



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

**NTE5552-I, NTE5554-I,
 NTE5556-I, NTE5558-I
 Silicon Controlled Rectifier (SCR)
 25 Amp, TO220AB
 Isolated Tab**

Description:

The NTE5552-I thru NTE5558-I are 25 Amp SCR's designed primarily for half-wave AC control applications, such as motor controls, overvoltage crowbar protection, capacitive discharge ignition, voltage regulation, and welding equipment.

Features:

- Suitable for General Purpose AC Switching
- I_{GT} 40mA Max.
- Isolated Tab

Absolute Maximum Ratings: ($T_A = +25^\circ C$ unless otherwise specified)

Repetitive Peak Off-State Voltage, V_{DRM}	
NTE5552-I	200V
NTE5554-I	400V
NTE5556-I	600V
NTE5558-I	800V
Peak Reverse Blocking Voltage, V_{RRM}	
NTE5552-I	200V
NTE5554-I	400V
NTE5556-I	600V
NTE5558-I	800V
Maximum Peak Reverse Gate Voltage, V_{RGM}	
5V	
RMS On-State Current (Full Sine Wave, $T_C = +75^\circ C$), $I_{T(RMS)}$	
25A	
Average On-State Current ($T_C = +75^\circ C$), $I_{T(AV)}$	
16A	
Non-Repetitive Surge Peak On-State Current (Full Cycle, T_J Initial = $+25^\circ C$), I_{TSM}	
F = 50Hz	320A
F = 60Hz	350A
I^2t Value for Fusing ($t_p = 10ms$), I^2t	
510A ² s	
Critical Rate of Rise of On-State Current ($I_G = 2 \times I_{GT}$, $t_r < 100ns$, $T_J = +125^\circ C$), di/dt	
NTE5552-I, NTE5554-I, NTE5556-I	100A/ μ s
NTE5558-I	50A/ μ s
Forward Peak Gate Current ($t_p = 20\mu s$, $T_J = +125^\circ C$), I_{GM}	
NTE5552-I, NTE5554-I, NTE5556-I	2A
NTE5558-I	4A
Average Gate Power Dissipation ($T_J = +125^\circ C$), $P_{G(AV)}$	
1W	
Isolation Voltage, V_{ISO}	
2500V $_{RMS}$	

Absolute Maximum Ratings (Cont'd): ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Operating Junction Temperature Range, T_J -40° to $+125^\circ\text{C}$
 Storage Temperature Range, T_{stg} -40° to $+150^\circ\text{C}$
 Thermal Resistance, Junction-to-Case, R_{thJC} 1.9°C/W
 Thermal Resistance, Junction-to-Ambient, R_{thJA} 60°C/W

Electrical Characteristics: ($T_C = +25^\circ\text{C}$ unless otherwise noted.)

Parameter	Symbol	Min	Typ	Max	Unit
Gate Trigger Current ($V_D = 12\text{V}$, $R_L = 30\Omega$)	I_{GT}	-	-	40	mA
Gate Trigger Voltage ($V_D = 12\text{V}$, $R_L = 30\Omega$)	V_{GT}	-	-	1.3	V
Gate Non-Trigger Voltage ($V_D = \text{Rated } V_{\text{DRM}}$, $R_L = 3.3\text{k}\Omega$, $T_J = +125^\circ\text{C}$)	V_{GD}	0.2	-	-	V
Holding Current ($I_T = 500\text{mA}$, Gate Open)	I_H	-	-	50	mA
Latching Current ($I_G = 1.2 I_{\text{GT}}$)	I_L	-	-	90	mA
Critical Rate of Rise of Off-State Voltage ($V_D = 67\% V_{\text{DRM}}$, Gate Open, $T_J = +125^\circ\text{C}$)	dv/dt	1000	-	-	V/ μs
Forward "ON" Voltage NTE5558-I ($I_{\text{TM}} = 32\text{A}$, $t_p = 380\mu\text{s}$, $T_J = +25^\circ\text{C}$) All Other Devices ($I_{\text{TM}} = 50\text{A}$, $t_p = 380\mu\text{s}$, $T_J = +25^\circ\text{C}$)	V_{TM}	-	-	1.6	V
Peak Forward or Reverse Blocking Current, (Rated V_{DRM} or V_{RRM})	I_{DRM} , I_{RRM}	-	-	5	μA
		-	-	4	mA

