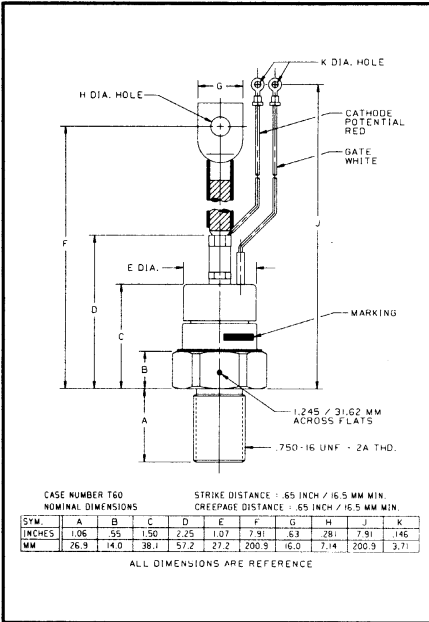
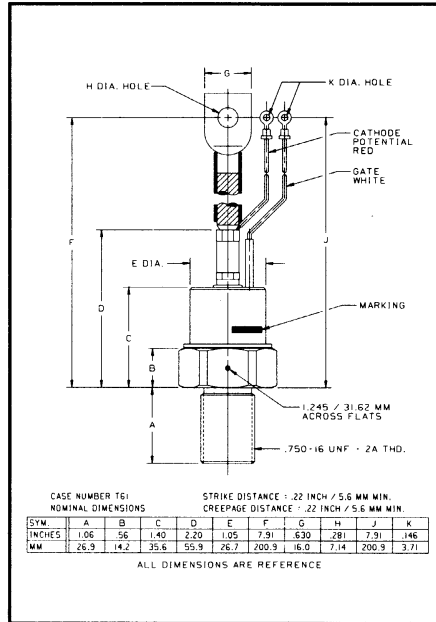


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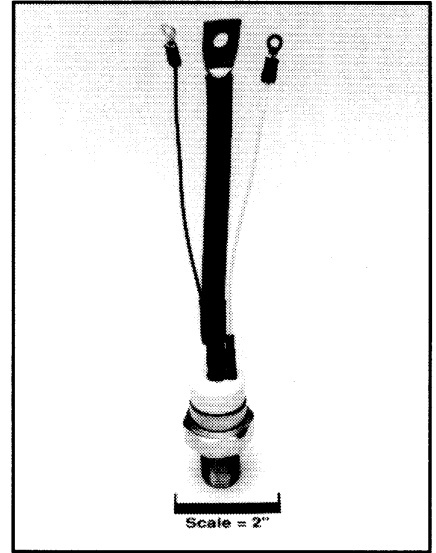
Phase Control SCR
 150-175 Amperes
 1600 Volts



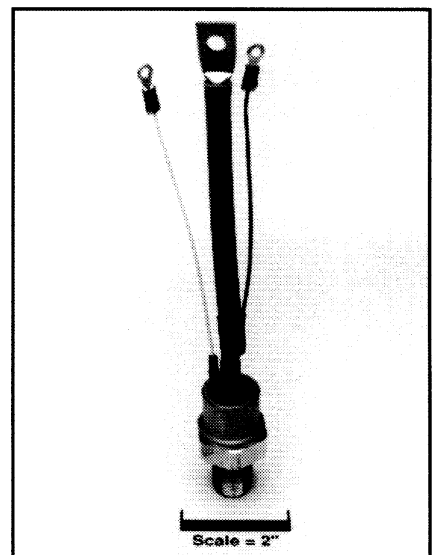
T600 (Outline Drawing)



T610 (Outline Drawing)



T600 Phase Control SCR
 150-175 Amperes, 1300-1600 Volts



T610 Phase Control SCR
 150-175 Amperes, 100-1200 Volts

Ordering Information:

Select the complete eight digit part number you desire from the table, i.e. T6101215 is a 1200 Volt, 150 Ampere Phase Control SCR.

Type	Voltage		Current			
	V _{DRM}	V _{RRM} Code	I _{T(av)}	Code		
T610	100	01	150	15		
	200	02				
	300	03	175	18		
	400	04				
	500	05				
	600	06				
	700	07				
	800	08				
	900	09				
	1000	10				
	1100	11				
	1200	12				
T600	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

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.

Absolute Maximum Ratings

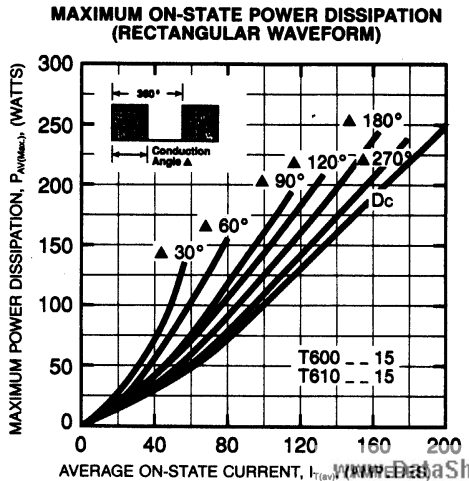
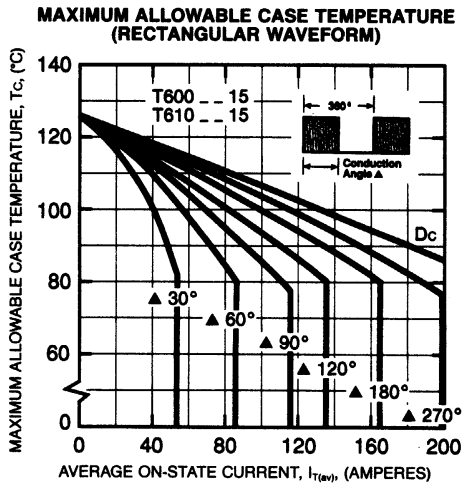
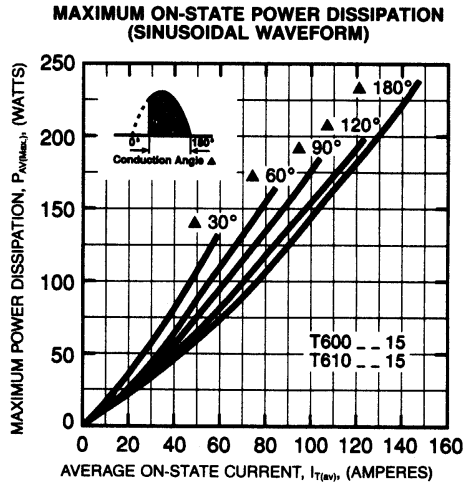
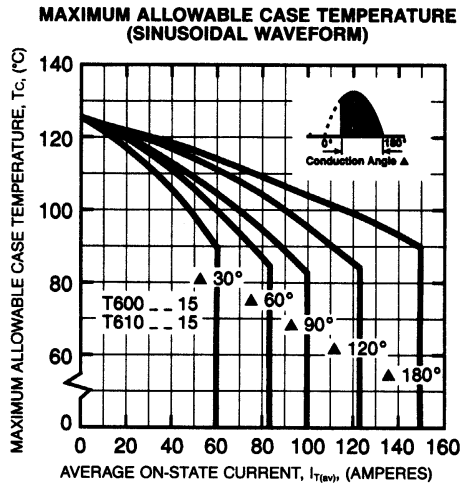
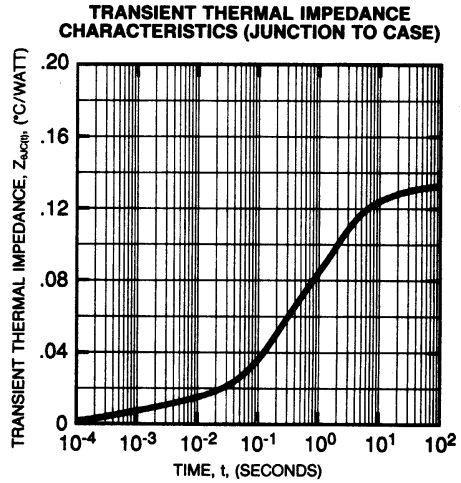
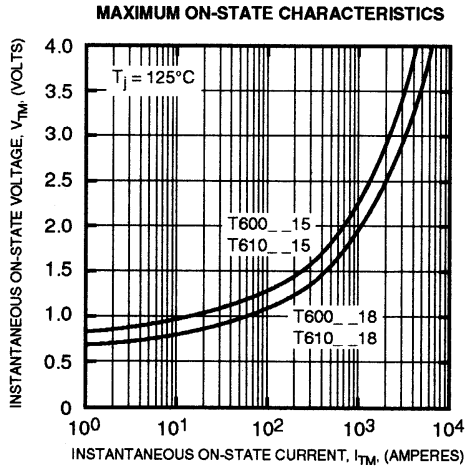
	Symbol	T600 -- 15 T610 -- 15	T600 -- 18 T610 -- 18	Units
RMS On-State Current	$I_{T(RMS)}$	235	275	Amperes
Average On-State Current	$I_{T(av)}$	150	175	Amperes
Peak One-Cycle Surge (Non-Repetitive) On-State Current (60Hz)	I_{TSM}	4000	5500	Amperes
Peak One-Cycle Surge (Non-Repetitive) On-State Current (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 ² sec
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	°C
Operating Temperature	T_J	-40 to 125	-40 to 125	°C
Mounting Torque		300	300	in.-lb.
Mounting Torque (Lubricated)		340	340	kg-cm

Electrical and Thermal Characteristics

Characteristics	Symbol	Test Conditions	T600 -- 15 T610 -- 15	T600 -- 18 T610 -- 18	Units
Current—Conducting State Maximums					
Peak On-State Voltage	V_{TM}	$T_J = 25^\circ\text{C}, I_T = 625\text{A}$	1.8	1.55	Volts
T600/T610					
Voltage—Blocking State Maximums					
Forward Leakage, Peak	I_{DRM}	$T_J = 125^\circ\text{C}, V_{DRM} = \text{rated}$	25		mA
Reverse Leakage, Peak	I_{RRM}	$T_J = 125^\circ\text{C}, V_{RRM} = \text{rated}$	25		mA
Switching					
Typical Turn-Off Time	t_q		100		μ sec
Typical Turn-On Time	t_{on}	$I_T = 100\text{A}, V_D = 100\text{V}$	5		μ sec
Min. Critical dv/dt exponential to V_{DRM}	dv/dt	$T_J = 125^\circ\text{C}$	300		V/ μ sec
Thermal					
Maximum Thermal Resistance, Junction to Case	$R_{\theta JC}$		0.13		°C/Watt
Case to Sink, Lubricated	$R_{\theta CS}$		0.75		°C/Watt
Gate—Maximum Parameters					
Gate Current to Trigger	I_{GT}	$T_J = 25^\circ\text{C}, V_D = 12\text{V}$	150		mA
Gate Voltage to Trigger	V_{GT}	$T_J = 25^\circ\text{C}, V_D = 12\text{V}$	3		Volts
Non-Triggering Gate Voltage	V_{GDM}	$T_J = 125^\circ\text{C}, V_{DRM} = \text{rated}$	0.15		Volts
Peak Forward Gate Current	I_{GTM}		4		Amperes
Peak Reverse Gate Voltage	V_{GRM}		5		Volts

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T600/T610
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