ELECTRONICS, INC.
44 FARRAND STREET
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NTE5539 & NTE5540
Silicon Controlled Rectifier (SCR)
55 Amps

Features:
- High Voltage Capability
- High Surge Capability
- Glass Passivated Chip

Electrical Characteristics: (T_A = +25°C, 60Hz, Resistive load unless otherwise specified)

Repetitive Peak Off–State Forward & Reverse Voltage, V_{DRM}, V_{RRM}
- NTE5539 . . . . . 400V
- NTE5540 . . . . . 800V

Maximum RMS On–State Current, $I_{T(RMS)}$ 55A

Average On–State Current, $I_{T(AV)}$ 35A

DC Gate Trigger Current (V_D = 12V, R_L = 30Ω), I_{GT}
- Minimum 5mA
- Maximum 40mA

Maximum Peak Off–State Forward & Reverse Current (At rated V_{DRM}, V_{RRM}), I_{DRM}, I_{RRM}
- (T_C = +25°C)
  - NTE5539 . . . . . 10μA
  - NTE5540 . . . . . 20μA
- (T_C = +100°C)
  - NTE5539 . . . . . 1.0mA
  - NTE5540 . . . . . 1.5mA
- (T_C = +125°C)
  - NTE5539 . . . . . 2.0mA
  - NTE5540 . . . . . 3.0mA

Peak On–State Voltage ($I_{T(RMS)}$ = 55A, T_C = +25°C), V_{TM} 1.8V

Maximum DC Gate Trigger Voltage (T_C = +25°C, V_D = 12V, R_L = 30Ω), V_{GT} 1.5V

Minimum DC Gate Trigger Voltage (T_C = +125°C, V_D = 12V, R_L = 30Ω), V_{GT} 0.2V

Maximum DC Holding Current (Gate Open, Initial On–State Current = 400mA(DC)), I_H 60mA

Peak Gate Current (Pulse Width ≤ 10μs), I_{GM} 4A

Peak Gate Power Dissipation (Pulse Width ≤ 10μs), P_{GM} 40W

Average Gate Power Dissipation, $P_{G(AV)}$ 800mW

Peak One Cycle Surge Forward Current, I_{TSM}
- 50Hz 550A
- 60Hz 650A

Minimum Critical Rate–of–Applied Forward Voltage, dv/dt
- (T_C = +100°C)
  - NTE5539 . . . . . 650V/μs
  - NTE5540 . . . . . 500V/μs
- (T_C = +125°C)
  - NTE5539 . . . . . 550V/μs
  - NTE5540 . . . . . 475V/μs

Electrical Characteristics (Cont'd): (T_A = +25°C, 60Hz, Resistive load unless otherwise specified)

RMS Surge (Non–Repetitive) On–State Current for Fusing (8.3ms), I^2t . . . . . 1750A^2sec

Maximum Rate–of–Change of On–State Current (I_{GT} = 150mA, t_r = 0.1µs), di/dt 175A/µs

Gate Controlled Turn–On Time (Gate Pulse = 150mA, Min Width = 15µs, $t_r \le 0.1\mu s$), t_{gt} . . . 2.5µs

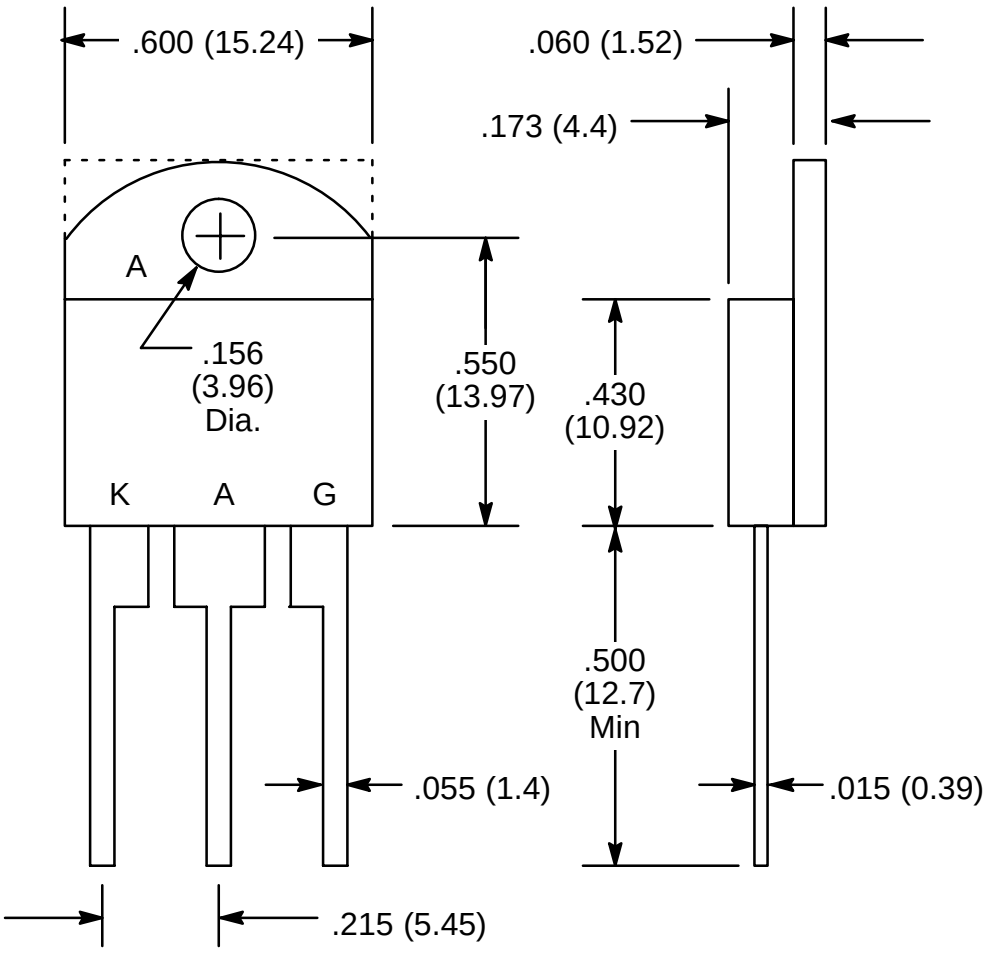
Circuit Commutated Turn–Off Time (Note 1), t_q 35µs

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

Storage Temperature Range, T_{stg} . . . . . –40° to +125°C

Lead Temperature (During Soldering, 1/16" from case, 10sec max), T_L . . . . . +230°C

Note 1. i_T = 2A, Pulse Duration = 50µs, dv/dt = 20V/µs, di/dt = –30A/µs, I_{GT} = 200mA at Turn–On



NOTE: Dotted line indicates that case may have square corners.