



**ELECTRONICS, INC.**  
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## 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°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	-	$\text{V}/\mu\text{s}$

