



ELECTRONICS, INC.

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NTE5452 thru NTE5458 Silicon Controlled Rectifier (SCR) 4 Amp Sensitive Gate

Description:

The NTE5452 through NTE5458 are sensitive gate 4 Amp SCR's in a TO202 type package designed to be driven directly with IC and MOS devices. These reverse-blocking triode thyristors may be switched from off-state to conduction by a current pulse applied to the gate terminal. They are designed for control applications in lighting, heating, cooling, and static switching relays.

Absolute Maximum Ratings:

Repetitive Peak Reverse Voltage ($T_C = +100^\circ\text{C}$), V_{RRM}

NTE5452	30V
NTE5453	50V
NTE5454	100V
NTE5455	200V
NTE5456	300V
NTE5457	400V
NTE5458	600V

Repetitive Peak Off-State Voltage ($T_C = +100^\circ\text{C}$), V_{DRXM}

NTE5452	30V
NTE5453	50V
NTE5454	100V
NTE5455	200V
NTE5456	300V
NTE5457	400V
NTE5458	600V

RMS On-State Current, $I_{T(RMS)}$ 4A

Peak Surge (Non-Repetitive) On-State Current (One Cycle at 50 or 60Hz), I_{TSM} 20A

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

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} $+5^\circ\text{C/W}$

Electrical Characteristics:

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Peak Off-State Current	I_{RRM}	$V_{RRM} = \text{Max}, V_{DRXM} = \text{Max}, T_C = +100^\circ\text{C}, R_{G-K} = 1\text{k}\Omega$	-	-	100	μA
	I_{DRXM}		-	-	100	μA
Maximum On-State Voltage	V_{TM}	$T_C = +25^\circ\text{C}, I_T = 4\text{A (Peak)}$	-	-	2.2	V
DC Holding Current	I_{HOLD}	$T_C = +25^\circ\text{C}$	-	-	3	mA
DC Gate-Trigger Current	I_{GT}	$V_D = 6\text{VDC}, R_L = 100\Omega, T_C = +25^\circ\text{C}$	-	50	200	μA
DC Gate-Trigger Voltage	V_{GT}	$V_D = 6\text{VDC}, R_L = 100\Omega, T_C = +25^\circ\text{C}$	-	-	0.8	V
Total Gate Controlled Turn-On Time	t_{gt}	$T_C = +25^\circ\text{C}$	-	1.2	-	μs
I^2t for Fusing Reference	I^2t	$> 1.5\text{msoc}$	-	-	0.5	A^2sec
Critical rate of Applied Forward Voltage	dv/dt (critical)	$R_{G-K} = 1\text{k}\Omega, T_C = +100^\circ\text{C}$	-	8	-	$\text{V}/\mu\text{s}$

