



PFC Device Corporation

**P3L50F-A**

**3A 50V MOS Schottky Rectifier**

### Major ratings and characteristics

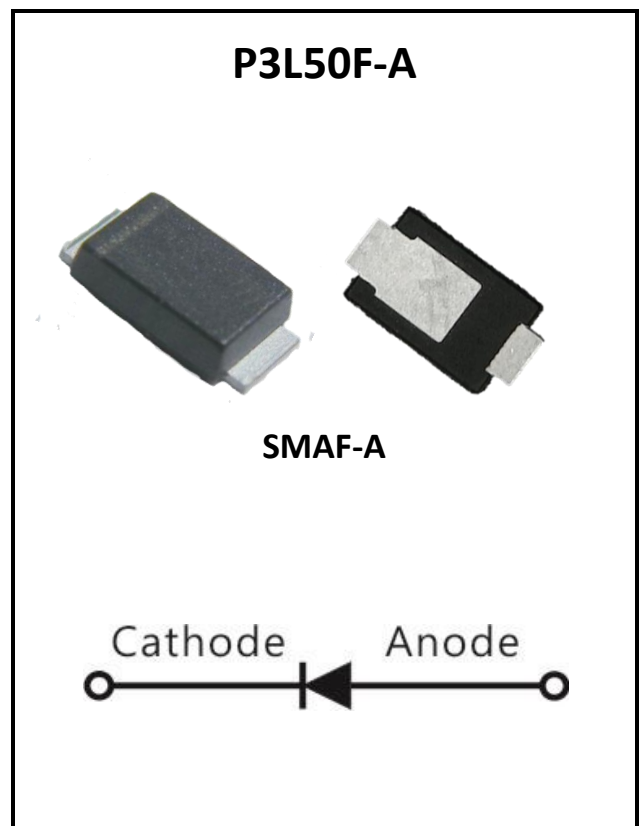
Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	3	A
$V_{RRM}$	50	V
$V_F@ 3A, T_j=125^\circ C$	0.49	V, typ.
$T_j$ Operating Junction Temperature	-65 to +150	$^\circ C$

### Features

- Low Forward Voltage Drop
- Reliable High Temperature Operation
- Softest, fast switching capability
- 150 $^\circ C$  Operating Junction Temperature
- Lead Free Finish, RoHS Compliant
- Green Molding Compound (No Br, Sb)

### Typical Applications

Device optimized for low forward voltage drop to maximize efficiency in Power Supply applications



## 1. Characteristics

### Maximum Ratings Characteristics ( T<sub>A</sub> = 25 °C unless otherwise specified )

Parameter	Symbol	Values	Units
DC Blocking Voltage	V <sub>RM</sub>	50	Volts
Working Peak Reverse Voltage	V <sub>RWM</sub>		
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>		
Average Rectified Forward Current Per device	I <sub>o</sub>	3	Amps
(Rated VR-20Khz Square Wave) - 50% duty cycle			
Peak Forward Surge Current - 1/2 60hz	I <sub>FSM</sub>	50	Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I <sub>RRM</sub>	2	Amps
Typical Thermal Resistance	Rθ <sub>JL</sub>	30	°C / W
Thermal Resistance junction to Ambient Note (1)			
Maximum Rate of Voltage Change ( at Rated VR )	dv/dt	10000	V/uS
Operating Junction Temperature	T <sub>J</sub>	- 65 to +150	°C
Storage Junction Temperature	T <sub>STG</sub>	- 65 to +150	

### Electrical Characteristics - (per leg) ( T<sub>A</sub> = 25 °C unless otherwise specified )

Parameter	Test Conditions	Symbol	Typ.	Max.	Units	
Instantaneous Forward Voltage	IF = 3 A	VF*	T <sub>J</sub> = 25 °C	0.51	0.54	Volts
			T <sub>J</sub> = 125 °C	0.49	0.52	
Instantaneous Reverse Current	At V <sub>RM</sub>	IR*	T <sub>J</sub> = 25 °C	-----	500	uA
			T <sub>J</sub> = 125 °C	-----	100	mA

\* Pulse width < 300 uS, Duty cycle < 2%

Note 1. FR-4 PCB, 2 oz Copper. Minimum recommended pad layout



2. Characteristics Curves

Ratings and Characteristics Curves

( TA = 25°C unless otherwise specified )

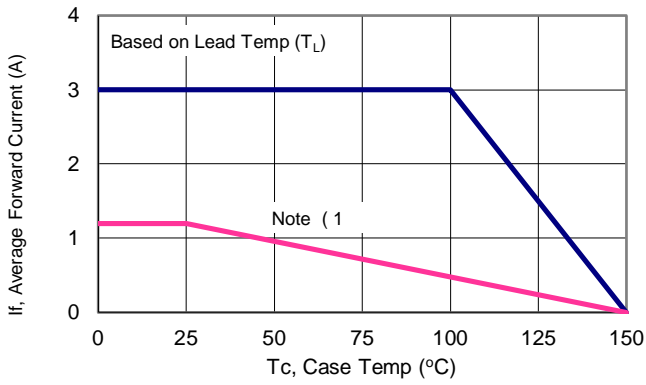


Figure 1: Current Derating, Case

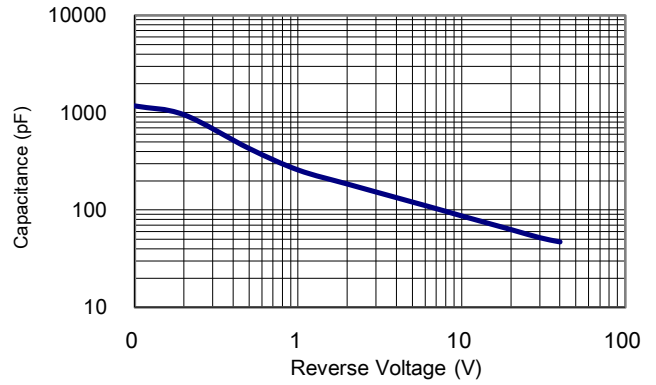


Figure 2: Typical Junction Capacitance

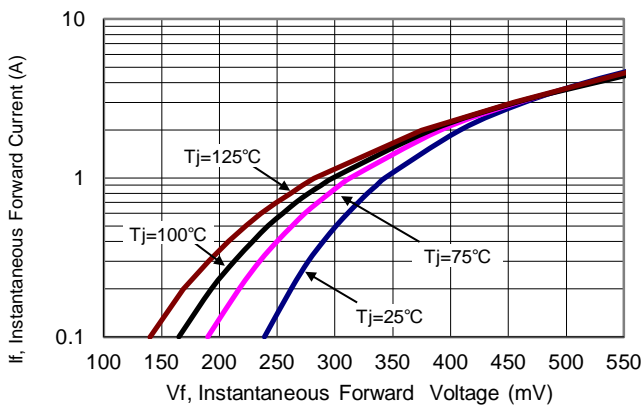


Figure 3: Typical Forward Voltage

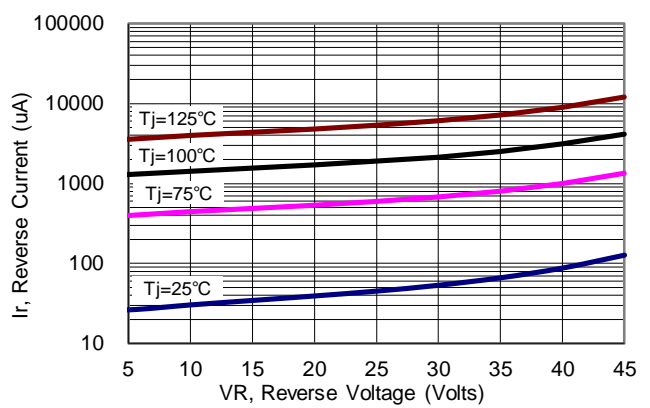
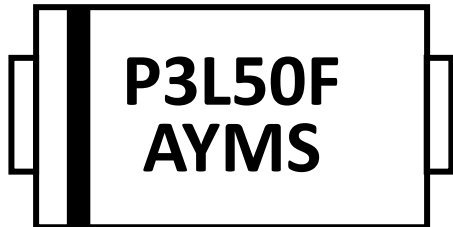


Figure 4: Typical Reverse Current



3. Marking information

Top Marking Rule



P3L50F = Product Type Marking Code

A = Assembly Code

YM = Date Code

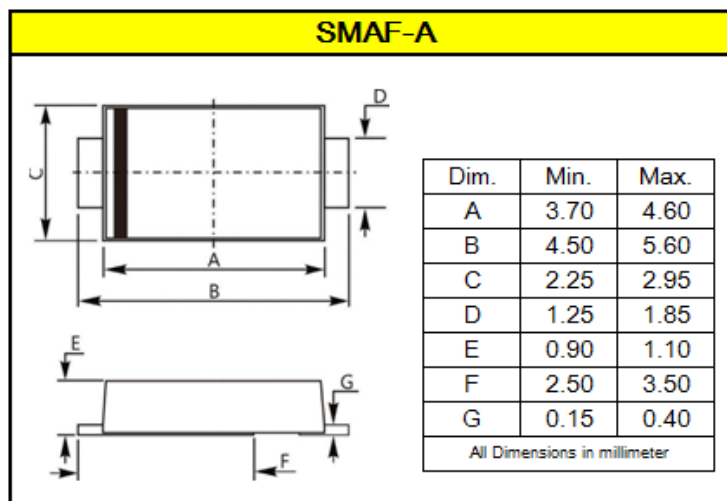
Y = Last one digits of year

M = Month code

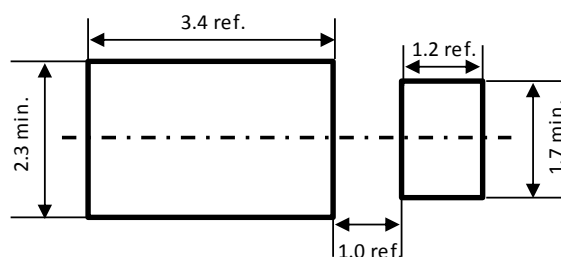
S = Series Number

4. Package information

Suggested Package Outline Dimensions millimeters



Mounting pad Outline Dimensions millimeters



5. Packing and Ordering information

Packing information millimeters



Item	Symbol	Dimension
Carrier width	A	2.79±0.15
Carrier length	B	5.10±0.15
Carrier depth	C	1.40±0.15
Sprocket hole	d	1.55±0.10
Reel outside diameter	D	330.0±1.0
Reel inner diameter	D1	75±1.0
Feed hole diameter	D2	13.5±1.0
Stocket hole position	E	1.75±0.10
Punch hole position	F	5.5±0.05
Punch hole pitch	P	4.0±0.10
Sprocket hole pitch	P0	4.0±0.10
Embossment center	P1	2.0±0.10
Total tape thickness	T	0.3±0.10
Tape width	W	12.0±0.15
Reel width	W1	18.1±1.5

Ordering information

Part Number	Package	Base Quantity	Delivery mode
P3L50F-A	Flat SMA with heat sink	10000	13" diameter plastic tape and reel

Mechanical

- Case: SMAF-A (Flat SMA with heat sink)
- Molder Plastic: UL Flammability Classification Rating 94V-0
- Device Weight : 0.0012 ounces (0.033grams) – SMAF-A

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