

NTE56030 & NTE56031 TRIAC, 40 Amp Isolated Tab

Description:

The NTE56030 and NTE56031 are 40 Amp TRIACs in a TO218 type package with an isolated tab designed to be driven directly with IC and MOS devices.

Absolute Maximum Ratings:

Peak Repetitive Off-State Voltage (Gate Open, $T_J = +110^\circ\text{C}$, Note 1), V_{DRM}	
NTE56030	400V
NTE56031	600V
RMS On-State Current ($T_C = +80^\circ\text{C}$, 360° Conduction Angle), $I_T(\text{RMS})$	40A
Peak Non-Repetitive Surge Current (One Cycle, at 50Hz or 60Hz), I_{TSM}	400A
Peak Gate-Trigger Current ($t = 3\mu\text{s}$), I_{GTM}	4A
Peak Gate-Power Dissipation ($I_{\text{GT}} \leq I_{\text{GTM}}$), P_{GM}	40W
Average Gate-Power Dissipation, $P_{\text{G(AV)}}$	800mW
Operating Junction Temperature Range, T_J	-40° to $+110^\circ\text{C}$
Storage Temperature Range, T_{stg}	-40° to $+150^\circ\text{C}$
Typical Thermal Resistance, Junction-to-Case, $R_{\text{thJC(DC)}}$	0.95°C/W

Note 1. All values apply in either direction.

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

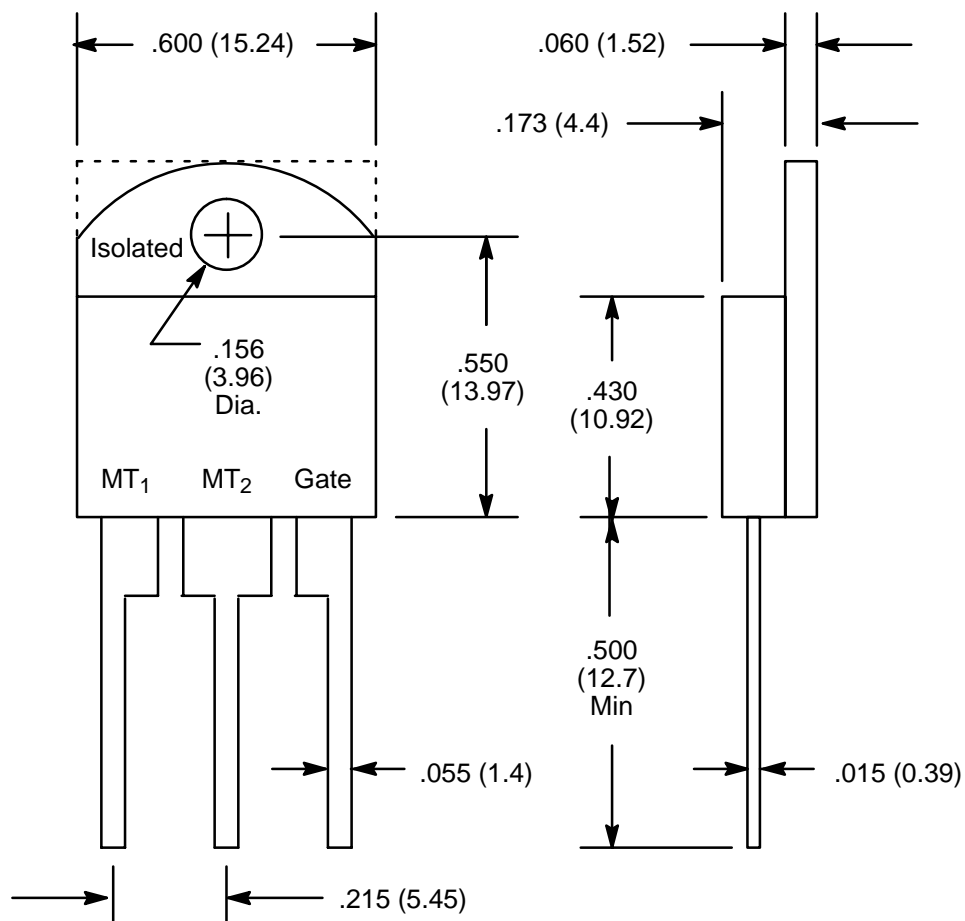
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Peak Off-State Current	I_{DRM}	$T_J = +110^\circ\text{C}$, $V_D = V_{\text{DRM}}$, Gate Open, Note 1	–	–	0.5	mA
Gate Trigger Current Quadrant I, II, III	I_{GT}	$V_D = 12\text{V}$, $R_L = 30\Omega$ T2 (+) G (+), T2 (–) G (–) Quads I and III T2 (+) G (–), T2 (–) G (+) Quads II and IV	–	–	100	mA
Quadrant IV			–	–	150	mA
Gate Trigger Voltage	V_{GT}	$V_D = 12\text{V}$, $R_L = 30\Omega$	–	–	2.5	V
Gate Non-Trigger Voltage	V_{GD}	$V_D = V_{\text{DRM}}$, $T_J = +110^\circ\text{C}$, $R_L = 3\text{k}$, Pulse Duration $> 20\mu\text{s}$, Note 1	0.2	–	–	V
Holding Current	I_{H}	Gate Open, Note 1	–	–	100	mA
Peak On-State Voltage	V_{TM}	$I_T = 40\text{A}$, Note 1	–	–	1.8	V

Note 1. All values apply in either direction.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Gate Controlled Turn-On Time	t_{gt}	$V_D = V_{DRM}$, $I_T = 10\text{A}$ (Peak), $I_{GT} = 200\text{mA}$, $t_R = 0.1\mu\text{s}$	–	3	–	μs
Critical Rate of Rise of Off-State Voltage	dv/dt	$V_D = V_{DRM}$, Gate Open, $T_C = +110^\circ\text{C}$, Note 1	–	200	–	$\text{V}/\mu\text{s}$
Critical Rate of Rise of Commutation Voltage	$dv/dt(c)$	$V_D = V_{DRM}$, $I_T = 40\text{A}$, $T_C = +80^\circ\text{C}$, Gate Unenergized, Note 1	–	5	–	$\text{V}/\mu\text{s}$

Note 1. All values apply in either direction.



NOTE: Dotted line indicates that case may have square corners.