



ELECTRONICS, INC.
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NTE5640 thru NTE5643 TRIAC, 2.5A

Absolute Maximum Ratings:

Repetitive Peak Off–State Voltage (Gate Open, $T_J = +100^\circ\text{C}$, Note 1), V_{DROM}	
NTE5640	100V
NTE5641	200V
NTE5642	400V
NTE5643	600V
RMS On–State Current ($T_C = +75^\circ\text{C}$, Conduction Angle of 360°), $I_{T(RMS)}$	
	2.5A
Peak Surge (Non–Repetitive) On–State Current (One Cycle, at 50Hz or 60Hz), I_{TSM}	
	30A
Peak Gate–Trigger Current ($3\mu\text{s}$ Max), I_{GTM}	
	1A
Peak Gate–Power Dissipation ($I_{GT} \leq I_{GTM}$ for $3\mu\text{s}$ Max), P_{GM}	
	20W
Average Gate–Power Dissipation, $P_{G(AV)}$	
	200mW
Fusing Current (For TRIAC Protection, $T = 1.25$ to 10ms), I^2t	
	$3\text{A}^2\text{s}$
Operating Temperature Range, T_{opr}	
	-40° to $+100^\circ\text{C}$
Storage Temperature Range, T_{stg}	
	-40° to $+150^\circ\text{C}$
Typical Thermal Resistance, Junction–to–Case, R_{thJC}	
	4°C/W

Note 1. All values apply in either direction.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Peak Off–State Current	I_{DROM}	$V_{DROM} = \text{Max Rating}$, $T_J = +100^\circ\text{C}$, Gate Open, Note 1	–	–	0.75	mA
Maximum On–State Voltage	V_{TM}	$i_T = 5\text{A}$ (Peak), Note 1	–	–	2.2	V
DC Holding Current	I_H	Gate Open	–	–	15	mA
Critical Rate–of–Rise of Off–State Voltage	Critical dv/dt	$V_D = V_{DROM}$, $T_C = +100^\circ\text{C}$, Note 1	–	7	–	V/ μs
DC Gate–Trigger Current	I_{GT}	$V_D = 6\text{V}$, $R_L = 39\Omega$, All Quads	–	–	25	mA
DC Gate–Trigger Voltage	V_{GT}	$V_D = 6\text{V}$, $R_L = 39\Omega$	–	–	2.2	V
Gate–Controlled Turn–On Time	t_{gt}	$V_D = V_{DROM}$, $I_{GT} = 80\text{mA}$, $t_r = 0.1\mu\text{s}$, $i_T = 10\text{A}$ (Peak)	–	2.2	–	μs

