NTE5552−I, NTE5554−I, NTE5556−I, NTE5558−I
Silicon Controlled Rectifier (SCR)
25 Amp, TO220AB
Isolated Tab

Description:

The NTE5552−I thru NTE5558−I are 25 Amp SCR's designed primarily for half−wave AC control applications, such as motor controls, overvoltage crowbar protection, capacitive discharge ignition, voltage regulation, and welding equipment.

Features:

- Suitable for General Purpose AC Switching
- I_{GT} 40mA Max.
- Isolated Tab

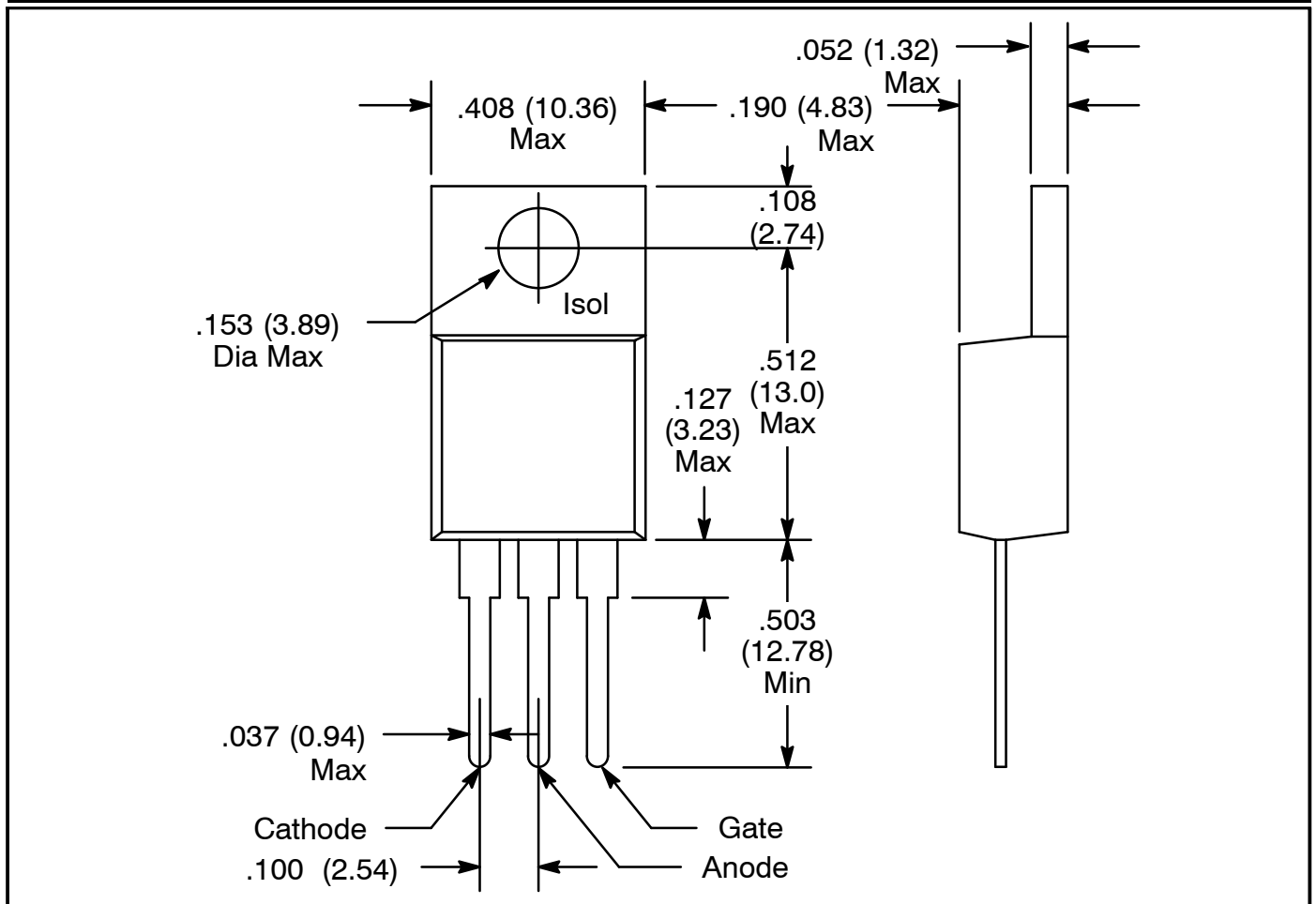**Absolute Maximum Ratings:** (T_A = +25°C unless otherwise specified)

Repetitive Peak Off−State Voltage, V_{DRM}
     NTE5552−I 200V
     NTE5554−I 400V
     NTE5556−I 600V
     NTE5558−I 800V
Peak Reverse Blocking Voltage, V_{RRM}
     NTE5552−I 200V
     NTE5554−I 400V
     NTE5556−I 600V
     NTE5558−I 800V
Maximum Peak Reverse Gate Voltage, V_{RGM} 5V
RMS On−State Current (Full Sine Wave, T_C = +75°C), $I_{T(RMS)}$ 25A
Average On−State Current (T_C = +75°C), $I_{T(AV)}$ 16A
Non−Repetitive Surge Peak On−State Current (Full Cycle, T_J Initial = +25°C), I_{TSM}
     F = 50Hz 320A
     F = 60Hz 350A
I^2t Value for Fusing (t_p = 10ms), I^2t . . . . 510A^{2}s
Critical Rate of Rise of On−State Current (I_G = 2 x I_{GT}, t_r < 100ns, T_J = +125°C), di/dt
     NTE5552−I, NTE5554−I, NTE5556−I 100A/μs
     NTE5558−I 50A/μs
Forward Peak Gate Current (t_p = 20μs, T_J = +125°C), I_{GM}
     NTE5552−I, NTE5554−I, NTE5556−I 2A
     NTE5558−I 4A
Average Gate Power Dissipation (T_J = +125°C), $P_{G(AV)}$ 1W
Isolation Voltage, V_{ISO} . . . . 2500V$_{RMS}$

Rev. 5−14

Absolute Maximum Ratings (Cont'd): (T_A = +25°C unless otherwise specified)

Operating Junction Temperature Range, T_J .... −40° to +125°C
Storage Temperature Range, T_{stg} .... −40° to +150°C
Thermal Resistance, Junction–to–Case, R_{thJC} .... 1.9°C/W
Thermal Resistance, Junction–to–Ambient, R_{thJA} .... 60°C/W

Electrical Characteristics: (T_C = +25°C unless otherwise noted.)

Parameter	Symbol	Min	Typ	Max	Unit
Gate Trigger Current (V_D = 12V, R_L = 30Ω)	I_{GT}	–	–	40	mA
Gate Trigger Voltage (V_D = 12V, R_L = 30Ω)	V_{GT}	–	–	1.3	V
Gate Non–Trigger Voltage (V_D = Rated V_{DRM}, R_L =3.3kΩ, T_J = +125°C)	V_{GD}	0.2	–	–	V
Holding Current (I_T = 500mA, Gate Open)	I_H	–	–	50	mA
Latching Current (I_G = 1.2 I_{GT})	I_L	–	–	90	mA
Critical Rate of Rise of Off–State Voltage (V_D = 67% V_{DRM}, Gate Open, T_J = +125°C)	dv/dt	1000	–	–	V/μs

Forward "ON" Voltage
   NTE5558–I (I_{TM} = 32A, t_p = 380μs, T_J = +25°C)
   All Other Devices (I_{TM} = 50A, t_p = 380μs, T_J = +25°C)
	V_{TM}	–
		–
			–
			–
				1.6
				1.6
					V
					V

Peak Forward or Reverse Blocking Current,
   (Rated V_{DRM} or V_{RRM}) T_J = +25°C
                                                   T_J = +125°C
	I_{DRM}, I_{RRM}	–
		–
			–
			–
				5
				4
					μA
					mA

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