

NTE5661 TRIAC, 10 Amp

Description:

The NTE5661 is a TRIAC in a TO64 type stud mount package designed primarily for full-wave AC control applications such as light dimmers, motor controls, heating controls, 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:

- Low "ON" Voltage
- Gate Triggering Guaranteed in Four Modes

Absolute Maximum Ratings:

Repetitive Peak Off-State Voltage ($T_J = +100^{\circ}\text{C}$, Note 1), V_{DRM}	50V
On-State RMS Current ($T_C = +75^{\circ}\text{C}$), $I_{\text{T(RMS)}}$	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	$40\text{A}^2\text{sec}$
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 $+150^{\circ}\text{C}$
Thermal Resistance, Junction-to-Case, R_{thJC}	2°C/W
Thermal Resistance, Junction-to-Ambient, R_{thJA}	50°C/W
Stud Torque	15 in. lb.

Note 1. 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.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Peak Blocking Current (Either Direction)	I_{DRM}	$V_{\text{DRM}} = 50\text{V}$, $T_J = +100^\circ\text{C}$, Gate Open	–	–	2.0	mA
On–State Voltage (Either Direction)	V_{TM}	$I_{\text{TM}} = 14\text{A Peak}$	–	1.3	1.8	V
Gate Trigger Current, Continuous DC All Modes	I_{GT}	Main Terminal Voltage = 12V, $R_L = 100\Omega$	–	–	40	mA
MT ₂ (+), G (+); MT ₂ (–), G (–)			–	–	50	mA
Gate Trigger Voltage, Continuous DC	V_{GT}	Main Terminal Voltage = 12V, $R_L = 100\Omega$	–	0.9	2.0	V
	V_{GD}	Main Terminal Voltage = 50V, $R_L = 100\Omega$, $T_J = +100^\circ\text{C}$	0.2	–	–	V
Holding Current (Either Direction)	I_{H}	Main Terminal Voltage = 12V, Gate Open, Initiating Current = 100mA	–	–	30	mA
Turn–On Time	t_{on}	$I_{\text{TM}} = 14\text{A}$, $I_{\text{GT}} = 100\text{mA}$	–	1.5	–	μs
Blocking Voltage Application Rate at Commutation	dv/dt	$V_{\text{DRM}} = 50\text{V}$, $T_J = +75^\circ\text{C}$, Gate Open	–	5.0	–	V/ μs

