

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

