

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_{DRM} , V_{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_{TSM} 150A

Peak Gate-Power Dissipation ($I_{\text{GT}} \leq I_{\text{GTM}}$ for 3μs Max), P_{GM} 20W

Average Gate-Power Dissipation, $P_{\text{G(AV)}}$ 0.5W

Peak Gate-Trigger Current (3μs Max), I_{GTM} 2A

Operating Junction Temperature Range (T_J), T_{opr} -40° to $+100^\circ\text{C}$

Storage Temperature Range, T_{stg} -40° to $+150^\circ\text{C}$

Thermal Resistance, Junction-to-Case, R_{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_{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 ₂ (+), G (+); MT ₂ (–), G (–) Quads I – III MT ₂ (+), G (–); MT ₂ (–), G (+) Quads II – IV	I_{GT}	– –	– –	50 80	mA
DC Gate Trigger Voltage (Main Terminal Voltage = 24V, $R_L = 12\Omega$)	V_{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_{gt}	–	3.0	–	μs
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/μs
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/μs

