

NTE5427 thru NTE5429

Silicon Controlled Rectifier (SCR)

7 Amp

Absolute Maximum Ratings:

Repetitive Peak Reverse Voltage ($T_C = +110^\circ\text{C}$), V_{RRM}	
NTE5427	200V
NTE5428	400V
NTE5429	600V
Repetitive Peak Off-State Voltage ($T_C = +110^\circ\text{C}$), V_{DRM}	
NTE5427	200V
NTE5428	400V
NTE5429	600V
RMS On-State Current ($T_C = +80^\circ\text{C}$, Conduction Angle of 180°), $I_{T(RMS)}$	
7A	
Peak Surge (Non-Repetitive) On-State Current (One Cycle at 50 or 60Hz), I_{TSM}	
80A	
Peak Gate-Trigger Current ($3\mu\text{s}$ Max), I_{GTM}	
1A	
Peak Gate-Power Dissipation ($I_{GT} \leq I_{GTM}$), P_{GM}	
20W	
Average Gate Power Dissipation, $P_{G(AV)}$	
500mW	
Operating Temperature Range, T_{opr}	
-40° to $+110^\circ\text{C}$	
Storage Temperature Range, T_{stg}	
-40° to $+150^\circ\text{C}$	
Typical Thermal Resistance, Junction-to-Case, R_{thJC}	
2.5°C/W	

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Peak Off-State Current	I_{RRM}	$V_{RRM} = \text{Max}$, $V_{DRM} = \text{Max}$, $T_C = +110^\circ\text{C}$, $R_{GK} = 1\text{k}\Omega$	—	—	1	mA
	I_{DRM}		—	—	1	mA
Maximum On-State Voltage	V_{TM}	$I_T = 7\text{A}$	—	—	2	V
DC Holding Current	I_{HOLD}		—	—	50	mA
DC Gate-Trigger Current	I_{GT}	$V_D = 6\text{VDC}$, $R_L = 100\Omega$	—	—	25	mA
DC Gate-Trigger Voltage	V_{GT}	$V_D = 6\text{VDC}$, $R_L = 100\Omega$	—	—	1.5	V
Gate Controlled Turn-On Time	t_{gt}	$I_G \times 3_{GT}$	—	2	—	μs
I^2t for Fusing Reference	I^2t	For SCR Protection	—	—	2.6	A^2sec
Critical Rate of Off-State Voltage	dv/dt (critical)	Gate Open, $T_C = +100^\circ\text{C}$	—	100	—	$\text{V}/\mu\text{s}$

