



**ELECTRONICS, INC.**  
 44 FARRAND STREET  
 BLOOMFIELD, NJ 07003  
 (973) 748-5089

## NTE5517 thru NTE5519 Silicon Controlled Rectifier (SCR)

### Absolute Maximum Ratings:

Repetitive Peak Off-State Voltage ( $T_J = +100^\circ\text{C}$ ), $V_{DRM}$	
NTE5517 .....	200V
NTE5518 .....	400V
NTE5519 .....	600V
Repetitive Peak Reverse Voltage ( $T_J = +100^\circ\text{C}$ ), $V_{RRM}$	
NTE5517 .....	200V
NTE5518 .....	400V
NTE5519 .....	600V
RMS On-State Current ( $T_C = +75^\circ\text{C}$ ), $I_{T(RMS)}$ .....	
	35A
Peak Surge (Non-Repetitive) On-State Current (One Cycle, 50Hz or 60Hz), $I_{TSM}$ .....	
	350A
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, $P_{G(AV)}$ .....	
	0.5W
Operating Temperature Range, $T_{opr}$ .....	
	-40° to +150°C
Storage Temperature Range, $T_{stg}$ .....	
	-40° to +100°C
Typical Thermal Resistance, Junction-to-Case, $R_{thJC}$ .....	
	0.9°C/W

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Peak Off-State Current	$I_{DRM}$ , $I_{RRM}$	$T_J = +100^\circ\text{C}$ , Gate Open, $V_{DRM}$ and $V_{RRM} = \text{Max. Rating}$	-	-	2.0	mA
Maximum On-State Voltage (Peak)	$V_{TM}$	$T_C = +25^\circ\text{C}$	-	-	1.6	V
Peak On-State Current	$I_{TM}$		-	-	70	A
DC Holding Current	$I_H$	$T_C = +25^\circ\text{C}$ , Gate Open	-	-	50	mA
DC Gate-Trigger Current	$I_{GT}$	Anode Voltage = 12V, $R_L = 30\Omega$ , $T_C = +25^\circ\text{C}$	-	-	25	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	$t_{gt}$	$t_d + t_r$ , $I_{GT} = 150\text{mA}$	-	2.5	-	$\mu\text{s}$
Critical Rate-of-Rise of Off-State Voltage	Critical dv/dt	$T_C = +100^\circ\text{C}$ , Gate Open	-	100	-	V/ $\mu\text{s}$

