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RoHS
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NTE5534A
Silicon Controlled Rectifier (SCR)
600V, 50 Amp, TO3 Isolated Square Pack

Description:

The NTE5534A is a general purpose SCR in a TO3 isolated high power square pack designed for use in applications where power handling and power dissipation are critical, such as solid state relays, welding equipment, and high power motor controls.

Based on a clip assembly technology, the NTE5534A offers superior performance in surge current handling capabilities.

Features:

- High Stability and Reliability
- High Surge Capability
- High On−State Current
- Easy Mounting (Fast−On Connections)
- Isolated Package: Insulating Voltage = $2500V_{RMS}$

Absolute Maximum Ratings: (Limiting Values)

RMS On−State Current (T_C = +75°C, 180° Conduction Angle), $I_{T(RMS)}$ 50A
Average On−State Current (T_C = +75°C, 180° Conduction Angle), $I_{T(AV)}$ 32A
Non−Repetitive Surge Peak On−State Current (T_J = +25°C), I_{TSM}
t = 8.3ms 610A
t = 10ms 580A
I^2t Value for Fusing (T_J = +25°C), I^2t . . . . . $1680A^2s$
Critical Rate of Rise On−State Current, dI/dt
(I_G = 160mA, $t_r \le$ 100ns, F = 60Hz, T_J = +125°C) 50A/µs
Peak Gate Current (t_p = 20µs, T_J = +125°C), I_{GM} 8A
Average Gate Power Dissipation (T_J = +125°C), $P_{G(AV)}$ 1W
Maximum Peak Reverse Gate Voltage, V_{GRM} 5V
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} . . . . . 0.9°C/W
Thermal Resistance, Junction−to−Ambient, R_{thJA} . . . . . 50°C/W

Electrical Characteristics: (T_J = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Gate Trigger Current	I_{GT}	V_D = 12V, R_L = 33Ω		8	–	80	mA
Gate Trigger Voltage	V_{GT}	V_D = 12V, R_L = 33Ω		–	–	1.3	V
Gate Non−Trigger Voltage	V_{GD}	T_J = +125°C, V_D = 600V, R_L = 3.3kΩ		0.2	–	–	V
Holding Current	I_H	I_T = 500mA, Gate Open		–	–	150	mA
Latching Current	I_L	I_G = 1.2 x I_{GT}		–	–	200	mA
Critical Rise of Off−State Voltage	dV/dt	T_J = 125°C, Gate Open, V_D = 402V		1000	–	–	V/μs
Peak On−State Voltage	V_{TM}	I_{TM} = 100A, t_p = 380μs, T_J = 25°C		–	–	1.9	V
Threshold Voltage	V_{TO}	T_J = 125°C		–	–	1.0	V
Dynamic Resistance	R_d	T_J = 125°C		–	–	8.5	mΩ
Peak Forward Blocking Current	I_{DRM}	V_{DRM} = 600V		–	–	10	μA
			T_J = +125°C	–	–	5	mA
Peak Reverse Blocking Current	I_{RRM}	V_{DRM} = 600V		–	–	10	μA
			T_J = +125°C	–	–	5	mA