ELECTRONICS, INC.
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NTE5646
TRIAC – Internally Triggered

Description:

The NTE5646 is a TRIAC that includes a diac trigger mounted inside the same package. This device saves the user the added expense of buying a discrete diac and the assembling associated with a gated triac. This device includes a dial trigger mounted inside the same isolated TO220 type package.

Absolute Maximum Ratings:

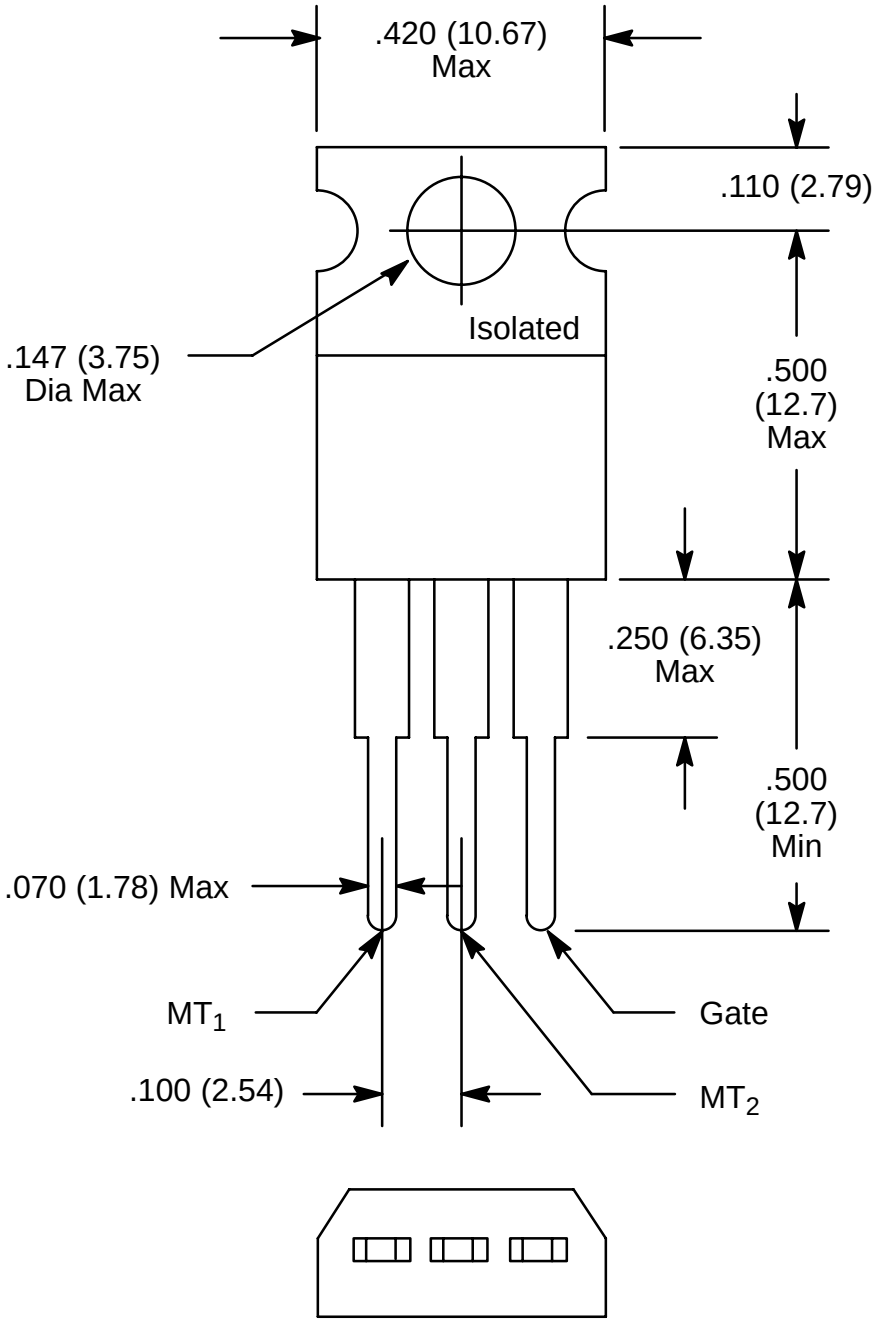
Repetitive Peak Off–State Voltage (Gate Open, T_J = +110°C, Note 1), V_{DRM} 600V
RMS On–State Current (T_C = +80°C, Conduction Angle of 360°), $I_{T(RMS)}$ 10A
Peak Surge (Non–Repetitive) On–State Current (One Cycle, at 50Hz or 60Hz), I_{TSM} 100A
Peak Gate–Trigger Current (3sec Max), I_{GTM} 1.5A
Operating Junction Temperature Range, T_{opr} . . . . . –40° to +110°C
Storage Temperature Range, T_{stg} . . . . . –40° to +150°C
Typical Thermal Resistance, Junction to Case, $R_{\Theta JC}$ . . . . . 2.8°C/W

Note 1. All values apply in either direction.

Electrical Characteristics: (T_C = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Peak Off–State Current	I_{DRM}	Gate Open, T_V = +110°C, V_{DRM} = 600V, Note 1	–	0.5	–	mA
Maximum On–State Voltage	V_{TM}	I_T = 10A, Note 1	–	–	1.5	V
DC Holding Current	I_{HOLD}	Gate Open, Note 1	–	–	60	mA
Critical Rate–of–Rise of Off–State Voltage	Critical dv/dt	V_D = 600V, Gate Open, T_C = +110C, Note 1	–	60	–	V/µs
Critical Rate–of–Rise of Commutation Voltage	Commutating dv/dt	T_C = +80°C, Gate Unenergized, V_D = 600V, I_T = 10A, Note 1	–	4	–	V/µs
Gate–Controlled Turn–On Time	T_{gt}	V_D = 600V, t_R = 0.1µs, I_T = 10A (Peak)	–	3	–	µs
Trigger DIAC Specifications						
Breakover Voltage Symmetry	$\Delta V_{(BO)}$		–	3	–	V
Breakover Voltage (Forward & Reverse)	V_{BO}		30	–	45	V
Dynamic Breakback Voltage (Forward & Reverse)	[$\Delta V \pm$]		–	5	–	V
Peak Breakover Current	I_{BO}		–	200	–	µA
Trigger Firing Capacitance	C		–	0.1	–	µF

Note 1. All values apply in either direction.


.420 (10.67)
Max
.110 (2.79)
Isolated
.147 (3.75)
Dia Max
.500
(12.7)
Max
.250 (6.35)
Max
.500
(12.7)
Min
.070 (1.78) Max
MT1
Gate
.100 (2.54)
MT2