ELECTRONICS, INC.
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NTE5541 thru NTE5548
Silicon Controlled Rectifier (SCR)
35 Amp, TO48

Description:

The NTE5541 thru NTE5548 are silicon controlled rectifiers (SCR) packaged in a TO48 type case designed for industrial and consumer applications such as power supplies; battery chargers; temperature, motor, light and welder controls.

Absolute Maximum Ratings:

Repetitive Peak Off–State Voltage (T_J = +100°C) V_{DRM}
- NTE5541 . . . . . 50V
- NTE5543 . . . . . 200V
- NTE5544 . . . . . 300V
- NTE5545 . . . . . 400V
- NTE5546 . . . . . 500V
- NTE5547 . . . . . 600V
- NTE5548 . . . . . 800V

Repetitive Peak Reverse Voltage (T_J = +100°C) V_{RRM}
- NTE5541 . . . . . 50V
- NTE5543 . . . . . 200V
- NTE5544 . . . . . 300V
- NTE5545 . . . . . 400V
- NTE5546 . . . . . 500V
- NTE5547 . . . . . 600V
- NTE5548 . . . . . 800V

RMS On–State Current (T_C = +75°C), $I_{(RMS)}$ 35A
Peak Surge (Non–Repetitive) On–State Current (One Cycle at 50Hz or 60Hz), I_{TSM} 300A
Peak Gate–Trigger Current (3μs Max), I_{GTM} 20A
Peak Gate–Power Dissipation ($I_{GT} \le I_{GTM}$ for 3μs Max), P_{GM} 20W
Average Gate Power Dissipation, $P_{G(AV)}$ 500mW
Operating Temperature Range, T_{oper} . . . . . –40° to +150°C
Storage Temperature Range, T_{stg} . . . . . –40° to +150°C
Typical Thermal Resistance, Junction–to–Case, R_{thJC} . . . . . 1.4°C/W

Note 1. **NTE5542** is a **discontinued** device and **no longer available**.

Electrical Characteristics: (At “Maximum Ratings” and Specified Case Temperatures)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Peak Off−State Current	I_{DRM}, I_{RRM}	V_{DRM} & V_{RRM} = Max Rating, T_J = +100°C, Gate Open	–	–	2.0	mA
Maximum On−State Voltage (Peak)	I_{HO}	T_C = +25°C	–	–	50	mA
DC Gate Trigger Current	I_{GT}	Anode Voltage = 12V, R_L = 30Ω, T_C = +25°C	–	–	30	mA
DC Gate Trigger Voltage	V_{GT}	Anode Voltage = 12V, R_L = 30Ω, T_C = +25°C	–	–	2.0	V
Gate Controlled Turn−On Time	t_{gt}	I_{GT} = 150mA	–	2.5	–	μs
Critical Rate of Rise of Off−State Voltage	dv/dt (Critical)	Gate Open, T_C = +100°C	–	100	–	V/μs