



ELECTRONICS, INC.
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NTE5514 thru NTE5516 Silicon Controlled Rectifier (SCR) 20 Amp, 1/2" Press Fit

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 ($T_C = +75^\circ\text{C}$), $I_{T(RMS)}$ | |
| 20A | |
| Peak Surge (Non-Repetitive) On-State Current (One Cycle, 50Hz or 60Hz), I_{TSM} | |
| 200A | |
| Peak Gate-Trigger Current (3 μs Max), I_{GTM} | |
| 20A | |
| Peak Gate-Power Dissipation ($I_{GT} \leq I_{GTM}$ for 3 μs Max), P_{GM} | |
| 20W | |
| Average Gate-Power Dissipation, $P_{G(AV)}$ | |
| 0.5W | |
| Operating Temperature Range, T_{opr} | |
| -40° to +150°C | |
| Storage Temperature Range, T_{stg} | |
| -40° to +100°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_{DRM} , I_{RRM} | $T_J = +100^\circ\text{C}$, Gate Open, V_{DRM} and $V_{RRM} = \text{Max. Rating}$ | - | - | 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} | $t_d + t_r$, $I_{GT} = 150\text{mA}$ | - | 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 |

