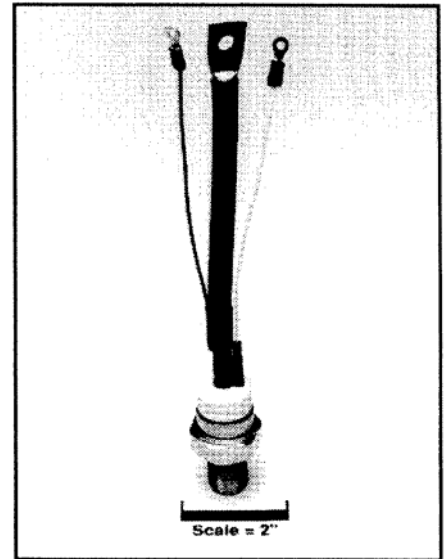
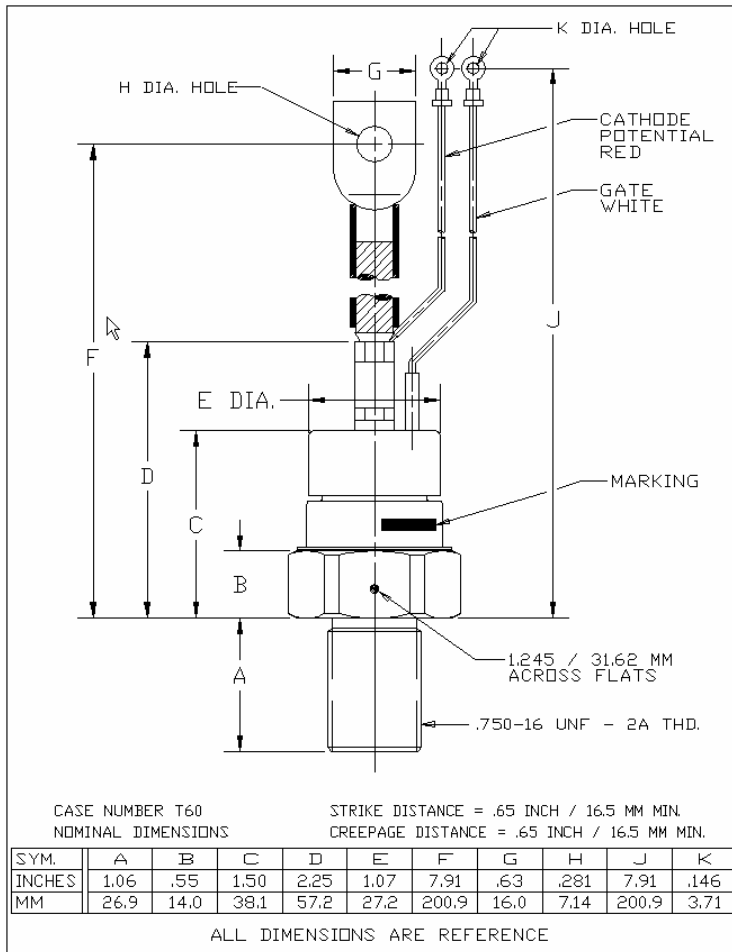


**Phase Control SCR**  
**150-175 Amperes**  
**1600 Volts**



**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 <sub>DRM</sub> V <sub>RRM</sub>	Code	I <sub>T(av)</sub>	Code	t <sub>q</sub> Code	I <sub>GT</sub> Code	Code
<b>T600</b>	100	<b>01</b>	150	<b>15</b>	<b>0</b>	<b>4</b>	<b>BT</b>
	200	<b>02</b>	175	<b>18</b>			
	300	<b>03</b>					
	400	<b>04</b>			100 µsec (Typical)	150 mA	TO-93
	500	<b>05</b>					
	600	<b>06</b>					
	700	<b>07</b>					
	800	<b>08</b>					
	900	<b>09</b>					
	1000	<b>10</b>					
	1100	<b>11</b>					
	1200	<b>12</b>					
	1300	<b>13</b>					
	1400	<b>14</b>					
	1500	<b>15</b>					
	1600	<b>16</b>					

**Features:**

- Low On-State Voltage
- High di/dt
- High dv/dt
- Hermetic Packaging
- Excellent Surge and I<sup>2</sup>t 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/ $\mu$ s
Critical Rate-of-Rise of On-State Current (Repetitive)	$di/dt$	150	150	Amperes/ $\mu$ 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
<b>Current—Conducting State Maximums</b>					
Peak On-State Voltage	$V_{TM}$	$T_J = 25^{\circ}C, I_T = 625A$	1.8	1.55	Volts
<b>T600</b>					
<b>Voltage—Blocking State Maximums</b>					
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
<b>Switching</b>					
Typical Turn-Off Time	$t_q$			100	$\mu$ sec
Typical Turn-On Time	$t_{on}$	$I_T = 100A, V_D = 100V$		5	$\mu$ sec
Min. Critical $dv/dt$ exponential to $V_{DRM}$	$dv/dt$	$T_J = 125^{\circ}C$		300	$V/\mu$ sec
<b>Thermal</b>					
Maximum Thermal Resistance, Junction to Case	$R_{\theta JC}$			0.13	$^{\circ}C/Watt$
Case to Sink, Lubricated	$R_{\theta CS}$			0.075	$^{\circ}C/Watt$
<b>Gate—Maximum Parameters</b>					
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

