

P10L45SP

PFC Device Corporation

10A 45V MOS Schottky Rectifier

Major ratings and characteristics

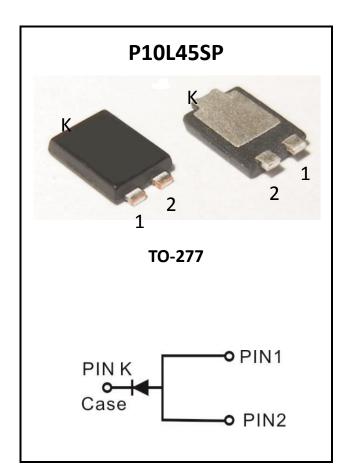
Characteristics	Values	Units	
I _{F(AV)} Rectangular	10	A V	
Waveform	10		
V _{RRM}	45		
V _F @ 10A , Tj=125 °C	0.47	V, typ.	
T _J Operating Junction	65 to 1150	°C	
Temperature	-65 to +150		

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 _{RM}			
Working Peak Reverse Voltage	V _{RWM}	45	Volts	
Peak Repetitive Reverse Voltage	V _{RRM}			
Average Rectified Forward Current		10	A	
Per device	Ι _ο	10	Amps	
Peak Forward Surge Current - 1/2 60hz	I _{FSM}	160	Amps	
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I _{RRM}	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 _{JA}	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 _{STG}	- 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	$T_{J} = 25 {}^{o}C$	\/ F *		0.50	Volts
Forward Voltage	IF = 10 A	T _J = 125 °C VF*	VE	0.47	0.48	
Instantaneous		T _J = 25 ^o C	IR*		500	uA
Reverse Current	At V _{RM}	T _J = 125 ^o C			100	mA

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

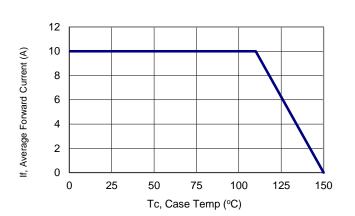
Note 1. FR-4 PCB, 2 oz Copper. Minimum recommended pad layout

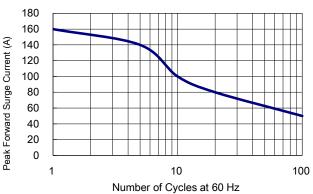
Note 2. Polymide PCB, 2 oz Copper. Cathode pad dimensions 18.8x14.4mm , Anode pad dimensions- (5.6x14.4mm)



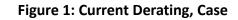
2. Characteristics Curves

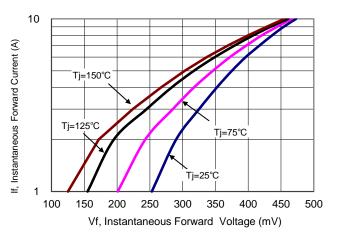
Ratings and Characteristics Curves





(TA = 25° C unless otherwise specified)







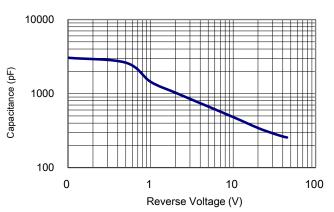


Figure 5: Typical Junction Capacitance



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Figure 2: Maximum Repetitive Surge Current

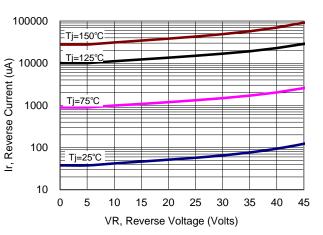
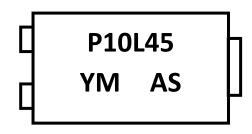


Figure 4: Typical Reverse Current

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3. Marking information

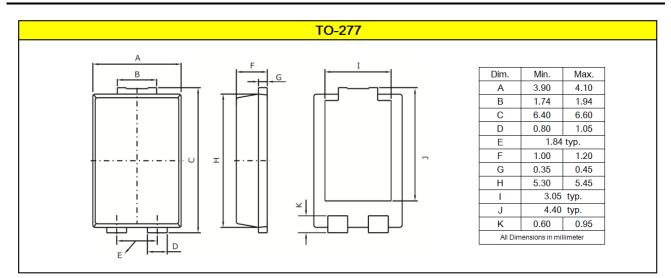
Top Marking Rule



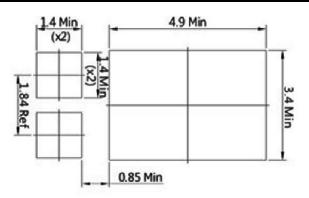
P10L45 = Product Type Marking Code YM = Date Code Y = Last one digits of year M = Month code A = Assembly Code S = Series Number

4. Package information

Suggested Package Outline Dimensions millimeters



Mounting pad Outline Dimensions millimeters

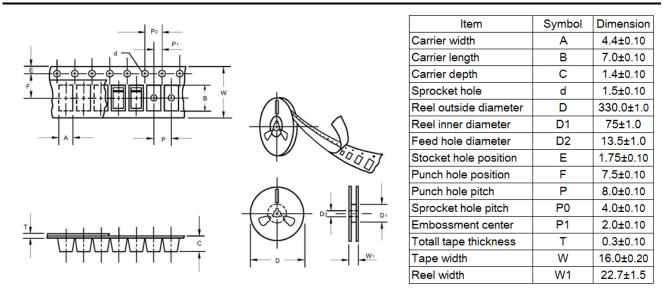




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5. Packing and Ordering information

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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