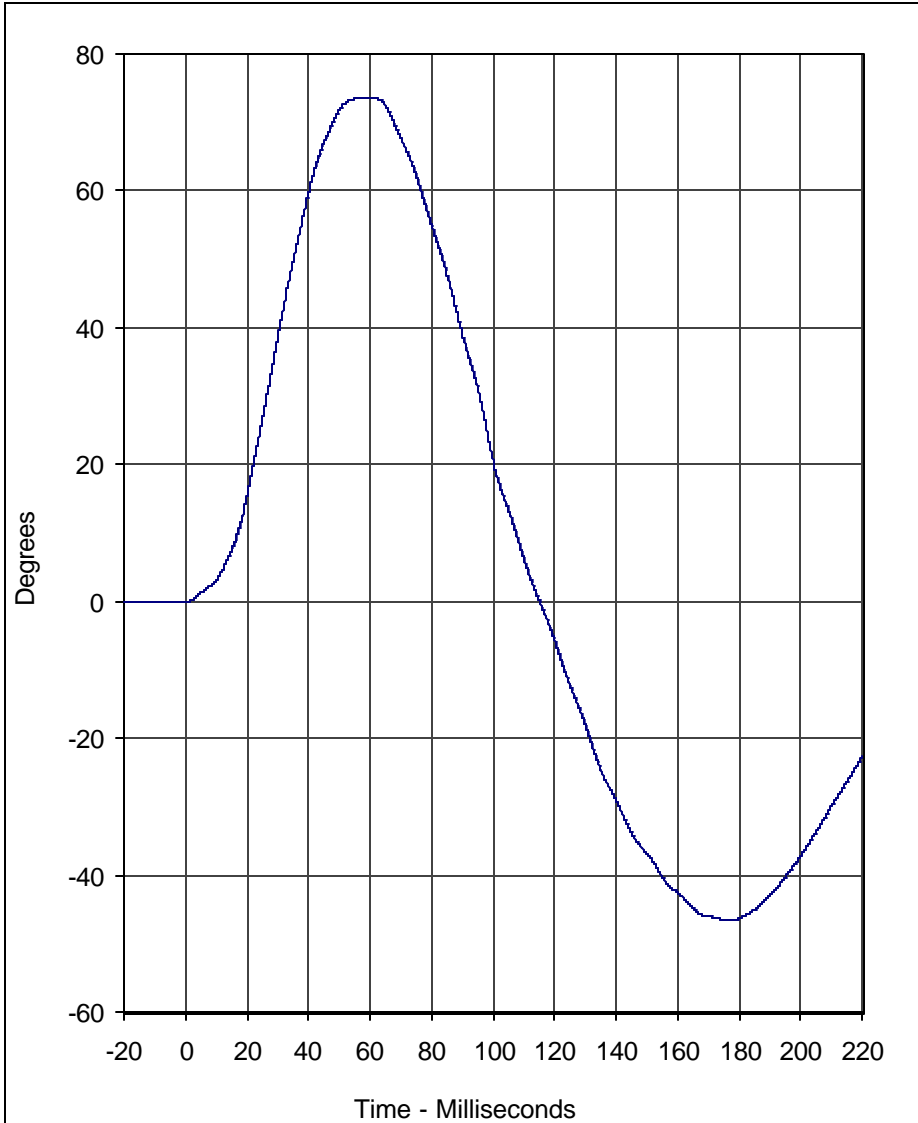


Curve Description				CURNO	Type
Neck Force X				002	FIL
Units	Max	Time	Min	Time	SAE Class
Newtons	930.4	51.7	-186.8	160.2	60

Test Program: Hybrid III 50th Percentile Male Neck Flexion Test
 Test Date: 12/22/02

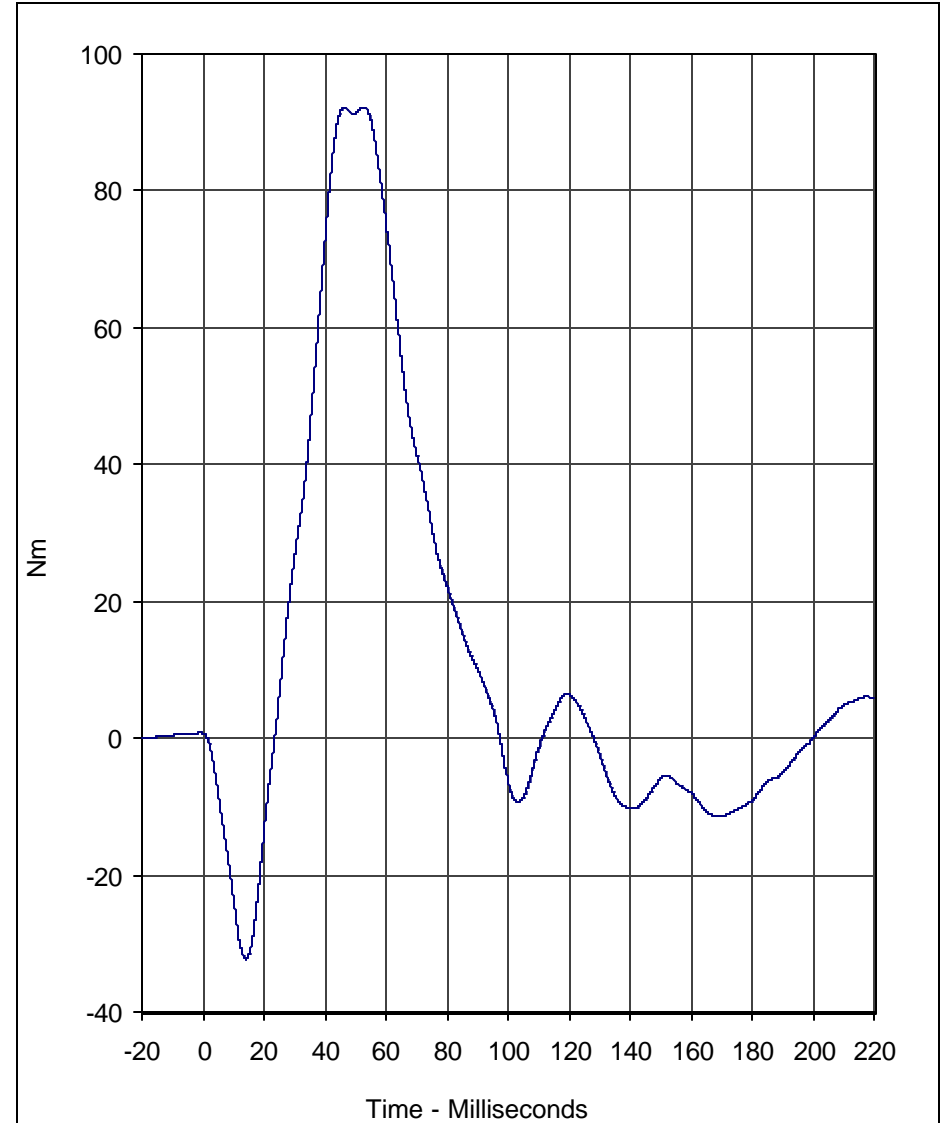
A.T.D. Serial No.: 035
 Test I.D.: NF10D





Curve Description	CURNO	Type
"D" Plane Rotation	003	FIL

Units	Max	Time	Min	Time	SAE Class
Degrees	73.7	58.7	-46.7	176.9	60



Curve Description	CURNO	Type
Moment About Occipital Condyle	004	FIL

Units	Max	Time	Min	Time	SAE Class
Nm	92.2	52.8	-32.3	14.1	60

Test Program: Hybrid III 50th Percentile Male Neck Flexion Test
 Test Date: 12/22/02

A.T.D. Serial No.: 035
 Test I.D.: NF10D





Calibration Data Sheet Hybrid III 50th Percentile Male Neck Extension Test

ATD Serial No.: 035

Test I.D.: NE12D

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	5.94 to 6.19	6.08	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	17.6	Pass
	20 Msec.	G's	14.0 to 19.0	15.2	Pass
	30 Msec.	G's	11.0 to 16.0	14.7	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	14.7	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	46.0	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	97.3	Pass
	Time	Msec.	72.0 to 82.0	76.6	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	154.9	Pass
Moment About Occipital Condyle	Maximum	Nm	-52.9 to- 79.9	-65.1	Pass
	Time	Msec.	65.0 to 79.0	69.0	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	141.0	Pass
Overall Test Results					Pass

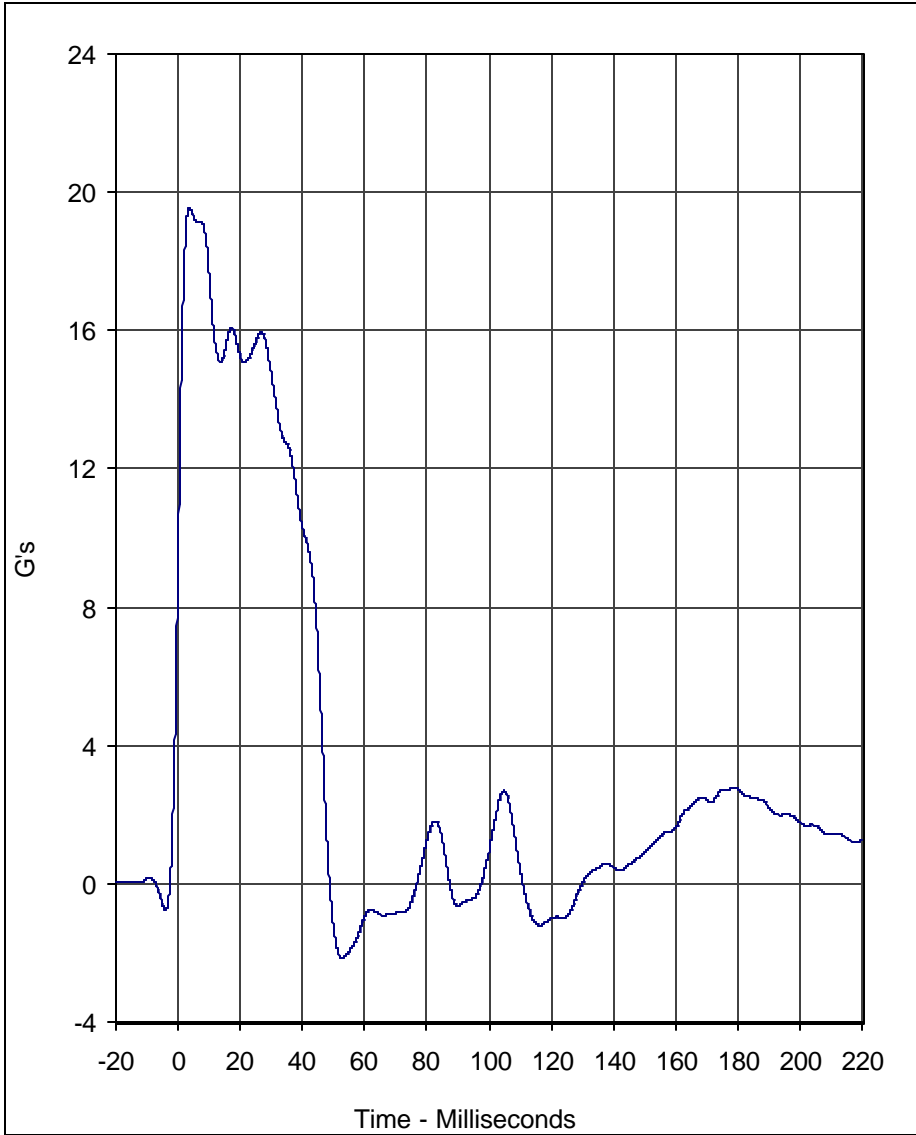
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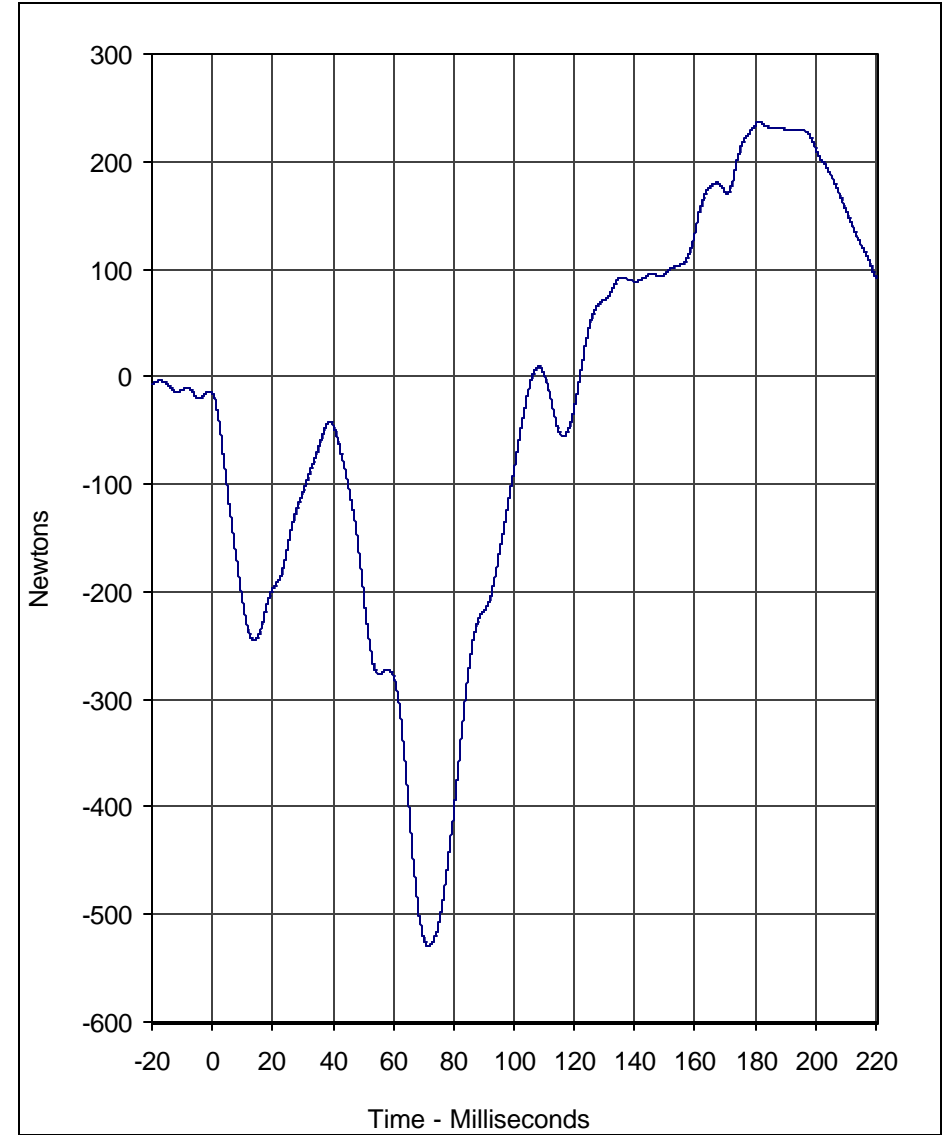
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Test Date



Curve Description				CURNO	Type
Pendulum Deceleration				001	FIL

Units	Max	Time	Min	Time	SAE Class
G's	19.6	3.6	-2.2	52.8	60



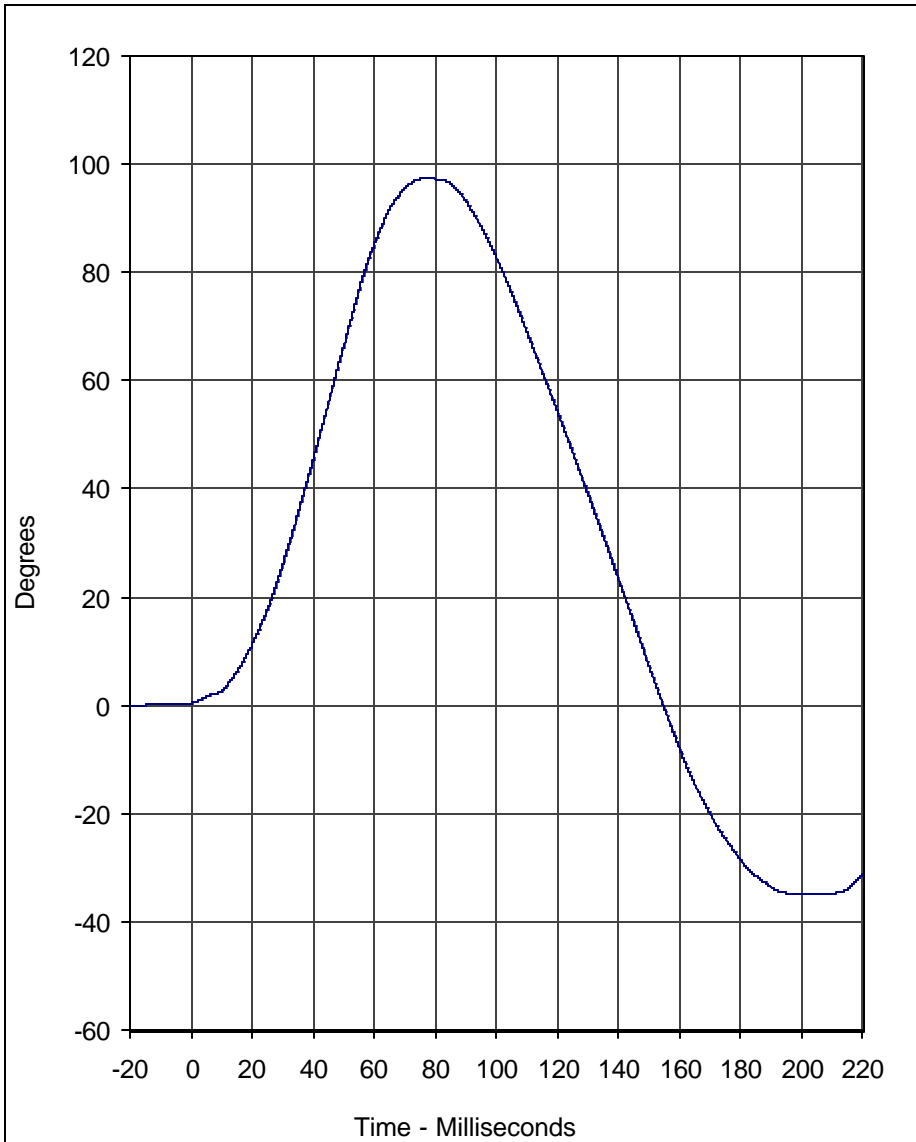
Curve Description				CURNO	Type
Neck Force X				002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	237.1	181.5	-529.4	71.7	60

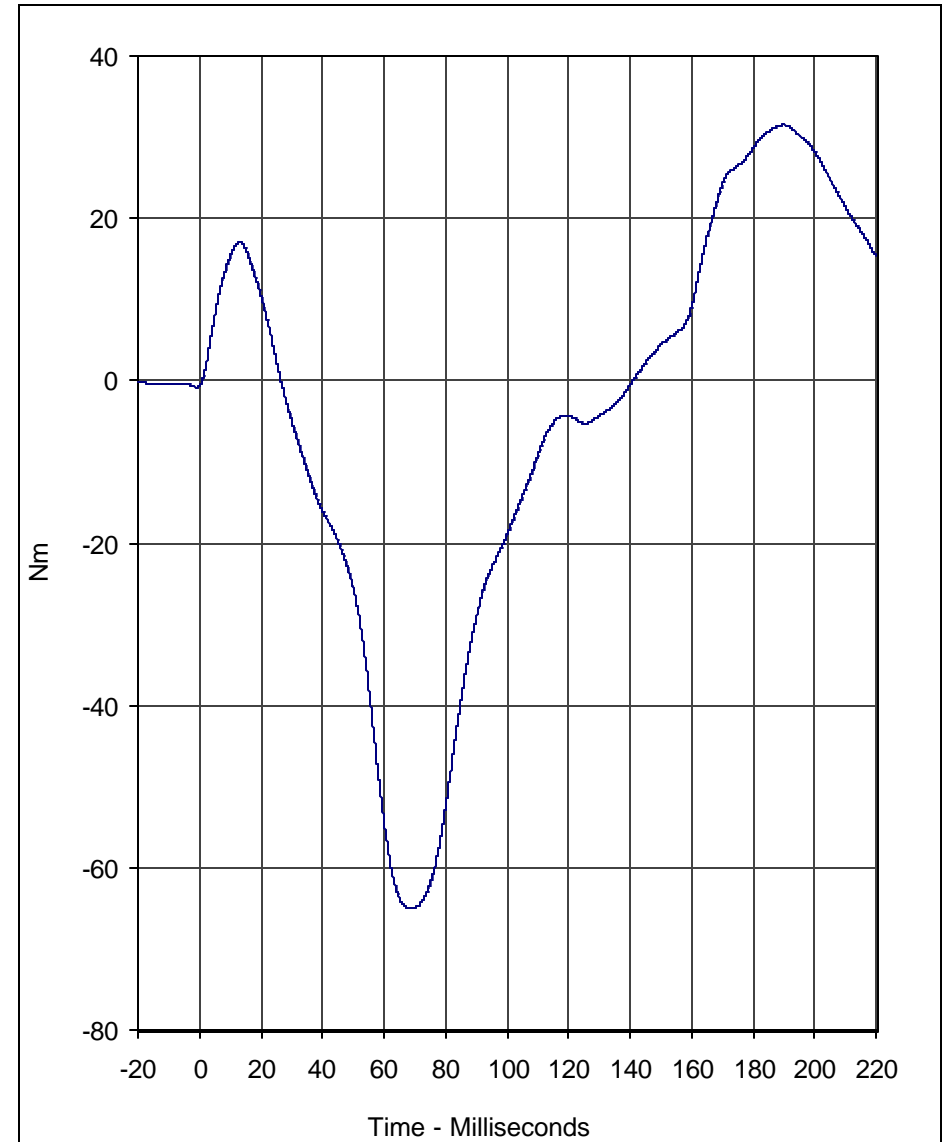
Test Program: Hybrid III 50th Percentile Male Neck Extension Test
 Test Date: 12/22/02

A.T.D. Serial No.: 035
 Test I.D.: NE12D





Curve Description				CURNO	Type
"D" Plane Rotation				003	FIL
Units	Max	Time	Min	Time	SAE Class
Degrees	97.3	76.6	-34.9	201.7	60



Curve Description				CURNO	Type
Moment About Occipital Condyle				004	FIL
Units	Max	Time	Min	Time	SAE Class
Nm	31.5	189.8	-65.1	69.0	60

Test Program: Hybrid III 50th Percentile Male Neck Extension Test
 Test Date: 12/22/02

A.T.D. Serial No.: 035
 Test I.D.: NE12D





Calibration Data Sheet

Hybrid III 50th Percentile Male

External Measurements

ATD Serial No.: 035

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	35	Pass
A - Total sitting height	mm	879 to 889	885	Pass
B - Shoulder pivot height	mm	505 to 521	515	Pass
C - "H" point height	mm	84 to 89	85	Pass
D - "H" point from seat back	mm	135 to 140	135	Pass
E - Shoulder pivot from back	mm	84 to 94	90	Pass
F - Thigh clearance	mm	140 to 155	145	Pass
G - Elbow back to wrist pivot	mm	290 to 305	300	Pass
H - Skull cap to back line	mm	41 to 46	45	Pass
I - Shoulder to elbow length	mm	330 to 345	335	Pass
J - Elbow rest height	mm	190 to 211	195	Pass
K - Buttock to knee length	mm	579 to 604	600	Pass
L - Popliteal length	mm	429 to 455	445	Pass
M - Knee pivot height	mm	485 to 500	495	Pass
N - Buttock popliteal length	mm	452 to 477	470	Pass
O - Chest depth	mm	213 to 229	225	Pass
P - Foot length	mm	251 to 267	265	Pass
V - Shoulder breadth	mm	422 to 437	425	Pass
W - Foot breadth	mm	91 to 107	100	Pass
Y - Chest circumference	mm	970 to 1001	975	Pass
Z - Waist circumference	mm	836 to 866	855	Pass
AA - Location for chest circumference	mm	429 to 434	430	Pass
BB - Location for waist circumference	mm	226 to 231	230	Pass
			Overall Test Results	Pass

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Test Date

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