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

Description:

The NTE5552–I thru NTE5556–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

Peak Reverse Blocking Voltage, V_{RRM}
- NTE5552–I 200V
- NTE5554–I 400V
- NTE5556–I 600V

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 . . . . . $510A^2s$

Critical Rate of Rise of On–State Current ($I_G = 2 \times I_{GT}$, t_r < 100ns, T_J = +125°C), di/dt . . . 100A/μs

Forward Peak Gate Current (t_p = 20μs, T_J = +125°C), I_{GM} 2A

Average Gate Power Dissipation (T_J = +125°C), $P_{G(AV)}$ 1W

Isolation Voltage, V_{ISO} . . . . . $2500V_{RMS}$

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, (I_{TM} = 50A, t_p = 380μs, T_J = +25°C)	V_{TM}	–	–	1.6	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