



**ELECTRONICS, INC.**  
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## NTE5673 thru NTE5677 TRIAC – 15 Amp

### Description:

The NTE5673 through NTE5677 series of medium power TRIACs are bidirectional triode thyristors which may be switched from off-state to conduction for either polarity of applied voltage with positive or negative gate triggering. These devices are designed for control of AC loads in applications such as lighting, heating, and motor speed control as well as static switching relays.

### Absolute Maximum Ratings:

Repetitive Peak Off-State Voltage and peak Reverse Voltage ( $T_J = +100^\circ\text{C}$ ), $V_{\text{DRM}}$ , $V_{\text{RRM}}$	
NTE5673 .....	200V
NTE5675 .....	400V
NTE5676 .....	500V
NTE5677 .....	600V
On-State Current RMS ( $T_C = +75^\circ\text{C}$ , 360° Conduction), $I_{\text{T(RMS)}}$ .....	15A
Peak Surge (Non-Repetitive) On-State Current (One Full Cycle, 50 or 60Hz), $I_{\text{TSM}}$ .....	150A
Peak Gate-Power Dissipation ( $I_{\text{GT}} \leq I_{\text{GTM}}$ for 3 $\mu\text{s}$ Max), $P_{\text{GM}}$ .....	20W
Average Gate-Power Dissipation, $P_{\text{G(AV)}}$ .....	0.5W
Peak Gate-Trigger Current (3 $\mu\text{s}$ Max), $I_{\text{GTM}}$ .....	2A
Operating Junction Temperature Range ( $T_J$ ), $T_{\text{opr}}$ .....	-40° to +100°C
Storage Temperature Range, $T_{\text{stg}}$ .....	-40° to +150°C
Thermal Resistance, Junction-to-Case, $R_{\text{thJC}}$ .....	1.8°C/W

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

Parameter	Symbol	Min	Typ	Max	Unit
Peak Off-State Current ( $I_r = 100\text{A Peak}$ )	$I_{\text{DROM}}$	-	-	2	mA
Maximum On-State Voltage ( $I_r = 100\text{A Peak}$ )	$V_T$	-	-	2.2	V
DC Gate Trigger Current (Main Terminal Voltage = 24V, $R_L = 12\Omega$ ) MT <sub>2</sub> (+), G (+); MT <sub>2</sub> (-), G (-) Quads I – III MT <sub>2</sub> (+), G (-); MT <sub>2</sub> (-), G (+) Quads II – IV	$I_{\text{GT}}$	-	-	50 80	mA
DC Gate Trigger Voltage (Main Terminal Voltage = 24V, $R_L = 12\Omega$ )	$V_{\text{GT}}$	-	-	2.5	V
DC Holding Current (Gate Open)	$I_H$	-	-	60	mA
Gate Controlled Turn-On Time ( $V_D = V_{\text{DROM}}$ , $I_T = 10\text{A Peak}$ , $I_{\text{GT}} = 300\text{mA}$ , $t_r = 0.1\mu\text{s}$ )	$t_{\text{gt}}$	-	3.0	-	$\mu\text{s}$
Critical Rate-of-Rise of Off-State Voltage ( $V_D = V_{\text{DROM}}$ , $T_C = +100^\circ\text{C}$ , Gate Open)	Critical dv/dt	-	40	-	V/ $\mu\text{s}$
Critical Rate-of-Rise of Commutation ( $V_D = V_{\text{DROM}}$ , $I_f = I_{\text{T(RMS)}}$ , $T_C = +100^\circ\text{C}$ , Gate Open)	Commutating dv/dt	-	5	-	V/ $\mu\text{s}$

