

NTE5514 thru NTE5516 Silicon Controlled Rectifier (SCR)

Absolute Maximum Ratings:

Repetitive Peak Off-State Voltage ($T_J = +100^\circ\text{C}$), V_{DRM}	
NTE5514	200V
NTE5515	400V
NTE5516	600V
Repetitive Peak Reverse Voltage ($T_J = +100^\circ\text{C}$), V_{RRM}	
NTE5514	200V
NTE5515	400V
NTE5516	600V
RMS On-State Current ($T_C = +75^\circ\text{C}$), $I_{\text{T(RMS)}}$	
20A	
Peak Surge (Non-Repetitive) On-State Current (One Cycle, 50Hz or 60Hz), I_{TSM}	
200A	
Peak Gate-Trigger Current ($3\mu\text{s}$ Max), I_{GTM}	
20A	
Peak Gate-Power Dissipation ($I_{\text{GT}} \leq I_{\text{GTM}}$ for $3\mu\text{s}$ Max), P_{GM}	
20W	
Average Gate-Power Dissipation, $P_{\text{G(AV)}}$	
0.5W	
Operating Temperature Range, T_{opr}	
-40° to $+150^\circ\text{C}$	
Storage Temperature Range, T_{stg}	
-40° to $+100^\circ\text{C}$	
Typical Thermal Resistance, Junction-to-Case, R_{thJC}	
1.3°C/W	

Electrical Characteristics: (At Maximum Ratings and Specified Case Temperatures)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Peak Off-State Current	$I_{\text{DRM}}, I_{\text{RRM}}$	$T_J = +100^\circ\text{C}$, Gate Open, V_{DRM} and $V_{\text{RRM}} = \text{Max. Rating}$	—	—	2.0	mA
Maximum On-State Voltage (Peak)	V_{TM}	$T_C = +25^\circ\text{C}$	—	—	1.9	V
Peak On-State Current	I_{TM}		—	—	40	A
DC Holding Current	I_{H}	$T_C = +25^\circ\text{C}$, Gate Open	—	—	50	mA
DC Gate-Trigger Current	I_{GT}	Anode Voltage = 12V, $R_L = 30\Omega$, $T_C = +25^\circ\text{C}$	—	—	25	mA
DC Gate-Trigger Voltage	V_{GT}	Anode Voltage = 12V, $R_L = 30\Omega$, $T_C = +25^\circ\text{C}$	—	—	2.0	V
Gate Controlled Turn-On Time	t_{gt}	$t_{\text{d}} + t_{\text{r}}$, $I_{\text{GT}} = 150\text{mA}$	—	2.5	—	μs
Critical Rate-of-Rise of Off-State Voltage	Critical dv/dt	$T_C = +100^\circ\text{C}$, Gate Open	—	100	—	V/ μs

