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## NTE5679 TRIAC – 600V, 40A

### Description

The NTE5679 TRIAC may be gate triggered from a blocking to conduction state for either polarity of applied voltage and is designed for AC switching and phase control applications such as speed and temperature modulation controls, lighting controls, and static switching relays. The triggering signal is normally applied between the gate and MT<sub>1</sub>.

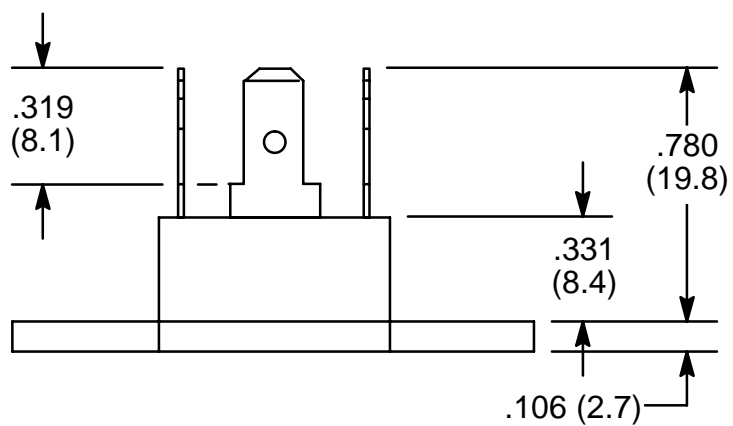
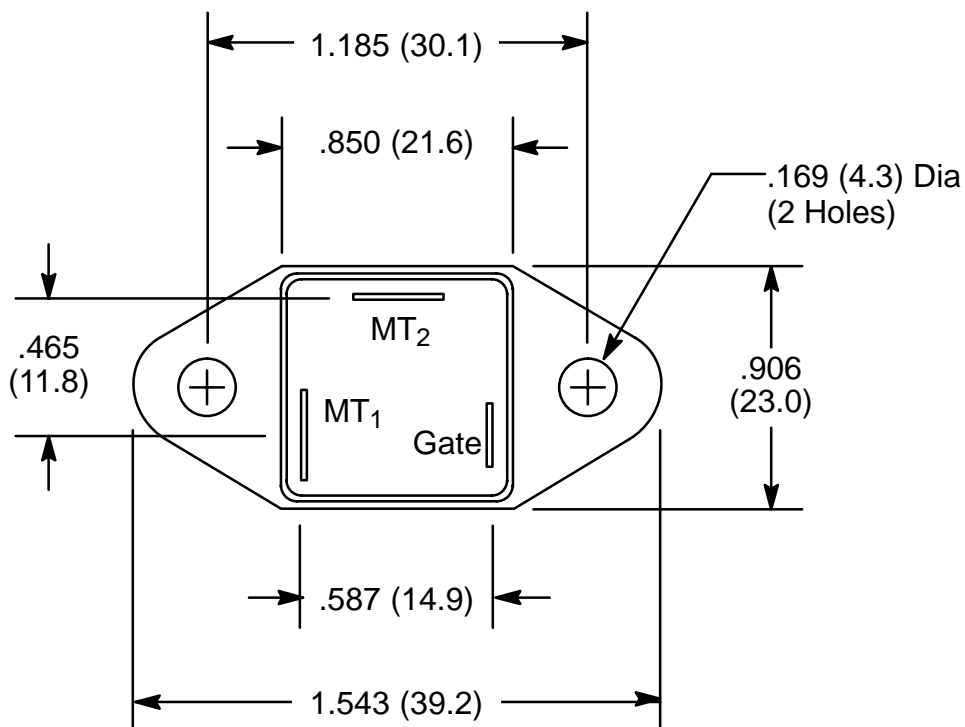
**Electrical Characteristics:** (All measurements are at T<sub>A</sub> = +25°C, 60Hz with a resistive load unless otherwise specified)

Repetitive Peak Blocking Voltage (Note 1), V <sub>DRM</sub> .....	600V
RMS On–State Current (Conduction Angle of 360°, T <sub>C</sub> = 0° to +125°C), I <sub>T(RMS)</sub> .....	40A
Peak Off–State Current (V <sub>DRM</sub> = 600V, Gate Open, Note 1), I <sub>DRM</sub>	
T <sub>C</sub> = +25°C .....	200mA
T <sub>C</sub> = +125°C .....	5mA
Peak One–Cycle Surge Current, I <sub>TSM</sub>	
50Hz .....	335A
60Hz .....	400A
Non–Repetitive RMS Surge On–State Current for Fusing (I <sub>GT</sub> = 500mA, 8.3ms), I <sup>2</sup> t . . . .	664A <sup>2</sup> sec
Maximum DC Gate Trigger Current (V <sub>D</sub> = 12V, Quad I, II, III), I <sub>GT</sub> .....	100mA
Maximum DC gate Trigger Voltage (V <sub>D</sub> = 12V, Quad I, II, III. Note 2), V <sub>GT</sub>	
T <sub>C</sub> = +25°C .....	2.5V
T <sub>C</sub> = +125°C .....	0.2V
Peak On–State Voltage (I <sub>T(RMS)</sub> = 40A, T <sub>C</sub> = +25°C, Note 1), V <sub>TM</sub> .....	1.8V
DC Holding Current (gate Open, Note 1, Note 3), I <sub>H</sub> .....	120mA
Peak Gate Trigger Current (Pulse Width ≤ 10μs), I <sub>GTM</sub> .....	4A
Peak Gate Power Dissipation (Pulse Width ≤ 10μs), P <sub>GM</sub> .....	40W
Average Gate Power Dissipation, P <sub>G(AV)</sub> .....	800mW
Minimum Critical Rate of Rise of Off–State Voltage (V <sub>DRM</sub> = 600V, Gate Open, Note 1), dv/dt	
T <sub>C</sub> = +100°C .....	375V/μs
T <sub>C</sub> = +125°C .....	250V/μs
Minimum Critical Rate of Rise of Commutation Voltage (Note 1), dv/dt <sub>(c)</sub>	
(V <sub>DRM</sub> = 600V, I <sub>T(RMS)</sub> = 40A, Commutating di/dt = 21.6A/msec, Gate Unenergized)	4V/μs
Maximum Rate of Change of On–State Current (I <sub>GT</sub> = 200mA, Rise Time = 0.1μs), di/dt .	150A/μs
Maximum Gate Controlled Turn–On Time (I <sub>GT</sub> = 500mA, Rise Time = 0.1μs), t <sub>gt</sub> .....	5μs
Operating Temperature Range, T <sub>J</sub> .....	0° to +125°C
Storage Temperature Range, T <sub>stg</sub> .....	–20° to +125°C

Note 1. For either polarity of MT<sub>2</sub> with reference to MT<sub>1</sub> terminal.

Note 2. For either polarity of gate voltage (V<sub>GT</sub>) with reference to MT<sub>1</sub> terminal.

Note 3. Initial On–State Current = 400mA (DC).



All Dimensions are Max