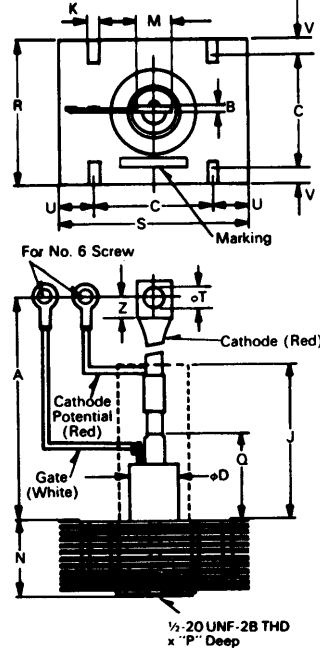


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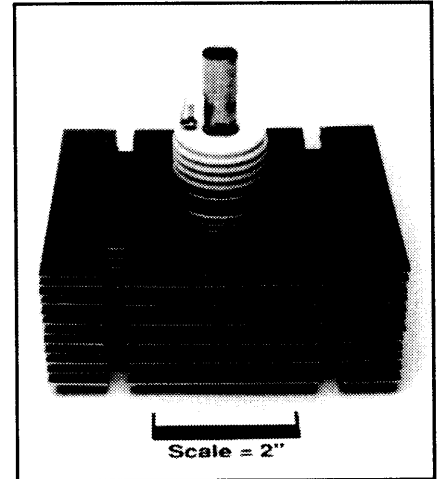
Phase Control SCR
 300 Amperes Average
 2000 Volts

Dimensions	Inches		Millimeters	
	Min.	Max.	Min.	Max.
A	9.00	10.00	228.60	254.00
B	.063	.172	1.60	4.37
C	2.980	3.020	75.69	76.71
φD	—	1.490	—	37.85
J	3.750	—	95.25	—
K	.272	.292	6.91	7.42
M	.530	.755	13.46	19.18
N	2.030	2.150	51.56	54.61
P	.500	—	12.70	—
Q	—	2.670	—	67.81
R	3.937	4.063	100.00	103.20
S	4.937	5.063	125.40	128.60
φT	.330	.350	8.38	8.89
U	.970	1.030	24.64	26.16
V	.470	.530	11.94	13.46
Z	.440	—	11.18	—



- Angular orientation of terminals are undefined.
- Pitch diameter of 1/2-20 UNF-2A (coated) threads (ASA B1.1-1960).
- Dimension "J" denotes seated height with leads bent at right angles.

T760 (Outline Drawing)



T760 Phase Control SCR
 300 Amperes Average, 2000 Volts
 (Flex Lead Not Shown)

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.

Features:

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

Applications:

- Power Supplies
- Battery Chargers
- Motor Control

Ordering Information:

Select the complete eight digit part number you desire from the table, i.e. T7602030 is a 2000 Volt, 300 Ampere Phase Control SCR.

Type	Voltage		Current	
	V _{DRM}	V _{RRM} Code	I _{T(av)}	Code
T760	200	02	300	30
	400	04		
	600	06		
	800	08		
	1000	10		
	1200	12		
	1400	14		
	1600	16		
1800	18			
	2000	20		



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T760
Phase Control SCR
300 Amperes, 2000 Volts

Absolute Maximum Ratings

	Symbol	T760	Units
RMS On-State Current	$I_{T(RMS)}$	470	Amperes
Average On-State Current	$I_{T(av)}$	300	Amperes
Peak One-Cycle Surge (Non-Repetitive) On-State Current (60Hz)	I_{TSM}	8400	Amperes
Peak One-Cycle Surge (Non-Repetitive) On-State Current (50Hz)	I_{TSM}	7650	Amperes
Critical Rate-of-Rise of On-State Current (Non-Repetitive)	di/dt	600	Amperes/ μ s
Critical Rate-of-Rise of On-State Current (Repetitive)	di/dt	150	Amperes/ μ s
I^2t (for Fusing), 8.3 milliseconds	I^2t	295,000	A ² sec
Peak Gate Power Dissipation	P_{GM}	16	Watts
Average Gate Power Dissipation	$P_{G(av)}$	3	Watts
Storage Temperature	T_{STG}	-40 to 150	°C
Operating Temperature	T_J	-40 to 125	°C

T760
 Phase Control SCR
 300 Amperes, 2000 Volts

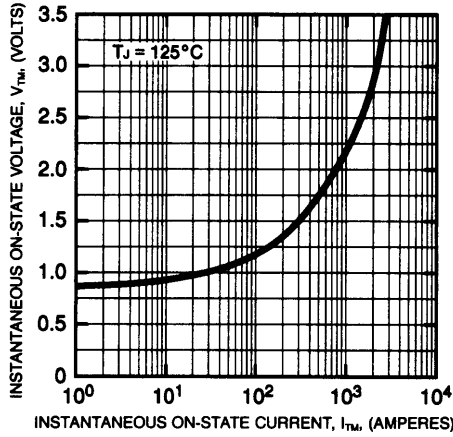
Electrical and Thermal Characteristics

Characteristics	Symbol	Test Conditions	T760	Units
Voltage—Blocking State Maximums				
Forward Leakage, Peak	I_{DRM}	$T_J = 125^\circ\text{C}$, $V_{DRM} = \text{rated}$	30	mA
Reverse Leakage, Peak	I_{RRM}	$T_J = 125^\circ\text{C}$, $V_{RRM} = \text{rated}$	30	mA
Current—Conducting State Maximums				
Peak On-State Voltage	V_{TM}	$I_{TM} = 3000\text{A}$, $T_J = 25^\circ\text{C}$	3.30	Volts
Switching				
Typical Turn-Off Time	t_q	$I_T = 250\text{A}$, $T_J = 125^\circ\text{C}$, $di_T/dt = 25\text{A}/\mu\text{sec}$, reappplied $dv/dt = 20\text{V}/\mu\text{sec}$ linear to $0.8 V_{DRM}$	150	μsec
Typical Turn-On Time	t_{on}	$I_T = 100\text{A}$, $V_D = 100\text{V}$	7	μsec
Min. Critical dv/dt exponential to V_{DRM}	dv/dt	$T_J = 125^\circ\text{C}$	300	$\text{V}/\mu\text{sec}$
Thermal				
Maximum Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	1500 LFM Airflow	0.18	$^\circ\text{C}/\text{Watt}$
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}	$T_J = 125^\circ\text{C}$, rated V_{DRM}	0.15	Volts
Peak Forward Gate Current	I_{GTM}		4	Amperes
Peak Reverse Gate Voltage	V_{GRM}		5	Volts

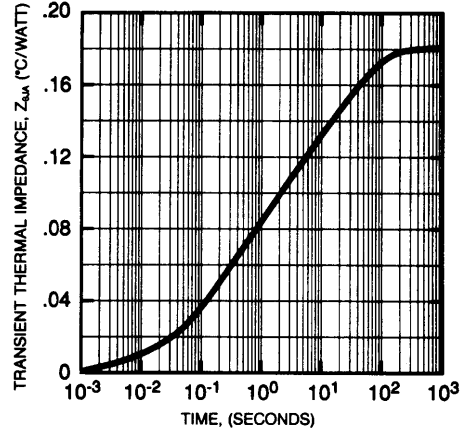
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T760
Phase Control SCR
 300 Amperes, 2000 Volts

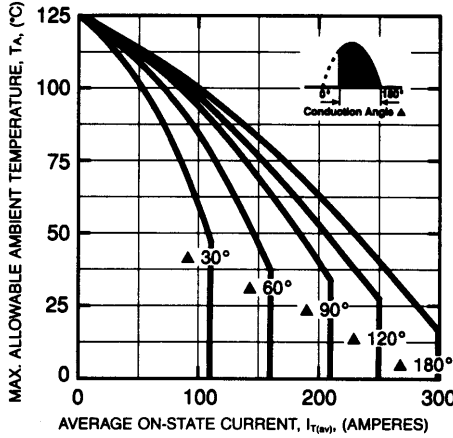
MAXIMUM ON-STATE CHARACTERISTICS



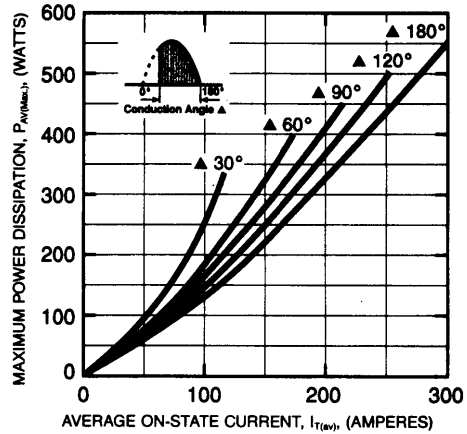
TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS (JUNCTION TO AMBIENT)



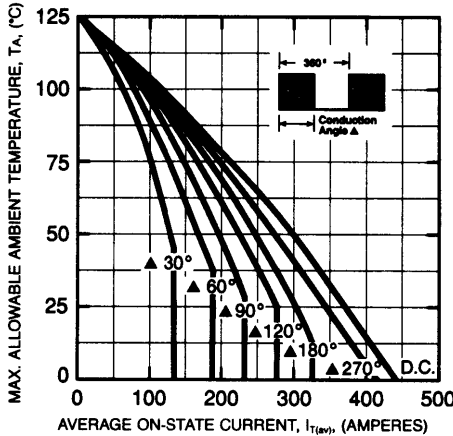
MAXIMUM ALLOWABLE AMBIENT TEMPERATURE (SINUSOIDAL WAVEFORM)



MAXIMUM ON-STATE POWER DISSIPATION (SINUSOIDAL WAVEFORM)



MAXIMUM ALLOWABLE AMBIENT TEMPERATURE (RECTANGULAR WAVEFORM)



MAXIMUM ON-STATE POWER DISSIPATION (RECTANGULAR WAVEFORM)

