

NTE5655 thru NTE5657 TRIAC – 800mA Sensitive Gate

Description:

The NTE5655 through NTE5657 are 800mA sensitive gate TRIACs in a TO92 type package designed to be driven directly with IC and MOS devices. These TRIACs feature void-free glass passivated chips.

These NTE devices are bi-directional triode thyristors and may be switched from off-state to conduction for either polarity of applied voltage with positive or negative gate trigger current. They are designed for control applications in lighting, heating, cooling and static switching relays.

Absolute Maximum Ratings:

Repetitive Peak Off-State Voltage (Gate Open, $T_J = +100^\circ\text{C}$), V_{DRM}		
NTE5655		200V
NTE5656		400V
NTE5657		600V
RMS On-State Current ($T_C = +75^\circ\text{C}$, Conduction Angle of 360°C), I_{TRMS}		800mA
Peak Surge (Non-Repetitive) On-State Current (One Cycle, 50Hz or 60Hz), I_{TSM}		8A
Peak Gate-Trigger Current ($3\mu\text{s}$ Max), I_{GTM}		500mA
Peak Gate-Power Dissipation ($I_{\text{GT}} \leq I_{\text{GTM}}$ for $3\mu\text{s}$ Max), P_{GM}		20W
Average Gate-Power Dissipation, $P_{\text{G(AV)}}$		200mW
Operating Temperature Range, T_J		-40° to $+100^\circ\text{C}$
Storage Temperature Range, T_{stg}		-40° to $+150^\circ\text{C}$
Typical Thermal Resistance, Junction-to-Case, R_{thJC}		75°C/W

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Peak Off-State Current	I_{DRM}	$V_{\text{DRM}} = \text{Max Rating, Gate Open, } T_J = +100^\circ\text{C}$	–	0.75	–	mA
Max. On-State Voltage	V_{TM}	$i_T = 800\text{mA (Peak)}$	–	–	1.9	V
DC Holding Current	I_{H}	Gate Open	–	–	15	mA
Critical Rate-of-Rise of Off-State Voltage	Critical dv/dt	$V_D = V_{\text{DRM}}$, Gate Open, $T_C = +100^\circ\text{C}$	–	10	–	V/ μs

Electrical Characteristics (Cont'd): ($T_C = +25^{\circ}\text{C}$, Maximum Ratings unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
DC Gate Trigger Current T ₂ (+) Gate (+), T ₂ (-) Gate (-) T ₂ (+) Gate (-), T ₂ (-) Gate (+)	I _{GT}	V _D = 6V, R _L = 100Ω	–	–	5	mA
DC Gate Trigger Voltage	V _{GT}	V _D = 6V, R _L = 100Ω	–	–	2.2	V
Gate–Controlled Turn–On Time	t _{gt}	V _D = V _{DRM} , I _{GT} = 80mA, t _r = 0.1μs, i _T = 10A (Peak)	–	2.2	–	μs

