

P3L45F-A

PFC Device Corporation

3A 45V MOS Schottky Rectifier

Major ratings and characteristics

Characteristics	Values	Units	
I _{F(AV)} Rectangular Waveform	3	Α	
V _{RRM}	45	V	
V _F @ 3A , Tj=125 °C	0.49	V, typ.	
T _J Operating Junction Temperature	-65 to +150	°C	

Features

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

P3L45F-A SMAF-A Cathode Anode

Typical Applications

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

1. Characteristics

Maximum Ratings Characteristics $(T_A = 25 \, ^{\circ}C \text{ unless otherwise specified})$

Parameter	Symbol	Values	Units
DC Blocking Voltage	V_{RM}		
Working Peak Reverse Voltage	V_{RWM}	45	Volts
Peak Repetitive Reverse Voltage	V_{RRM}		
Average Rectified Forward Current			
Per device	I _o	3	Amps
(Rated VR-20Khz Square Wave) - 50% duty cycle			
Peak Forward Surge Current - 1/2 60hz	I _{FSM}	50	Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I _{RRM}	2	Amps
Typical Thermal Resistance			°C / \\
Thermal Resistance junction to Ambient Note (1)	$R\theta_{JL}$	30	°C / W
Maximum Rate of Voltage Change (at Rated VR)	dv/dt	10000	V/uS
Operating Junction Temperature	T _J	- 65 to +150	°C
Storage Junction Temperature	T _{STG}	- 65 to +150	C

Electrical Characteristics - (per leg) ($T_A = 25$ °C unless otherwise specified)

Parameter	Test Conditions		Symbol	Тур.	Max.	Units
Instantaneous	IF - 2 A	$T_J = 25$ °C	· VF*	0.51	0.53	Volts
Forward Voltage	IF = 3 A	T _J = 125 °C	VF"	0.49	0.51	Volts
Instantaneous	At V _{RM}	T _J = 25 °C	ID*		500	uA
Reverse Current		T _J = 100 °C	IR*		40	mA

^{*} Pulse width < 300 uS, Duty cycle < 2%

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

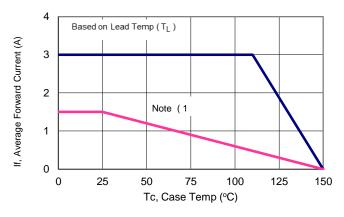


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2. Characteristics Curves

Ratings and Characteristics Curves

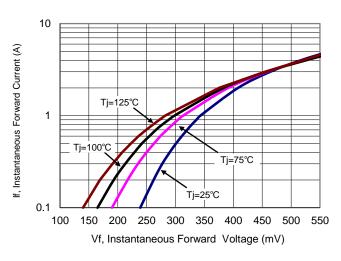
($TA = 25^{\circ}C$ unless otherwise specified)



10000 (d) 1000 100 0 1 10 100 Reverse Voltage (V)

Figure 1: Current Derating, Case

Figure 2: Typical Junction Capacitance



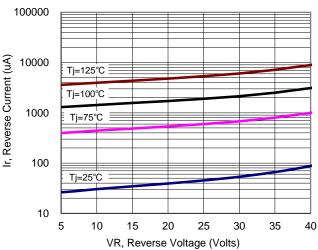


Figure 3: Typical Forward Voltage

Figure 4: Typical Reverse Current



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3. Marking information

Top Marking Rule



P3L45F = Product Type Marking Code

A = Assembly Code

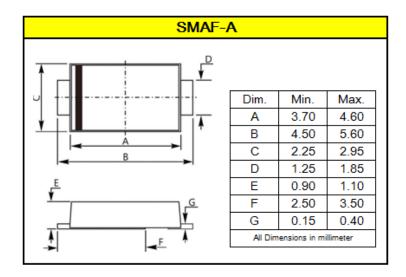
YM = Date Code

Y = Last one digits of year

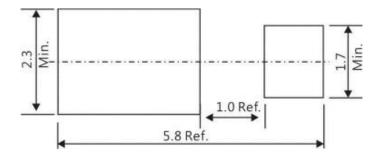
M = Month code

4. Package information

Suggested Package Outline Dimensions millimeters



Mounting pad Outline Dimensions millimeters



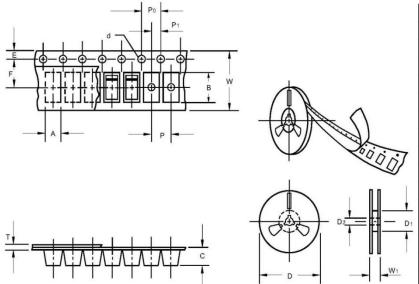


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5. Packing and Ordering information

Packing information millimeters



Item	Symbol	Dimension
Carrier width	Α	2.79±0.15
Carrier length	В	5.10±0.15
Carrier depth	С	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	Е	1.75±0.10
Punch hole position	F	5.5±0.05
Punch hole pitch	Р	4.0±0.10
Sprocket hole pitch	P0	4.0±0.10
Embossment center	P1	2.0±0.10
Totall tape thickness	Т	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
P3L45F-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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