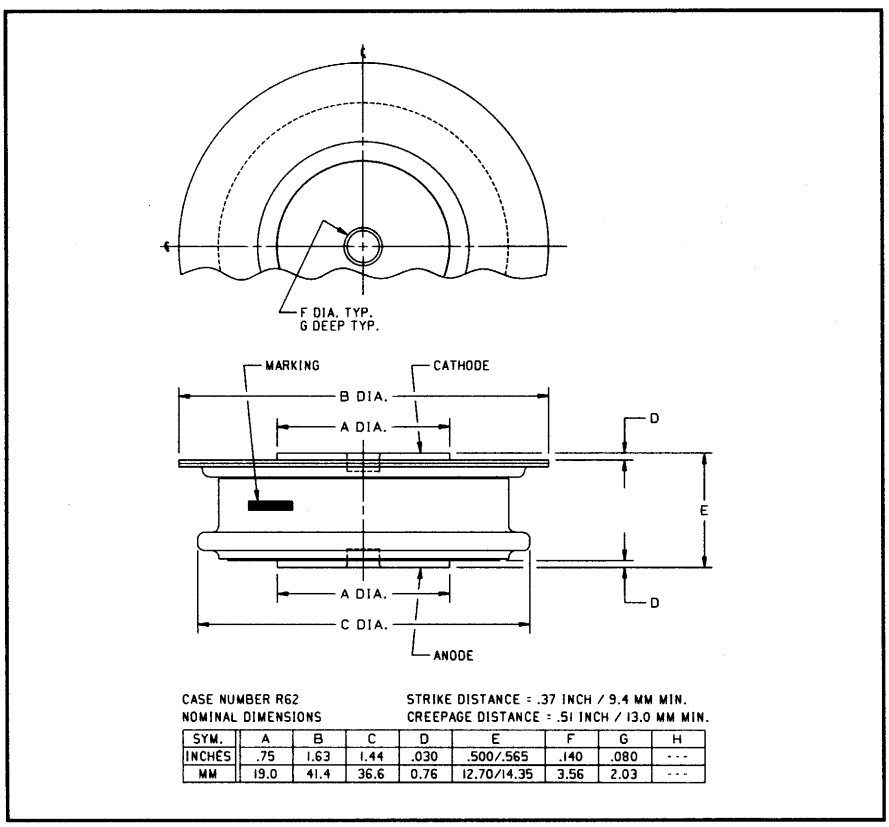
Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (412) 925-7272
Powerex, Europe, S.A. 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

Silicon Rectifier
400 Amperes Average
1600 Volts

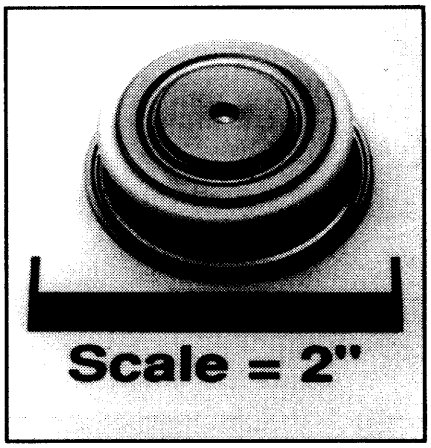


CASE NUMBER R62
NOMINAL DIMENSIONS

STRIKE DISTANCE = .37 INCH / 9.4 MM MIN.
CREEPAGE DISTANCE = .51 INCH / 13.0 MM MIN.

SYM.	A	B	C	D	E	F	G	H
INCHES	.75	1.63	1.44	.030	.500/.565	.140	.080	---
MM	19.0	41.4	36.6	0.76	12.70/14.35	3.56	2.03	---

A390 (Outline Drawing)



A390
Silicon Rectifier
400 Amperes Average, 1600 Volts

Features:
- ☐ Soft Reverse Recovery
- ☐ High Reverse Blocking Voltage Capability
- ☐ Pressure Contacts
- ☐ Package Reversibility
- ☐ Rugged Glazed Ceramic Hermetic Package

Applications:
- ☐ Auction Diode
- ☐ DC Power Supplies

Ordering Information:
Select the complete five or six digit part number you desire from the table, i.e. A390PM is a 1600 Volt, 400 Ampere Silicon Rectifier.

Type	Voltage		Current
	V_{RRM}	Code	$I_{T(av)}$
A390	200	B	400
	400	D	
	600	M	
	800	N	
	1000	P	
	1200	PB	
	1400	PD	
	1600	PM	

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A390
Silicon Rectifier
400 Amperes Average, 1600 Volts

Absolute Maximum Ratings

Characteristics	Symbol	A390	Units
RMS Forward Current	$I_{F(rms)}$	628	Amperes
Average Forward Current	$I_{F(av)}$	400	Amperes
One Cycle Surge Current	I_{FSM}	7000	Amperes
I^2t (for Fusing), Times ≥ 1.0 milliseconds	I^2t	80000	A^2sec
Storage Temperature	T_{stg}	-40 to +200	°C
Operating Temperature	T_j	-40 to +200	°C
Mounting Force		800 ± 10%	lbs
		3.56 ±10%	KN

Electrical and Thermal Characteristics

Characteristics	Symbol	Test Conditions	A390	Units
Current - Conducting State Maximums				
Forward Voltage Drop	V_{FM}	T_C = 144°C, $I_{F(av)}$ = 400A, 1260A Peak	1.4	Volts
Voltage - Blocking State Maximums				
Repetitive Peak Reverse Voltage (Rated Limit)	V_{RRM}		1600	Volts
Non-rep. Trans. Peak Rev. Voltage (Rated Limit)	V_{RSM}	V ≤ 5.0msec	1800	Volts
Reverse Leakage Current, mA peak	I_{RRM}	T_j at max., V_{RRM} = Rated	25	mA
Thermal				
Maximum Resistance, Junction to Case	$R_{\theta(j-c)}$		0.095	°C/Watt

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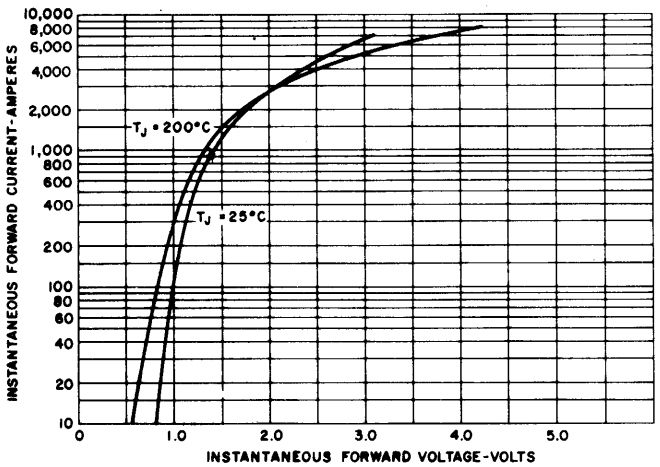
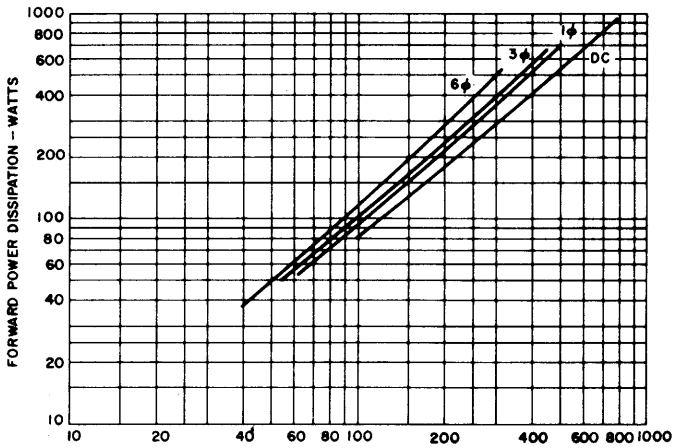
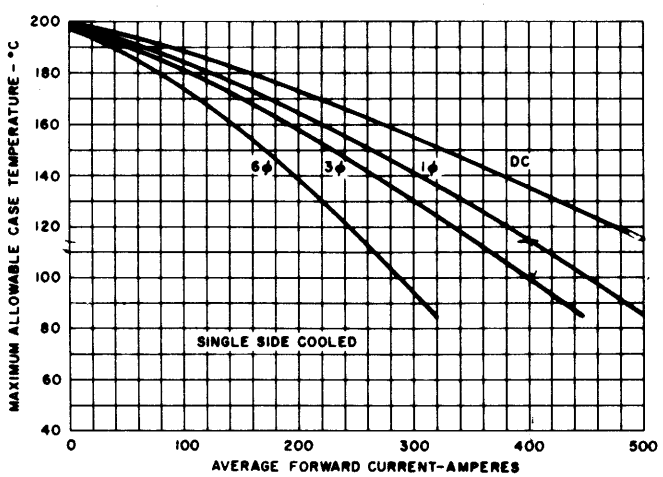


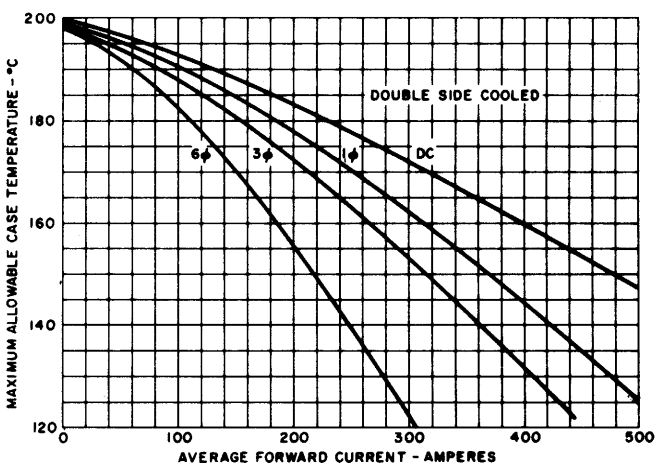
MAXIMUM FORWARD CHARACTERISTICS



AVERAGE FORWARD POWER DISSIPATION VS. AVERAGE FORWARD CURRENT



MAXIMUM CASE TEMPERATURE VS. AVERAGE FORWARD CURRENT FOR SINGLE-SIDE COOLING



MAXIMUM CASE TEMPERATURE VS. AVERAGE FORWARD CURRENT FOR DOUBLE-SIDE COOLING

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A390
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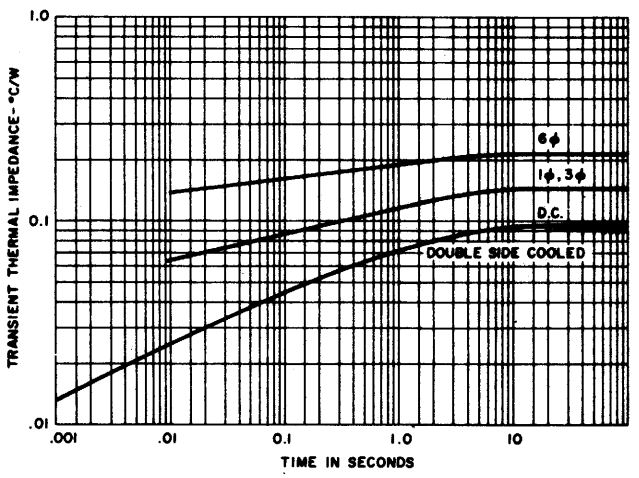
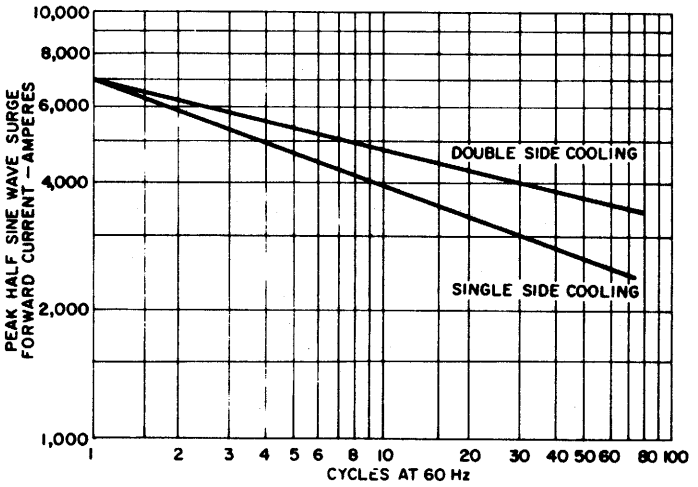
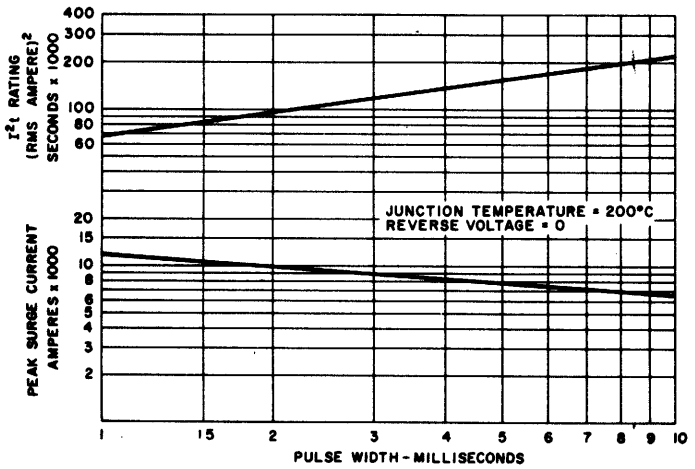
400 Amperes Average, 1600 Volts



TRANSIENT THERMAL IMPEDANCE – JUNCTION-TO-CASE



MAXIMUM SURGE CURRENT FOLLOWING RATED LOAD CONDITIONS



SUB-CYCLE SURGE FORWARD CURRENT AND I^2t RATING VS. PULSE TIME FOLLOWING RATED LOAD CONDITIONS