

NTE5631 thru NTE5637 TRIAC – 10 Amp

Description:

The NTE5631 through NTE5637 series of TRIACs are high performance glass passivated PNPN devices in a TO220 type package designed for general purpose applications where moderate gate sensitivity is required.

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

Repetitive Peak Off-State Voltage ($T_J = -40^\circ$ to $+125^\circ\text{C}$, $R_{GK} = 1\text{k}\Omega$), V_{DRM}

NTE5631	50V
NTE5632	100V
NTE5633	200V
NTE5634	300V
NTE5635	400V
NTE5636	500V
NTE5637	600V

On-State Current (All Conduction Angles, $T_C = +85^\circ\text{C}$), $I_{T(RMS)}$ 10A

Non-Repetitive On-State Current (Half Cycle), I_{TSM}

60Hz	110A
50Hz	100A

Fusing Current ($t = 10\text{ms}$), I^2t $50\text{A}^2\text{s}$

Peak Gate Current ($t = 10\mu\text{s}$ Max), I_{GM} 4A

Peak Gate Dissipation ($t = 10\mu\text{s}$ Max), P_{GM} 10W

Gate Dissipation ($t = 20\text{ms}$ Max), $P_{G(AV)}$ 1W

Operating Junction Temperature Range, T_J -40° to $+125^\circ\text{C}$

Storage Temperature Range, T_{stg} -40° to $+125^\circ\text{C}$

Thermal Resistance, Junction-to-Case, R_{thJC} 2.5K/W

Thermal Resistance, Junction-to-Ambient, R_{thJA} 60K/W

Lead Temperature (During Soldering, 1.6mm from case, 10sec max), T_L $+250^\circ\text{C}$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Off-State Leakage Current	I_{DRM}	$V_D = V_{DRM}$, $R_{GK} = 1\text{k}\Omega$, $T_J = +25^\circ\text{C}$	—	—	10	μA
		$V_D = V_{DRM}$, $R_{GK} = 1\text{k}\Omega$, $T_J = +125^\circ\text{C}$	—	—	2	mA
On-State Voltage	V_T	$I_T = 15\text{A}$, $T_J = +25^\circ\text{C}$	—	—	1.75	V
On-State Threshold Voltage	$V_{T(TO)}$	$T_J = +125^\circ\text{C}$	—	—	1.05	V
On-State Slope Resistance	r_T	$T_J = +125^\circ\text{C}$	—	—	52	m Ω

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Gate Trigger Current	I_{GT}	$V_D = 12\text{V}$, Note 1	–	–	50	mA
Gate Trigger Voltage	V_{GT}	$V_D = 12\text{V}$, All Quadrants	–	–	2.5	V
Holding Current	I_H	$R_{GK} = 1\text{k}\Omega$	–	–	50	mA
Critical Rate-of-Rise	dv/dt	$V_D = 0.67 \times V_{DRM}$, $R_{GK} = 1\text{k}\Omega$, $T_J = +125^{\circ}\text{C}$	500	–	–	V/ μs
Critical Rate-of-Rise, Off-State	dv/dt_c	$I_T = 8\text{A}$, $di/dt = 3.55\text{A/ms}$, $T_C = +85^{\circ}\text{C}$	5	–	–	V/ μs

Note 1. For either polarity of gate voltage with reference to electrode MT_1 .

