

POWER DISCRETES

Description

Quick reference data

$$V_R = 1000V$$

$$I_F = 1.25A$$

$$t_{rr} = 100nS$$

$$I_R = 1\mu A$$

Features

- ◆ Very low reverse recovery time
- ◆ Glass passivated for hermetic sealing
- ◆ Low switching losses
- ◆ Soft, non-snap off, recovery characteristics
- ◆ Avalanche capability

Absolute Maximum Ratings

Electrical specifications @ $T_A = 25^\circ C$ unless otherwise specified.

	Symbol	PFR0	Units
Working Reverse Voltage	V_{RWM}	1000	V
Surge Reverse Voltage	V_{RSM}	1100	V
Average Forward Current @ $55^\circ C$, lead length 0.375"	$I_{F(AV)}$	1.25	A
Repetitive Surge Current @ $55^\circ C$ in free air, lead length 0.375"	I_{FRM}	11	A
Non-Repetitive Surge Current ($t_p = 8.3mS$ @ V_R & T_{JMAX})	I_{FSM}	30	A
Storage Temperature Range	T_{STG}	-55 to +175	$^\circ C$

POWER DISCRETES

Electrical Specifications

	Symbol	PFR0	Units
Average Forward Current max (pcb mounted; $T_A = 55^\circ\text{C}$) for sine wave for square wave ($d = 0.5$)	$I_{F(AV)}$ $I_{F(AV)}$	0.85 0.90	A
Average Forward Current max ($T_L = 55^\circ\text{C}$; $L = 3/8"$)	$I_{F(AV)}$	1.25	A
Forward Voltage Drop max. @ $I_F = 1.0\text{A}$, $T_j = 25^\circ\text{C}$	V_F	1.5	V
Reverse Current typ. @ V_{RWM} , $T_j = 25^\circ\text{C}$ @ V_{RWM} , $T_j = 100^\circ\text{C}$	I_R I_R	1 20	μA
Reverse Recovery Time max. $0.5\text{A } I_F$ to $1.0\text{A } I_{RM}$ recovers to $0.25\text{A } I_{RM(REC)}$	trr	100	nS
Junction Capacitance typ. @ $V_R = 5\text{V}$, $f = 1\text{MHz}$	C_j	22	pF

Thermal Characteristics

	Symbol	PFR0	Units
Thermal Resistance-Junction to Lead Lead length = 0.375"	$R_{\theta JL}$	47	$^\circ\text{C/W}$

Maximum Characteristics

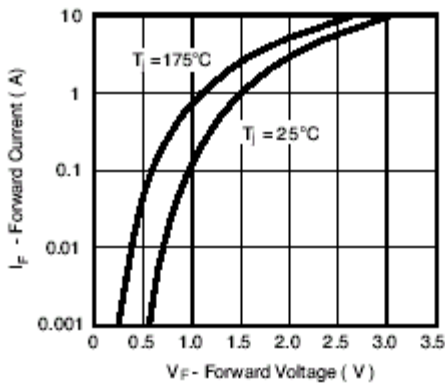


Figure 1. Forward Current vs. Forward Voltage

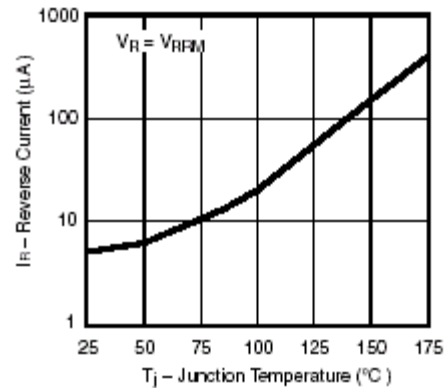


Figure 2. Reverse Current vs. Junction Temperature

POWER DISCRETES

Maximum Characteristics (Cont.)

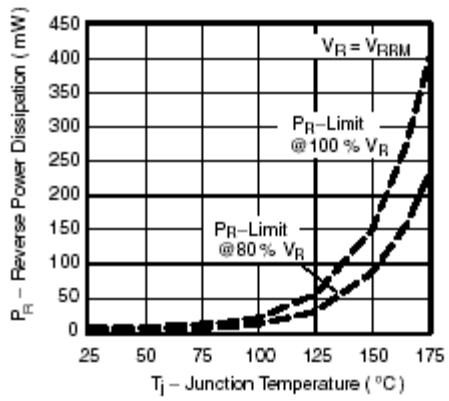


Figure 3. Max. Reverse Power Dissipation vs. Junction Temperature

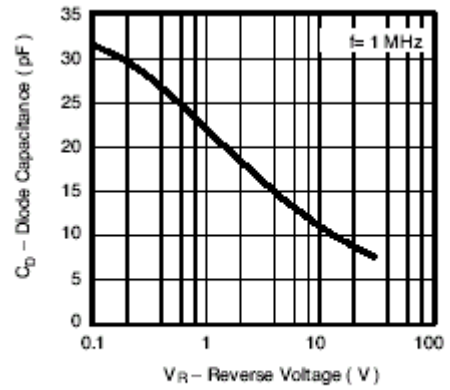


Figure 4. Diode Capacitance vs. Reverse Voltage

POWER DISCRETES

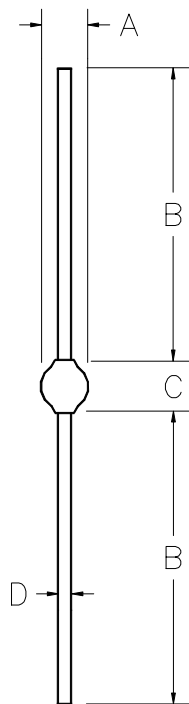
Ordering Information

Part Number	Description
PFR0	Axial leaded hermetically sealed ⁽¹⁾

Note:

(1) Available in bulk and tape and reel packaging. Please consult factory for quantities.

Outline Drawing



Dimensions					
DIM ^N	Inches		Millimeters		Note
	MIN	MAX	MIN	MAX	
A	-	.150	-	3.81	-
B	1.02	-	26	-	-
C	-	.180	-	4.57	-
D	-	.032	-	0.82	-

Weight = 0.013oz

Contact Information

Semtech Corporation
 Power Discretes Products Division
 200 Flynn Road, Camarillo, CA 93012
 Phone: (805)498-2111 FAX (805)498-3804