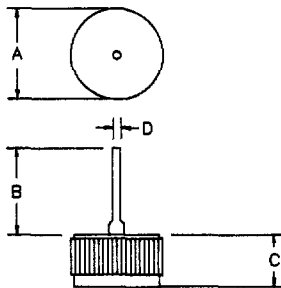


# Silicon Power Rectifier S/R50PF Series



Dim.	Inches		Millimeter		Notes
	Minimum	Maximum	Minimum	Maximum	
A	.501	.505	12.70	12.85	Dia.
B	.450	0.50	11.40	12.70	
C	.335	.365	8.50	9.30	
D	0.97	.103	2.45	2.60	Dia.

## Microsemi Catalog Number

Standard	Reverse
S5020PF	R5020PF
S5040PF	R5040PF
S5060PF	R5060PF
S5080PF	R5080PF

## Repetitive Peak Reverse Voltage

200
400
600
800

- High Voltage, Low Leakage Current
- Glass Passivated Die
- Economical Design
- 700 Amps Surge Rating
- VRRM to 800V

## Electrical Characteristics

Average Forward Current	$I_F(AV)$ 50 Amps	$T_C = 160^\circ C$ , half sine wave, $R_{\theta JC} = 0.75^\circ C/W$
Maximum Surge Current	$I_{FSM}$ 800 Amps	8.3ms, half sine, $T_J = 175^\circ C$
Maximum $I^2t$ For Fusing	$I^2t$ 2600 $A^2s$	
Max. Peak Forward Voltage	$V_{FM}$ 1.0 Volts	$I_{FM} = 50A; T_J = 25^\circ C$
Max. Peak Reverse Current	$I_{RM}$ 40 $\mu A$	$V_{RRM, T_J} = 25^\circ C$
Max. Peak Reverse Current	$I_{RM}$ 2.0 mA	$V_{RRM, T_J} = 150^\circ C$
Max. Recommended Operating	10kHz	

## Thermal and Mechanical Characteristics

Storage temp range	$T_{STG}$	$-65^\circ C$ to $200^\circ C$
Operating junction temp range	$T_J$	$-65^\circ C$ to $200^\circ C$
Max thermal resistance	$R_{\theta JC}$	$0.75^\circ C/W$ Junction to case
Typical thermal resistance	$R_{\theta CS}$	$0.2^\circ C/W$ Case to sink
Typical Weight		.27 ounce (7.2 grams) typical

**Microsemi Corp.**  
**Colorado**

PH: 303-469-2161  
FAX: 303-466-3775

E-41

# S/R50PF

Figure 1  
Typical Forward Characteristics

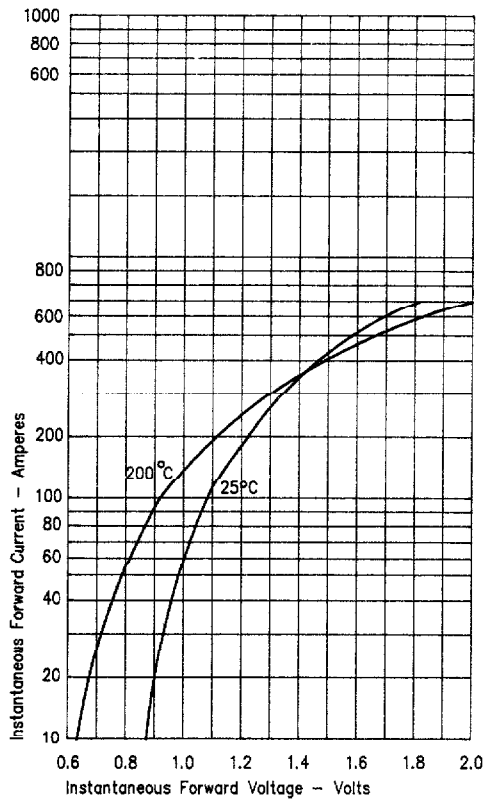


Figure 3  
Forward Current Derating

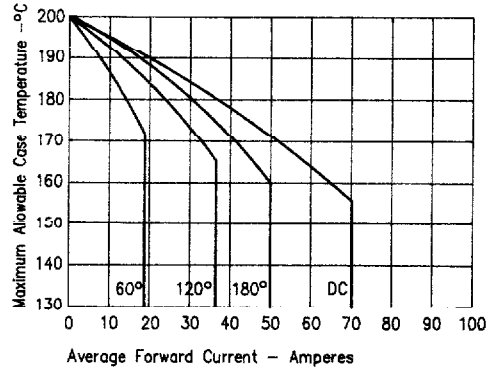


Figure 4  
Maximum Forward Power Dissipation

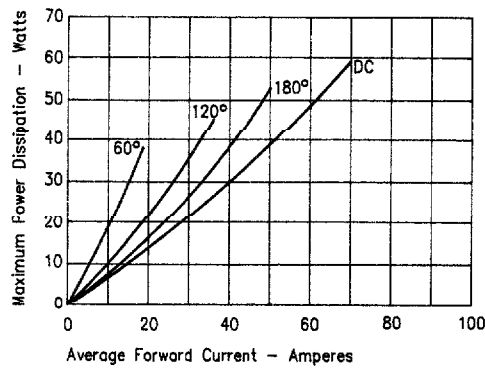


Figure 2  
Typical Reverse Characteristics

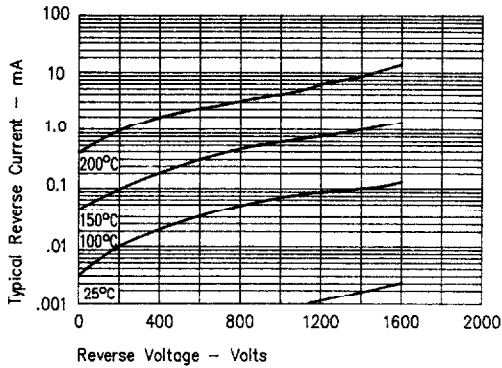
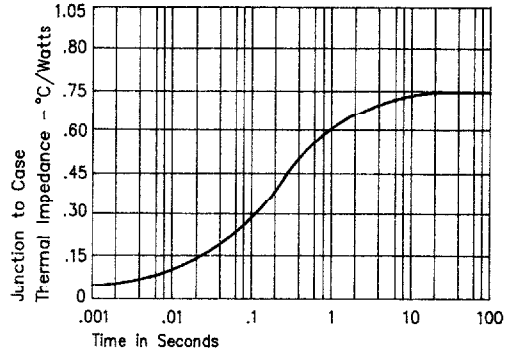
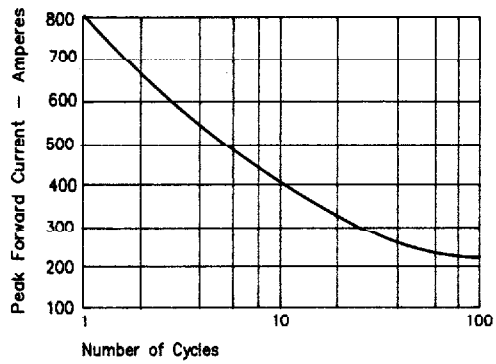


Figure 5  
Transient Thermal Impedance



# S/R50PF

Figure 6  
Maximum Nonrepetitive Surge Current



E

