

## NTE5541 thru NTE5548 Silicon Controlled Rectifier (SCR) 35 Amp

### 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 ( $T_J = +100^\circ\text{C}$ )  $V_{DRM}$

NTE5541	50V
NTE5542	100V
NTE5543	200V
NTE5544	300V
NTE5545	400V
NTE5546	500V
NTE5547	600V
NTE5548	800V

Repetitive Peak Reverse Voltage ( $T_J = +100^\circ\text{C}$ )  $V_{RRM}$

NTE5541	50V
NTE5542	100V
NTE5543	200V
NTE5544	300V
NTE5545	400V
NTE5546	500V
NTE5547	600V
NTE5548	800V

RMS On-State Current ( $T_C = +75^\circ\text{C}$ ),  $I_{(RMS)}$  35A

Peak Surge (Non-Repetitive) On-State Current (One Cycle at 50Hz or 60Hz),  $I_{TSM}$  300A

Peak Gate-Trigger Current ( $3\mu\text{s}$  Max),  $I_{GTM}$  20A

Peak Gate-Power Dissipation ( $I_{GT} \leq I_{GTM}$  for  $3\mu\text{s}$  Max),  $P_{GM}$  20W

Average Gate Power Dissipation,  $P_{G(AV)}$  500mW

Operating Temperature Range,  $T_{oper}$   $-40^\circ$  to  $+150^\circ\text{C}$

Storage Temperature Range,  $T_{stg}$   $-40^\circ$  to  $+150^\circ\text{C}$

Typical Thermal Resistance, Junction-to-Case,  $R_{thJC}$   $1.4^\circ\text{C/W}$

**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, $T_J = +100^{\circ}\text{C}$ , Gate Open	–	–	2.0	mA
Maximum On-State Voltage (Peak)	$I_{HO}$	$T_C = +25^{\circ}\text{C}$	–	–	50	mA
DC Gate Trigger Current	$I_{GT}$	Anode Voltage = 12V, $R_L = 30\Omega$ , $T_C = +25^{\circ}\text{C}$	–	–	30	mA
DC Gate Trigger Voltage	$V_{GT}$	Anode Voltage = 12V, $R_L = 30\Omega$ , $T_C = +25^{\circ}\text{C}$	–	–	2.0	V
Gate Controlled Turn-On Time	$t_{gt}$	$I_{GT} = 150\text{mA}$	–	2.5	–	$\mu\text{s}$
Critical Rate of Rise of Off-State Voltage	$dv/dt$ (Critical)	Gate Open, $T_C = +100^{\circ}\text{C}$	–	100	–	V/ $\mu\text{s}$

