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NTE5369
Silicon Controlled Rectifier (SCR) for High Speed Switching, 125 Amp, TO83

Absolute Maximum Ratings: (T_J = +125°C unless otherwise specified)

Repetitive Peak Voltages, V_{RRM}, V_{DRM}, V_{DSM} 1200V
Non–Repetitive Peak Reverse Blocking Voltage, V_{RSM} 1300V
Average On–State Current (Half Sine Wave, T_C = +85°C), $I_{T(AV)}$ 75A
RMS On–State Current, $I_{T(RMS)}$ 175A
Continuous On–State Current, I_T 175A
Peak One–Cycle Surge (10ms duration, 60% V_{RRM} re–applied), $I_{TSM\ (1)}$ 1500A
Non–Repetitive On–State Current (10ms duration, $V_R \le 10V$), $I_{TSM\ (2)}$ 1650A
Maximum Permissible Surge Energy ($V_R \le 10V$), I^2t
    10ms duration . . . . . $13600A^2s$
    3ms duration . . . . . $10000A^2s$
Peak Forward Gate Current (Anode positive with respect to cathode), I_{FGM} 14A
Peak Forward Gate Voltage (Anode positive with respect to cathode), V_{FGM} 20V
Peak Reverse Gate Voltage, V_{RGM} 5V
Average Gate Power, P_G 1.5W
Peak Gate Power (100µs pulse width), P_{GM} 60W
Rate of Rise of Off–State Voltage (To 80% V_{DRM} gate open–circuit), dv/dt 200V/µs
Rate of Rise of On–State Current, di/dt
    (Gate drive 20V, 20Ω with $t_r \le 1\mu s$, anode voltage ≤ 80% V_{DRM})
        Repetitive 500A/µs
        Non–Repetitive 1000A/µs
Operating Temperature Range, T_{hs} . . . . . –40° to +125°C
Storage Temperature Range, T_{stg} . . . . . –40° to +150°C
Thermal Resistance, Junction–to–Case, R_{thJC}
    (For a device with a maximum forward voltage drop characteristic) . . . . . 0.23°C/W
Peak On–State Voltage (I_{TM} = 280A), V_{TM} 2.54V
Forward Conduction Threshold Voltage, V_O 1.7V
Forward Conduction Slope Resistance, r 3mΩ
Repetitive Peak Off–State Current (At V_{DRM}), I_{DRM} 20mA
Repetitive Peak Reverse Current (At V_{RRM}), I_{RRM} 20mA

Absolute Maximum Ratings (Cont'd): (T_J = +125°C unless otherwise specified)

Maximum Gate Current (V_A = 6V, I_A = 1A, T_J = +25°C), I_{GT} 200mA

Maximum Gate Voltage (V_A = 6V, I_A = 1A, T_J = +25°C), V_{GT} 3V

Maximum Holding Current (V_A = 6V, I_A = 1A, T_J = +25°C), I_H 600mA

Maximum Gate Voltage Which Will Not Trigger Any Device, V_{GD} 0.25V

Typical Stored Charge (I_{TM} = 200A, dr_R/dt = 10A/μs, V_{RM} = 50V, 50% chord value), Q_{rr} 25μC

Circuit Commutated Turn−Off Time (I_{TM} = 200A, di_R/dt = 10A/μs, V_{RM} = 50V), t_q

(200V/μs to 80% V_{DRM}) . . . . . 25−40μs

(20V/μs to 80% V_{DRM}) . . . . . (typical) 20−35μs