



ELECTRONICS, INC.
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NTE5621 thru NTE5627 TRIAC – 10 Amp

Description:

The NTE5621 through NTE5627 TRIACs are designed primarily for full-wave AC control applications, such as light dimmers, motor controls, heating controls, and power supplies; or wherever full-wave silicon gate controlled solid-state devices are needed. TRIAC type thyristors switch from a blocking to a conducting state for either polarity of applied anode voltage with positive or negative gate triggering.

Features:

- All Diffused and Passivated Junctions for Greater Parameter Uniformity and Stability
- Small, Rugged, Thermopad Construction for Low Thermal Resistance, High Heat Dissipation and Durability.
- Gate Triggering Guaranteed in Two Modes

Absolute Maximum Ratings:

Repetitive Peak Off-State Voltage ($T_J = +100^\circ\text{C}$, Note 2), V_{DRM}	
NTE5621	25V
NTE5622	50V
NTE5623	100V
NTE5627	500V
On-State Current RMS ($T_C = +75^\circ\text{C}$), $I_{\text{T(RMS)}}$	10A
Peak Surge Current (One Full Cycle, 60Hz, $T_J = -40^\circ$ to $+100^\circ\text{C}$), I_{TSM}	100A
Circuit Fusing Considerations ($T_J = -40^\circ$ to $+100^\circ\text{C}$, $t = 1.0$ to 8.3ms), I^2t	40A ² s
Peak Gate Power, P_{GM}	10W
Average Gate Power, $P_{\text{G(AV)}}$	0.5W
Peak Gate Current, I_{GM}	2A
Operating Junction Temperature Range, T_J	-40° to $+100^\circ\text{C}$
Storage Temperature Range, T_{stg}	-40° to $+150^\circ\text{C}$
Mounting Torque (6-32 Screw, Note 3)	12in. lb.
Thermal Resistance, Junction-to-Case, R_{thJC}	2°C/W
Thermal Resistance, Case-to-Ambient, R_{thJA}	50°C/W

- Note 1. **NTE5622** and **NTE5627** are **discontinued** devices and **no longer available**.
- Note 2. Ratings apply for open gate conditions. Thyristor devices shall not be tested with a constant current source for blocking capability such that the voltage applied exceeds the rated blocking voltage.
- Note 3. Torque rating applies with use of torque washer. Mounting torque in excess of 8 in. lbs. does not appreciably lower case-to-sink thermal resistance. Anode lead and heatsink contact pad are common.
- Note 4. For soldering purposes (either terminal connection or device mounting), soldering temperatures shall not exceed $+230^\circ\text{C}$.

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

Parameter	Symbol	Min	Typ	Max	Unit
Peak Blocking Current (Either Direction) (Rated V_{DRM} , $T_J = 100^\circ\text{C}$, Gate Open)	I_{DRM}	-	-	2	mA
On-State Voltage (Either Direction) ($I_{\text{TM}} = 14\text{A}$ Peak)	V_{TM}	-	1.3	1.8	V
Gate Trigger Current (Continuous DC) (Main Terminal Voltage = 12V, $R_L = 100\Omega$) $MT_2 (+)$, G (+); $MT_2 (-)$, G (-)	I_{GT}	-	-	50	mA
Gate Trigger Voltage (Continuous DC) (Main Terminal Voltage = 12V, $R_L = 100\Omega$) $MT_2 (+)$, G (+); $MT_2 (-)$, G (-)	V_{GT}	-	0.9	2.0	V
Gate Trigger Voltage (Continuous DC – All Modes) (Main Terminal Voltage = Rated V_{DRM} , $R_L = 100\Omega$, $T_J = +100^\circ\text{C}$)	V_{GD}	0.2	-	-	V
Holding Current (Either Direction) (Main Terminal Voltage = 12Vdc, Gate Open, $I_T = 100\text{mA}$)	I_H	-	-	50	mA
Turn-On Time ($I_{\text{TM}} = 14\text{A}$, $I_{\text{GT}} = 100\text{mA}$)	t_{on}	-	1.5	-	μs
Blocking Voltage Application Rate at Commutation (At V_{DRM} , $T_J = +75^\circ\text{C}$, Gate Open)	dv/dt	-	5	-	V/ μs

