

# P10L45SP

# PFC Device Corporation

## 10A 45V MOS Schottky Rectifier

## Major ratings and characteristics

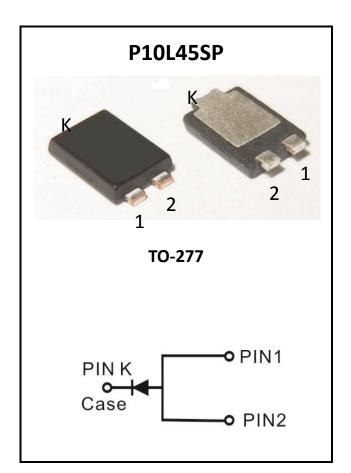
Characteristics	Values	Units	
I <sub>F(AV)</sub> Rectangular	10	A V	
Waveform	10		
V <sub>RRM</sub>	45		
V <sub>F</sub> @ 10A , Tj=125 °C	0.47	V, typ.	
T <sub>J</sub> Operating Junction	65 to 1150	°C	
Temperature	-65 to +150		

#### 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)

## **Typical Applications**

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



## **1.** Characteristics

Parameter	Symbol	Values	Units	
DC Blocking Voltage	V <sub>RM</sub>			
Working Peak Reverse Voltage	V <sub>RWM</sub>	45	Volts	
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>			
Average Rectified Forward Current		10	<b>A</b>	
Per device	Ι <sub>ο</sub>	10	Amps	
Peak Forward Surge Current - 1/2 60hz	I <sub>FSM</sub>	160	Amps	
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I <sub>RRM</sub>	2	Amps	
Typical Thermal Resistance				
Thermal Resistance junction to Ambient Note (1)	$R\theta_{JA}$	72	°C / W	
Thermal Resistance junction to Ambient Note (2)	Rθ <sub>JA</sub>	30		
Maximum Rate of Voltage Change ( at Rated VR )	dv/dt	10000	V/uS	
Operating Junction Temperature	Тı	- 65 to +150	°C	
Storage Junction Temperature	T <sub>STG</sub>	- 65 to +150		

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

Parameter	Test Conditions		Symbol	Тур.	Max.	Units
Instantaneous	15 - 10 4	$T_{J} = 25 {}^{o}C$	\/ <b>F</b> *		0.50	Volts
Forward Voltage	IF = 10 A	T <sub>J</sub> = 125 °C VF*	VE	0.47	0.48	
Instantaneous		T <sub>J</sub> = 25 <sup>o</sup> C	IR*		500	uA
Reverse Current	At V <sub>RM</sub>	T <sub>J</sub> = 125 <sup>o</sup> C			100	mA

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

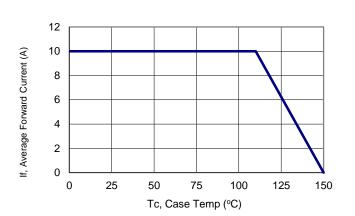
Note 1. FR-4 PCB, 2 oz Copper. Minimum recommended pad layout

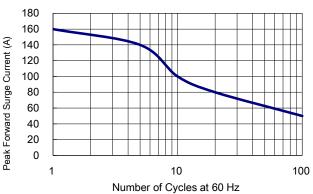
Note 2. Polymide PCB, 2 oz Copper. Cathode pad dimensions 18.8x14.4mm , Anode pad dimensions- (5.6x14.4mm)



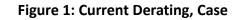
#### 2. Characteristics Curves

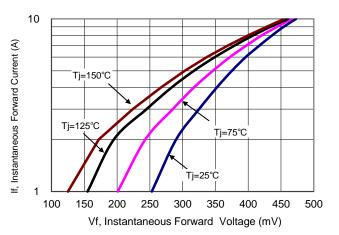
Ratings and Characteristics Curves





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







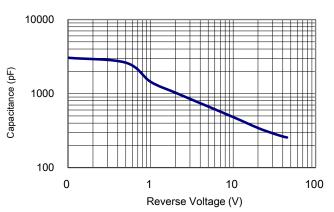
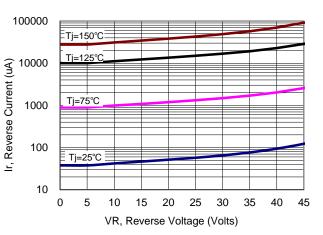


Figure 5: Typical Junction Capacitance



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Figure 2: Maximum Repetitive Surge Current

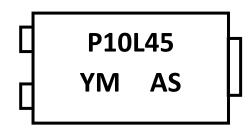


**Figure 4: Typical Reverse Current** 

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### 3. Marking information

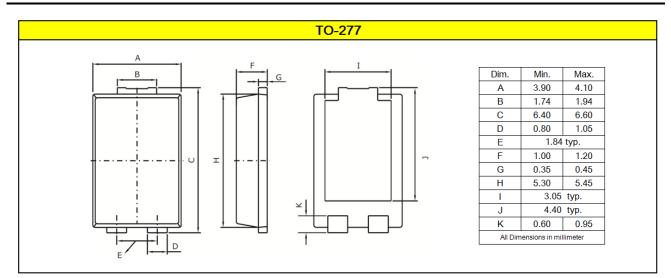
**Top Marking Rule** 



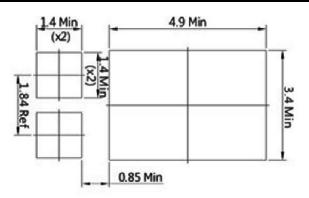
P10L45 = Product Type Marking Code YM = Date Code Y = Last one digits of year M = Month code A = Assembly Code S = Series Number

#### 4. Package information

Suggested Package Outline Dimensions millimeters



#### Mounting pad Outline Dimensions millimeters

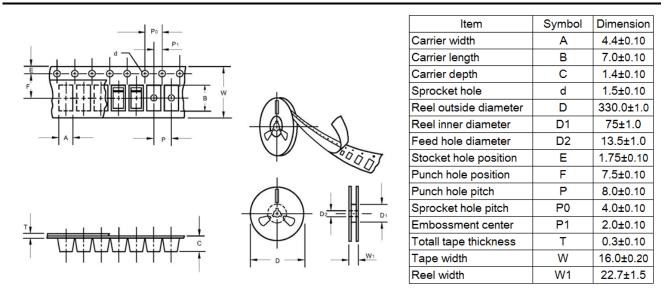




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#### 5. Packing and Ordering information

#### Packing information millimeters



#### Ordering information

Part Number	Package	Base Quantity	Delivery mode
P10L45SP	TO-277	5000	13" diameter plastic tape and reel

#### Mechanical

- Molder Plastic: UL Flammability Classification Rating 94V-0
- Device Weight : 0.003 ounces (0.093grams) TO-277

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