



PFC Device Corporation

**P3L45BF**

**3A 45V MOS Schottky Rectifier**

### Major ratings and characteristics

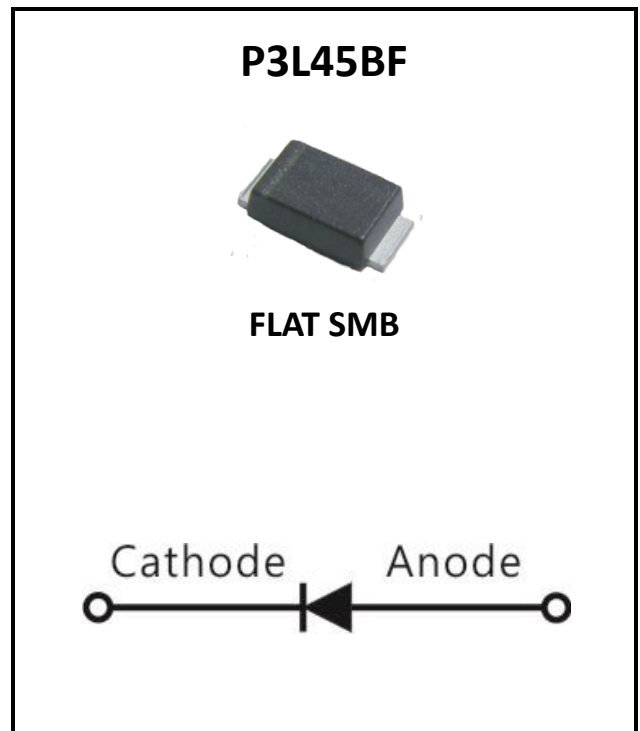
Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	3	A
$V_{RRM}$	45	V
$V_F@ 3A, T_J=125^\circ C$	0.49	V, typ.
$T_J$ Operating Junction Temperature	-65 to +150	$^\circ C$

### 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 ( $T_A = 25^\circ\text{C}$ unless otherwise specified )

Parameter	Symbol	Values	Units
DC Blocking Voltage	$V_{RM}$	45	Volts
Working Peak Reverse Voltage	$V_{RWM}$		
Peak Repetitive Reverse Voltage	$V_{RRM}$		
Average Rectified Forward Current Per device (Rated VR-20Khz Square Wave) - 50% duty cycle	$I_o$	3	Amps
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	$R\theta_{JC}$	30	$^\circ\text{C} / \text{W}$
Maximum Rate of Voltage Change ( at Rated VR )	$dv/dt$	10000	$\text{V}/\mu\text{S}$
Operating Junction Temperature	$T_J$	- 65 to +150	$^\circ\text{C}$
Storage Junction Temperature	$T_{STG}$	- 65 to +150	

### Electrical Characteristics - (per leg) ( $T_A = 25^\circ\text{C}$ unless otherwise specified )

Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Instantaneous Forward Voltage	IF = 3 A	$T_J = 25^\circ\text{C}$	VF*	0.51	0.53	Volts
		$T_J = 125^\circ\text{C}$		0.49	0.51	
Instantaneous Reverse Current	At $V_{RM}$	$T_J = 25^\circ\text{C}$	IR*	----	500	$\mu\text{A}$
		$T_J = 125^\circ\text{C}$		----	100	$\text{mA}$

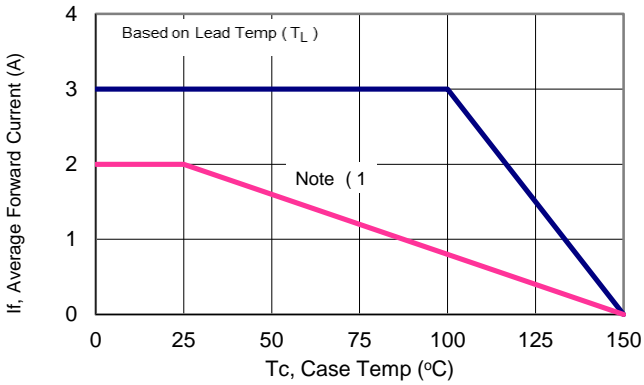
\* Pulse width < 300 uS, Duty cycle < 2%



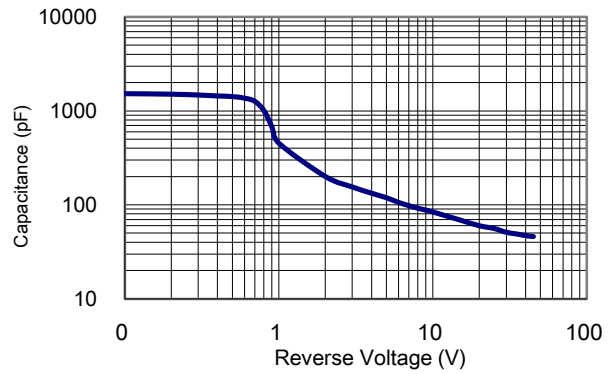
## 2. Characteristics Curves

### Ratings and Characteristics Curves

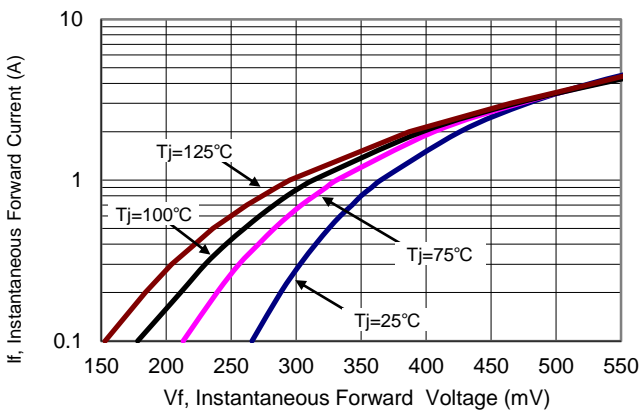
(  $T_A = 25^\circ\text{C}$  unless otherwise specified )



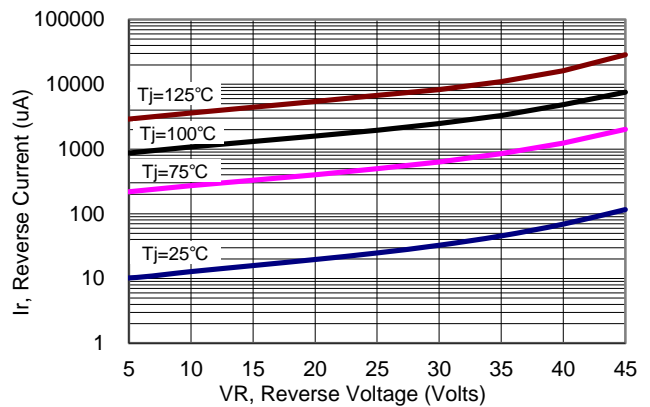
**Figure 1: Current Derating, Case**



**Figure 2: Typical Junction Capacitance**



**Figure 3: Typical Forward Voltage**



**Figure 4: Typical Reverse Current**



### 3. Marking information

#### Top Marking Rule



P3L45B= Product Type Marking Code

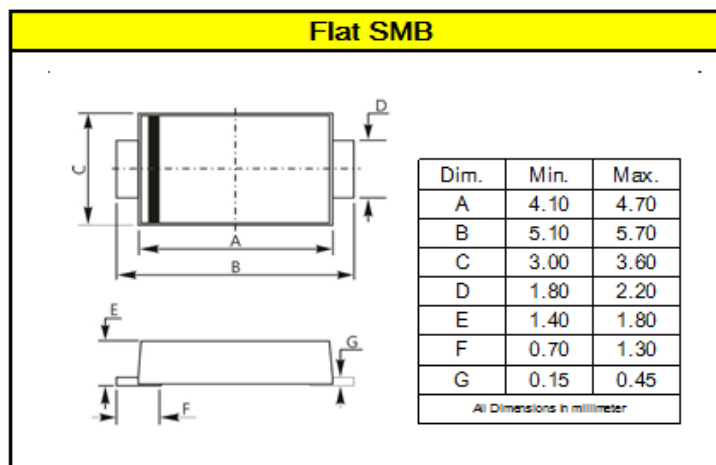
A = Assembly code

Y = Last one digits of year

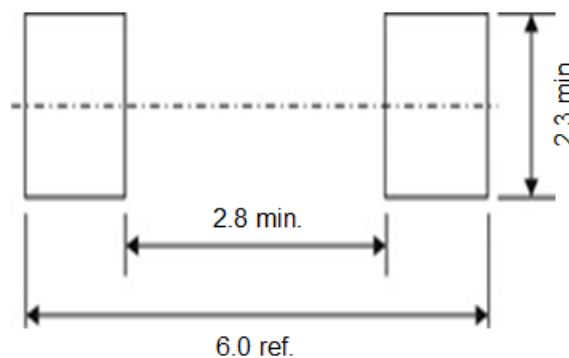
M = Month code

### 4. Package information

#### Suggested Package Outline Dimensions millimeters

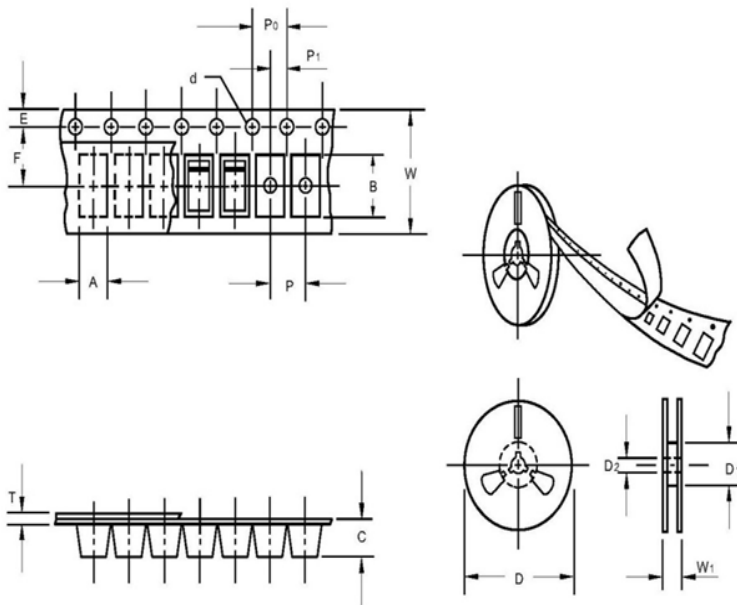


#### Mounting pad Outline Dimensions millimeters



5. Packing and Ordering information

Packing information millimeters



Item	Symbol	Dimension
Carrier width	A	3.81±0.15
Carrier length	B	5.74±0.15
Carrier depth	C	2.24±0.15
Sprocket hole	d	1.50±0.10
Reel outside diameter	D	330.0±1.0
Reel inner diameter	D1	50min.
Feed hole diameter	D2	13.5±1.0
Sprocket hole position	E	1.75±0.10
Punch hole position	F	5.5±0.05
Punch hole pitch	P	8.0±0.10
Sprocket hole pitch	P0	4.0±0.10
Embossment center	P1	2.0±0.10
Total tape thickness	T	0.25±0.10
Tape width	W	12.0±0.3
Reel width	W1	18.1±1.5

Ordering information

Part Number	Package	Base Quantity	Delivery mode
P3L45BF	Flat SMB	4000	13" diameter plastic tape and reel

Mechanical

- Molder Plastic: UL Flammability Classification Rating 94V-0
- Device Weight : 0.0025 ounces (0.072grams) – Flat SMB

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