



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_{DRM} , V_{RRM} | |
| NTE5673 | 200V |
| NTE5675 | 400V |
| NTE5676 | 500V |
| NTE5677 | 600V |
| On-State Current RMS ($T_C = +75^\circ\text{C}$, 360° Conduction), $I_{T(RMS)}$ | 15A |
| Peak Surge (Non-Repetitive) On-State Current (One Full Cycle, 50 or 60Hz), I_{TSM} | 150A |
| Peak Gate-Power Dissipation ($I_{GT} \leq I_{GTM}$ for 3 μ s Max), P_{GM} | 20W |
| Average Gate-Power Dissipation, $P_{G(AV)}$ | 0.5W |
| Peak Gate-Trigger Current (3 μ s Max), I_{GTM} | 2A |
| Operating Junction Temperature Range (T_J), T_{opr} | -40° to +100°C |
| Storage Temperature Range, T_{stg} | -40° to +150°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 ($V_D = V_{DROM}$, $I_T = 10\text{A Peak}$, $I_{GT} = 300\text{mA}$, $t_r = 0.1\mu\text{s}$) | t_{gt} | - | 3.0 | - | μs |
| Critical Rate-of-Rise of Off-State Voltage ($V_D = V_{DROM}$, $T_C = +100^\circ\text{C}$, Gate Open) | Critical dv/dt | - | 40 | - | V/ μs |
| Critical Rate-of-Rise of Commutation ($V_D = V_{DROM}$, $I_f = I_{T(RMS)}$, $T_C = +100^\circ\text{C}$, Gate Open) | Commutating dv/dt | - | 5 | - | V/ μs |

