



**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 $360^\circ$ ), $I_{T(RMS)}$ .....	
	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 $10\text{ms}$ ), $I^2t$ .....	
	$3\text{A}^2\text{s}$
Operating Temperature Range, $T_{opr}$ .....	
	$-40^\circ$ to $+100^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	
	$-40^\circ$ to $+150^\circ\text{C}$
Typical Thermal Resistance, Junction–to–Case, $R_{thJC}$ .....	
	$4^\circ\text{C/W}$

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/ $\mu\text{s}$
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	–	$\mu\text{s}$

