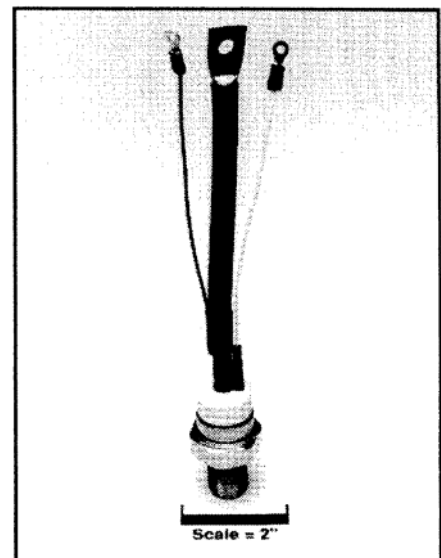
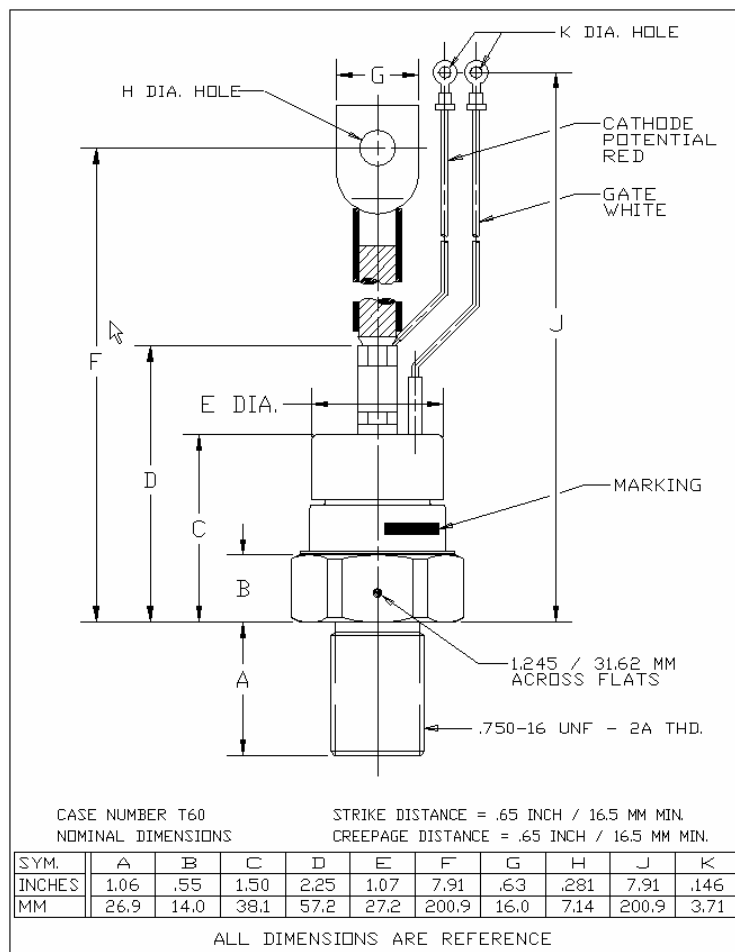


Phase Control SCR 150-175 Amperes 1600 Volts



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/namic) 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			100 µsec (Typical)	150 mA	TO-93
	400	04					
	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/ μs
Critical Rate-of-Rise of On-State Current (Repetitive)	di/dt	150	150	Amperes/ μs
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
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		μsec
Typical Turn-On Time	t_{on}	$I_T = 100A, V_D = 100V$	5		μsec
Min. Critical dv/dt exponential to V_{DRM}	dv/dt	$T_J = 125^{\circ}C$	300		$V/\mu sec$
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

