



ELECTRONICS, INC.  
 44 FARRAND STREET  
 BLOOMFIELD, NJ 07003  
 (973) 748-5089  
<http://www.nteinc.com>

## NTE5580 thru NTE5585 Silicon Controlled Rectifier (SCR) 275 Amp, TO93

**Features:**

- Center Fired Gate
- All Diffused Design
- Low Gate Current
- Low Thermal Impedance
- High Surge

**Electrical Characteristics:**

Repetitive Peak Off-State and Reverse Voltage, $V_{DRM}$ & $V_{RRM}$	
NTE5580 .....	200V
NTE5582 .....	600V
NTE5584 .....	1200V
NTE5585 .....	1600V
Maximum RMS On-State Current, $I_{T(RMS)}$ .....	275A
Maximum Average On-State Current, $I_{T(AV)}$	
$T_C = +88^\circ\text{C}$ , 180° conduction .....	150A
$T_C = +80^\circ\text{C}$ , 3 phase conduction .....	135A
Maximum Peak One-Cycle, Non-Repetitive Surge Current, $I_{TSM}$	
50Hz .....	3200A
60Hz .....	3500A
Maximum $I^2t$ for Fusing (1.5msec), $I^2t$ .....	32,000A <sup>2</sup> sec
Peak On-State Voltage ( $T_J = +25^\circ\text{C}$ , 180° conduction, Rated $I_{T(AV)}$ ), $V_{TM}$ .....	1.7V
Maximum Thermal Resistance, Junction-to-Case, $R_{thJC}$ .....	0.14°C/W
Typical Turn-Off Time ( $T_J = 125^\circ\text{C}$ ), $t_q$ .....	250µs
Rate-of-Rise of Turned-On Current, $di/dt$ .....	200A/µs
Operating Junction Temperature Range, $T_J$ .....	-40° to +125°C
Maximum Reverse Recovered Charge ( $T_J = +25^\circ\text{C}$ ), $Q_{RR}$ .....	200µc
Maximum Critical Rate-of-Rise of Off-State Voltage, $dV/dt$	
Exponential @ Max. Rated $T_J$ .....	200V/µs
Maximum Required Gate Current to Trigger, $I_{GT}$	
$T_J = -40^\circ\text{C}$ .....	200mA
$T_J = +25^\circ\text{C}$ .....	150mA
Maximum Required Gate Voltage to Trigger ( $T_J = -40^\circ$ to $+125^\circ\text{C}$ ), $V_{GT}$ .....	3V
Peak On-State Voltage, $V_F$ .....	Note 1
Maximum Stud Torque .....	300 In-Lbs (33.9 N-M)

Note 1.  $V_F = A + B \cdot L_N(I) + C \cdot I + D\sqrt{I}$

Where:  $I_{MIN} = 10A$   
 $I_{MAX} = 3000A$   
 $A = .523$   
 $B = .022$   
 $C = .0005$   
 $D = .038$

