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## NTE5629 TRIAC – 400V<sub>RM</sub>, 4Amp

### **Description:**

The NTE5629 TRIAC is a bi-directional triode thyristor in a TO202 type case. This device may be switched from off-state to conduction for either polarity of applied voltage with positive or negative gate-trigger current. The NTE5629 can be driven directly with IC and MOS devices and is designed for control applications in lighting, heating, cooling, and static switching relays.

### **Absolute Maximum Ratings:**

Repetitive Peak Off-State Voltage (Gate Open, T <sub>J</sub> = +110°C, Note 1), V <sub>DRM</sub> .....	400V
RMS On-State Current (T <sub>C</sub> = +80°C, Conduction Angle = 360°), I <sub>T(RMS)</sub> .....	4A
Non-Repetitive Peak Surge On-State Current (One-Cycle, at 50Hz or 60Hz), I <sub>TSM</sub> .....	40A
Peak Gate-Trigger Current (for 3μs Max), I <sub>GTM</sub> .....	1.2A
Peak Gate-Power Dissipation (I <sub>GT</sub> ≤ I <sub>GTM</sub> ), P <sub>GM</sub> .....	15W
Average Gate-Power Dissipation, P <sub>G(AV)</sub> .....	3W
Operating Temperature Range, T <sub>opr</sub> .....	-40° to +110°C
Storage Temperature Range, T <sub>stg</sub> .....	-40° to +150°C
Thermal Resistance, Junction-to-Case, R <sub>thJC</sub> .....	4°C/W Typ

### **Electrical Characteristics:** (At Specified Case Temperature)

Peak Off-State Current (Gate Open, T <sub>C</sub> = +110°C, V <sub>DRM</sub> = 400V, Note 1), I <sub>DRM</sub> .....	0.5mA Max
Maximum On-State Voltage (T <sub>C</sub> = +25°C, I <sub>T</sub> = 4A, Note 1), V <sub>TM</sub> .....	1.6V Max
DC Holding Current (Gate Open, T <sub>C</sub> = +25°C, Note 1), I <sub>Hold</sub> .....	5mA Max
Critical Rate-of-Rise of Off-State Voltage, Critical dv/dt (V <sub>D</sub> = 400V, Gate Open, T <sub>C</sub> = +110°C, Note 1) .....	10V/μs
Critical rate-of-Rise of commutation Voltage, Commutating dv/dt (V <sub>D</sub> = 400V, I <sub>T</sub> = 4A, Gate Unenergized, T <sub>C</sub> = +80°C, Note 1) .....	1V/μs
DC Gate-Trigger Current (V <sub>D</sub> = 12VDC, R <sub>L</sub> = 60Ω, T <sub>C</sub> = +25°C), I <sub>GT</sub> .....	3mA Max
(T <sub>2+</sub> Gate +, T <sub>2-</sub> Gate -) Quads I and III	
(T <sub>2+</sub> Gate -, T <sub>2-</sub> Gate +) Quads II and IV	
DC Gate-Trigger Voltage (V <sub>D</sub> = 12VDC, R <sub>L</sub> = 60Ω, T <sub>C</sub> = +25°C), V <sub>GT</sub> .....	2V Max
Gate-Controlled Turn-On Time, T <sub>gt</sub> (V <sub>D</sub> = 400V, I <sub>GT</sub> = 80mA, t <sub>R</sub> = 0.1μs, I <sub>T</sub> = 6A (Peak), T <sub>C</sub> = +25°C) .....	3μs

Note 1. All values apply in either direction.

