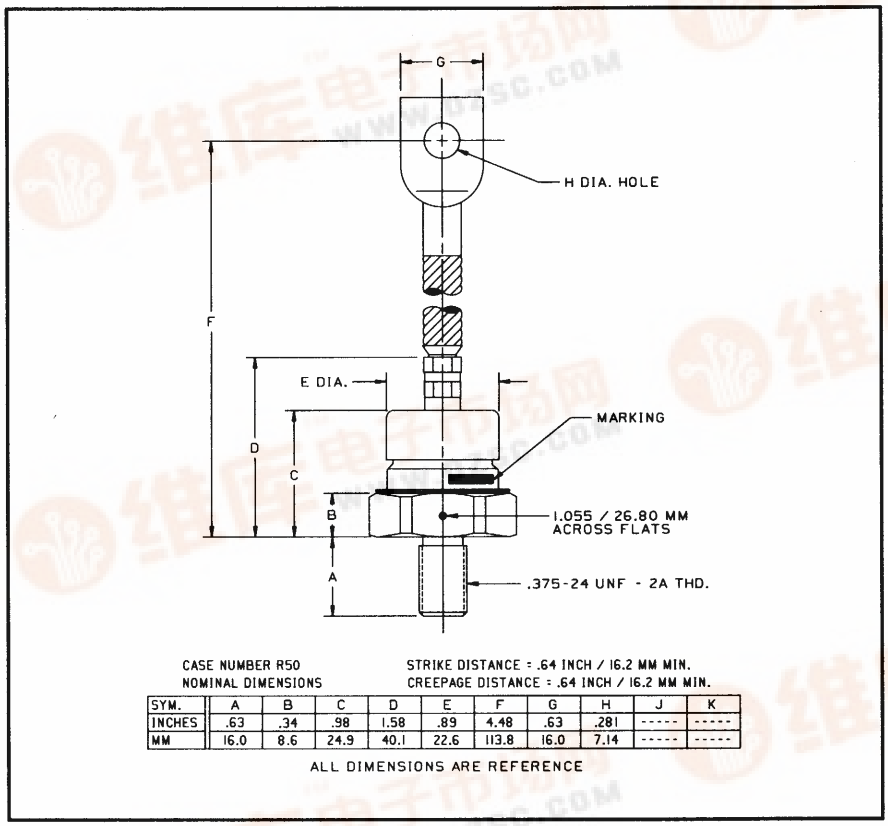
A170 (R)

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
100 Amperes Average
1600 Volts



CASE NUMBER R50
NOMINAL DIMENSIONS

STRIKE DISTANCE = .64 INCH / 16.2 MM MIN.
CREEPAGE DISTANCE = .64 INCH / 16.2 MM MIN.

SYM.	A	B	C	D	E	F	G	H	J	K
INCHES	.63	.34	.98	1.58	.89	4.48	.63	.281	-----	-----
MM	16.0	8.6	24.9	40.1	22.6	113.8	16.0	7.14	-----	-----

ALL DIMENSIONS ARE REFERENCE

A170 (R) (Outline Drawing)

A170 (R)
Silicon Rectifier
100 Amperes Average, 1600 Volts

Ordering Information:
Select the complete five or six digit part number you desire from the table, i.e. A170PM is a 1600 Volt, 100 Ampere Silicon Rectifier.

Type	Voltage		Current
	V_{RRM}	Code	$I_{T(av)}$
A170	200	B	100
	400	D	
	600	M	
	800	N	
	1000	P	
	1200	PB	
	1400	PD	

Features:
- ☐ 1600V V_{RRM}
- ☐ Hermetic Seal

Applications:
- ☐ Transportation Equipment
- ☐ DC Motor Control
- ☐ DC Power Supplies

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100 Amperes Average, 1600 Volts

Absolute Maximum Ratings

Characteristics	Symbol	A170 (R)	Units
RMS Forward Current	$I_{F(rms)}$	157	Amperes
Average Forward Current	$I_{F(av)}$	100	Amperes
One Cycle Surge Current	I_{FSM}	2500	Amperes
I^2t (for Fusing), Times ≥ 1.0 milliseconds	I^2t	15500	A^2sec
Storage Temperature	T_{stg}	-40 to +200	°C
Operating Temperature	T_j	-40 to +200	°C
Mounting Torque (Lubricated)		90 to 100	in-lb
		10.1 to 11.3	N-m

Electrical and Thermal Characteristics

Characteristics	Symbol	Test Conditions	A170 (R)	Units
Current - Conducting State Maximums				
Forward Voltage Drop	V_{FM}	T_C = 130°C, $I_{F(av)}$ = 100A, 314A Peak	1.3	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	20	mA
Thermal				
Maximum Resistance, Junction to Case	$R_{\theta(j-c)}$		0.4	°C/Watt
1ϕ and 3ϕ (50 to 400 Hz)			0.55	°C/Watt
6ϕ (50 to 400 Hz)			0.72	°C/Watt

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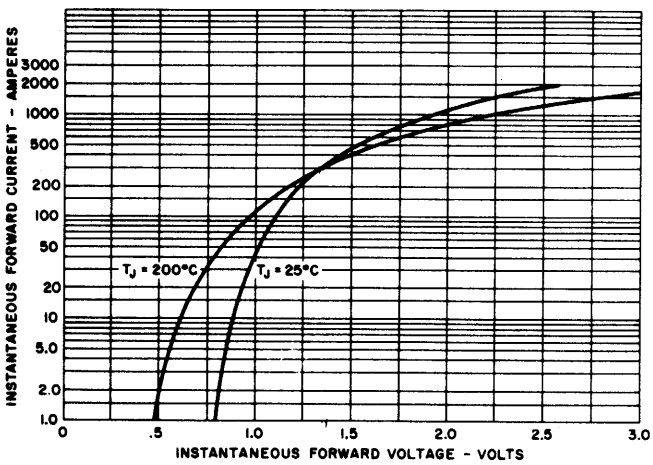
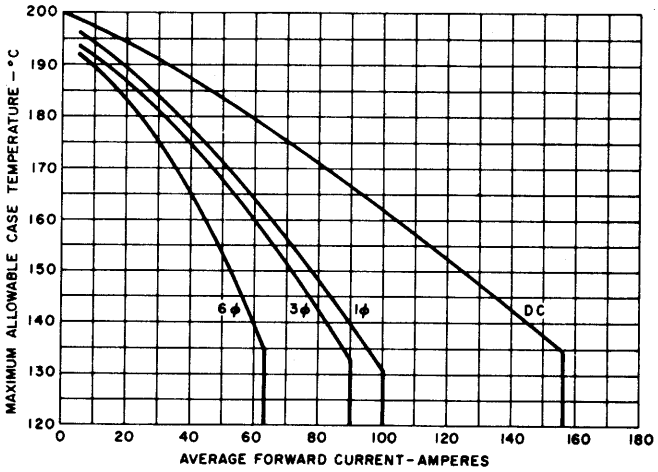
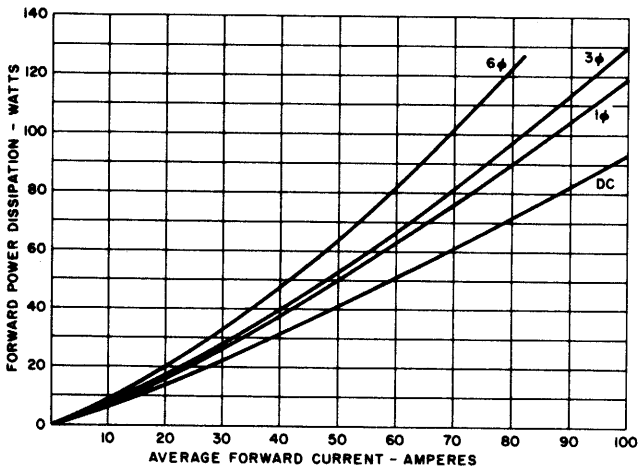


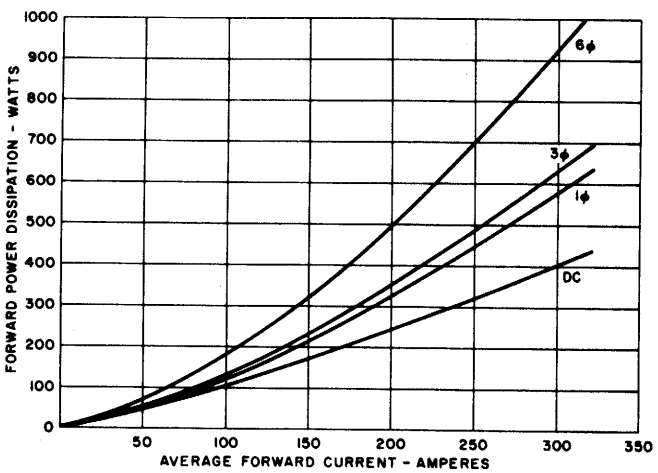
MAXIMUM FORWARD CHARACTERISTICS



MAXIMUM CASE TEMPERATURE VS. AVERAGE FORWARD CURRENT



AVERAGE FORWARD POWER DISSIPATION VS. AVERAGE FORWARD CURRENT



AVERAGE FORWARD POWER DISSIPATION VS. AVERAGE FORWARD CURRENT, HIGH LEVEL

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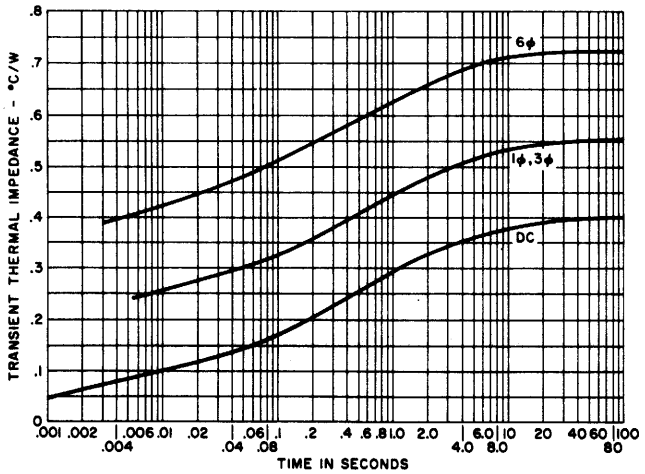
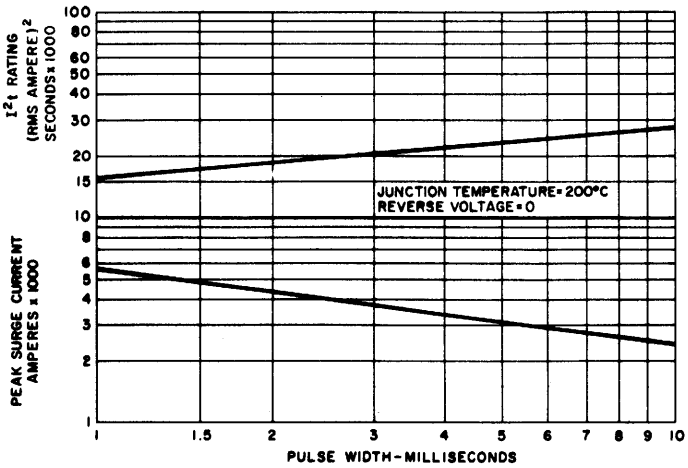


TRANSIENT THERMAL IMPEDANCE – JUNCTION-TO-CASE



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