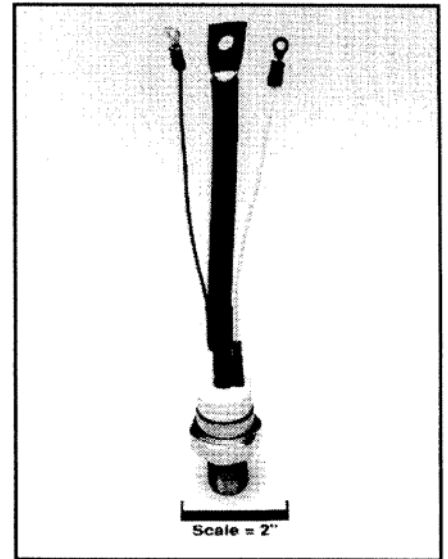
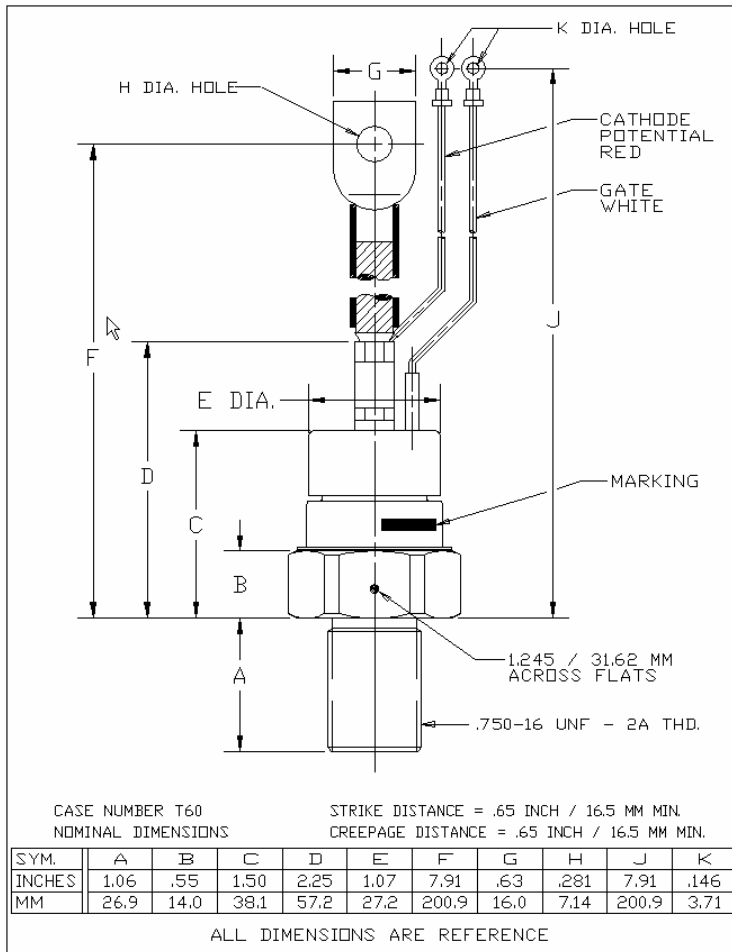


Phase Control SCR
150-175 Amperes
1600 Volts



T600 Phase Control SCR
 150-175 Amperes, 100-1600 Volts

Description:

Powerex Silicon Controlled Rectifiers (SCR) are designed for phase control applications. These are all-diffused, compression bonded encapsulated (CBE) devices employing the field-proven amplifying (di/damic) gate.

Ordering Information:

Select the complete 12 digit part number you desire from the table, i.e. T600121504BT is a 1200V, 150A Phase Control SCR.

| Type | Voltage | | Current | | Turn off | Gate Current | Leads |
|-------------|------------------|-----------------------|--------------------|-----------|-----------------------|----------------------|-----------|
| | V _{DRM} | V _{RRM} Code | I _{T(av)} | Code | t _q Code | I _{GT} Code | Code |
| T600 | 100 | 01 | 150 | 15 | 0 | 4 | BT |
| | 200 | 02 | 175 | 18 | | | |
| | 300 | 03 | | | | | |
| | 400 | 04 | | | 100 µsec (Typical) | 150 mA | TO-93 |
| | 500 | 05 | | | | | |
| | 600 | 06 | | | | | |
| | 700 | 07 | | | | | |
| | 800 | 08 | | | | | |
| | 900 | 09 | | | | | |
| | 1000 | 10 | | | | | |
| | 1100 | 11 | | | | | |
| | 1200 | 12 | | | | | |
| | 1300 | 13 | | | | | |
| | 1400 | 14 | | | | | |
| | 1500 | 15 | | | | | |
| | 1600 | 16 | | | | | |

Features:

- Low On-State Voltage
- High di/dt
- High dv/dt
- Hermetic Packaging
- Excellent Surge and I²t Ratings

Applications:

- Power Supplies
- Battery Chargers
- Motor Control
- Welders

Absolute Maximum Ratings

| | Symbol | T600 _ _ 15 | T600 _ _ 18 | Units |
|---|--------------|-------------|-------------|------------------|
| RMS On-State Current | $I_{T(RMS)}$ | 235 | 275 | Amperes |
| Average On-State Current | $I_{T(av)}$ | 150 | 175 | Amperes |
| Peak One-Cycle Surge (Non-Repetitive) On-State Current (60Hz) | I_{TSM} | 4000 | 5500 | Amperes |
| Peak One-Cycle Surge (Non-Repetitive) On-State Current (50Hz) | I_{TSM} | 3650 | 5000 | Amperes |
| Critical Rate-of-Rise of On-State Current (Non-Repetitive) | di/dt | 800 | 800 | Amperes/ μ s |
| Critical Rate-of-Rise of On-State Current (Repetitive) | di/dt | 150 | 150 | Amperes/ μ s |
| I^2t (for Fusing), 8.3 milliseconds | I^2t | 66,000 | 120,000 | A^2sec |
| Peak Gate Power Dissipation | P_{GM} | 16 | 16 | Watts |
| Average Gate Power Dissipation | $P_{G(av)}$ | 3 | 3 | Watts |
| Storage Temperature | T_{STG} | -40 to 150 | -40 to 150 | $^{\circ}C$ |
| Operating Temperature | T_J | -40 to 125 | -40 to 125 | $^{\circ}C$ |
| Mounting Torque | | 300 | 300 | in.-lb. |
| Mounting Torque (Lubricated) | | 340 | 340 | kg-cm |

Electrical and Thermal Characteristics

| Characteristics | Symbol | Test Conditions | T600 _ _ 15 | T600 _ _ 18 | Units |
|--|-----------------|--|-------------|-------------|------------------|
| Current—Conducting State Maximums | | | | | |
| Peak On-State Voltage | V_{TM} | $T_J = 25^{\circ}C, I_T = 625A$ | 1.8 | 1.55 | Volts |
| T600 | | | | | |
| Voltage—Blocking State Maximums | | | | | |
| Forward Leakage, Peak | I_{DRM} | $T_J = 125^{\circ}C, V_{DRM} = \text{rated}$ | | 25 | mA |
| Reverse Leakage, Peak | I_{RRM} | $T_J = 125^{\circ}C, V_{RRM} = \text{rated}$ | | 25 | mA |
| Switching | | | | | |
| Typical Turn-Off Time | t_q | | | 100 | μ sec |
| Typical Turn-On Time | t_{on} | $I_T = 100A, V_D = 100V$ | | 5 | μ sec |
| Min. Critical dv/dt exponential to V_{DRM} | dv/dt | $T_J = 125^{\circ}C$ | | 300 | V/μ sec |
| Thermal | | | | | |
| Maximum Thermal Resistance, Junction to Case | $R_{\theta JC}$ | | | 0.13 | $^{\circ}C/Watt$ |
| Case to Sink, Lubricated | $R_{\theta CS}$ | | | 0.075 | $^{\circ}C/Watt$ |
| Gate—Maximum Parameters | | | | | |
| Gate Current to Trigger | I_{GT} | $T_J = 25^{\circ}C, V_D = 12V$ | | 150 | mA |
| Gate Voltage to Trigger | V_{GT} | $T_J = 25^{\circ}C, V_D = 12V$ | | 3 | Volts |
| Non-Triggering Gate Voltage | V_{GDM} | $T_J = 125^{\circ}C, V_{DRM} = \text{rated}$ | | 0.15 | Volts |
| Peak Forward Gate Current | I_{GTM} | | | 4 | Amperes |
| Peak Reverse Gate Voltage | V_{GRM} | | | 5 | Volts |

