ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089

NTE5567, NTE5568, NTE5569, & NTE5571
Silicon Controlled Rectifier (SCR)
for Phase Control Applications

Maximum Ratings and Electrical Characteristics: (T_J = +125°C unless otherwise specified)

Repetitive Peak Forward and Reverse Voltage, V_{DRM}, V_{RRM}
- NTE5567 . . . . . 200V
- NTE5568 . . . . . 600V
- NTE5569 . . . . . 1200V
- NTE5571 . . . . . 1600V

Non–Repetitive Peak Off–State Voltage, V_{DSM}
- NTE5567 . . . . . 200V
- NTE5568 . . . . . 600V
- NTE5569 . . . . . 1200V
- NTE5571 . . . . . 1600V

Average On–State Current (Half Sine Wave, T_C = +85°C), $I_{T(AV)}$
- NTE5567, NTE5568, NTE5569 . . . . . 63A
- NTE5571 . . . . . 45A

RMS On–State Current, $I_{T(RMS)}$ 100A

Continuous On–State Current, I_T 100A

Peak One–Cycle Surge (10ms Duration, 60% V_{RRM} Reapplied), $I_{TSM(1)}$
- NTE5567, NTE5568, NTE5569 . . . . . 1000A
- NTE5571 . . . . . 750A

Non–Repetitive On–State Current (10ms Duration, 60% $V_R \le 10V$), $I_{TSM(2)}$
- NTE5567, NTE5568, NTE5569 . . . . . 1150A
- NTE5571 . . . . . 863A

Maximum Permissible Surge Energy (3ms Duration, 60% $V_R \le 10V$), I^2t
- NTE5567, NTE5568, NTE5569 . . . . . 4860A^2sec
- NTE5571 . . . . . 2770A^2sec

Maximum Permissible Surge Energy (10ms Duration, 60% $V_R \le 10V$), I^2t (2)
- NTE5567, NTE5568, NTE5569 . . . . . 6613A^2sec
- NTE5571 . . . . . 3720A^2sec

Peak Forward Gate Current (Anode Positive with Respect to Cathode), I_{FGM} 5A

Peak Forward Gate Voltage (Anode Positive with Respect to Cathode), V_{FGM} 25V

Peak Reverse Gate Voltge, V_{RGM} 5V

Average Gate Power, P_G 1W

Peak Gate Power (100μs Pulse Width), P_{GM} 20W

Rate of Rise of Off–State Voltage (To 80% V_{DRM}, Gate Open–Circuit), dv/dt 200V/μs

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

Rate of Rise of Repetitive On–State Current, di/dt (1)
(T_{VJ} = +125°C, I_G = 3 x I_{GT}, dI_G/dt = 1A/μs, Anode Voltage ≤ 80% V_{DRM}) 200A/μs

Rate of Rise of Non–Repetitive On–State Current, di/dt (2)
(T_{VJ} = +125°C, I_G = 3 x I_{GT}, dI_G/dt = 1A/μs, Anode Voltage ≤ 80% V_{DRM}) 400A/μs

Peak On–State Voltage, V_{TM}
NTE5567, NTE5568, NTE5569 (I_{TM} = 195A) 2.1V
NTE5571 (I_{TM} = 140A) 2.22V

Forward Conduction Threshold Voltage, V_O
NTE5567, NTE5568, NTE5569 . . . . . 0.89V
NTE5571 . . . . . 1.1V

Forward Conduction Slope Resistance, r
NTE5567, NTE5568, NTE5569 . . . . . 6.1mΩ
NTE5571 . . . . . 7.9mΩ

Repetitive Peak Off–State Current (At V_{DRM}), I_{DRM} 10mA

Repetitive Peak Reverse Current (At V_{DRM}), I_{RRM} 10mA

Maximum Gate Current (V_A = 6V, I_A = 500mA, T_J = +25°C), I_{GT} 100mA

Maximum Gate Voltage (V_A = 6V, I_A = 500mA, T_J = +25°C), V_{GT} 3V

Maximum Holding Current (V_A = 6V, I_A = 500mA, T_J = +25°C), I_H 160mA

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

Operating Temperature Range, T_C . . . . . –40° to +125°C

Storage Temperature Range, T_{stg} . . . . . –40° to +150°C

Thermal Resistance, Junction–to–Case (V_F = Max, DC and 180° Sine Wave), $R_{th(J–C)}$
NTE5567, NTE5568, NTE5569 . . . . . 0.35°C/W
NTE5571 . . . . . 0.45°C/W

Thermal Resistance, Junction–to–Case (V_F = Max, 120° Rectangular Wave), $R_{th(J–C)}$
NTE5567, NTE5568, NTE5569 . . . . . 0.40°C/W
NTE5571 . . . . . 0.52°C/W

Thermal Resistance, Case–to–Heatsink, $R_{th(C–HS)}$ . . . . . 0.1°C/W