

P5V45SP

PFC Device Corporation

5A 45V MOS Schottky Rectifier

Major ratings and characteristics

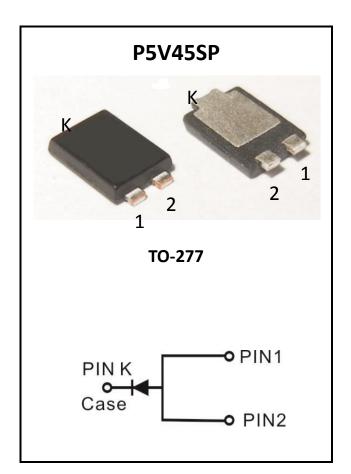
Characteristics	Values	Units	
I _{F(AV)} Rectangular	5	А	
Waveform	C		
V _{RRM}	45	V	
V _F @ 5A <i>,</i> Tj=125 [°] C	0.4	V, typ.	
T _J Operating Junction	65 to 1150	°C	
Temperature	-65 to +150	Ľ	

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

Maximum Ratings Characteristics	(T _A = 25 ^o C unless otherwise specified)
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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	Ι _ο	5	Amps
Peak Forward Surge Current - 1/2 60hz	I _{FSM}	100	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)	$R\theta_{JA}$	30	
Maximum Rate of Voltage Change (at Rated VR)	dv/dt	10000	V/uS
Operating Junction Temperature	TJ	- 65 to +150	°C
Storage Junction Temperature	T _{STG}	- 65 to +150	Ľ

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

Parameter	Test Conditions		Symbol	Тур.	Max.	Units
Instantaneous	IF = 3 A	T ₁ = 25 °C		0.39		
Forward Voltage	IF = 5 A	$I_{J} = 25 C$	V/F*		0.48	Valta
	IF = 3 A	T _J =125 °C	VF*	0.33		Volts
	IF = 5 A	I _J =125 C		0.40	0.44	
Instantaneous		$T_{J} = 25 ^{\circ}C$ $T_{J} = 125 ^{\circ}C$	10*		300	uA
Reverse Current	At V _{RM}		IR*	10	75	mA

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

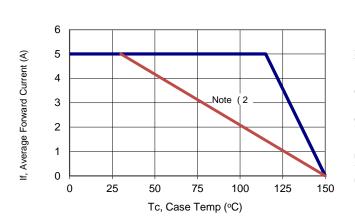
Note 1. FR-4 PCB, 2 oz Copper. Minimum recommended pad layout

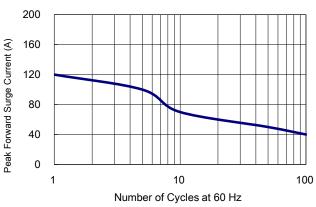
Note 2. Polymide PCB, 2 oz Copper. Cathode pad dimensions 18.8x14.4mm , Anode pad dimensions- (5.6x14.4mm)



2. Characteristics Curves

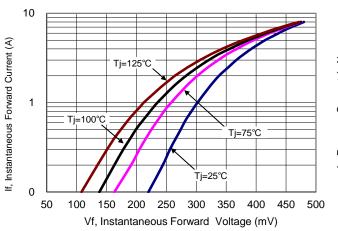
Ratings and Characteristics Curves





(TA = 25° C unless otherwise specified)







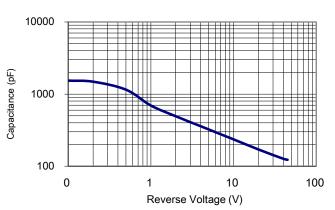


Figure 5: Typical Junction Capacitance



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Figure 2: Maximum Repetitive Surge Current

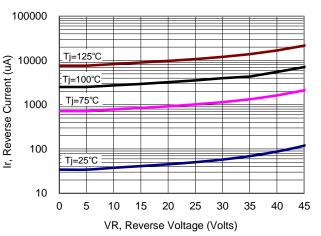
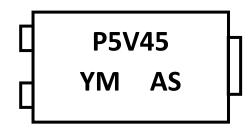


Figure 4: Typical Reverse Current

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3. Marking information

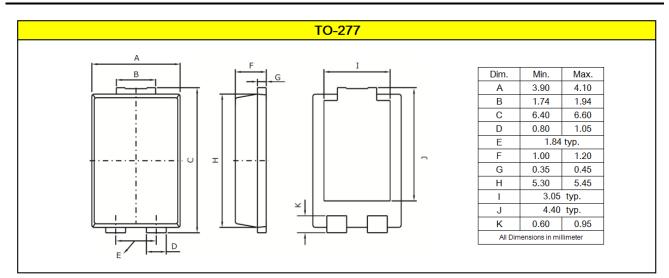
Top Marking Rule



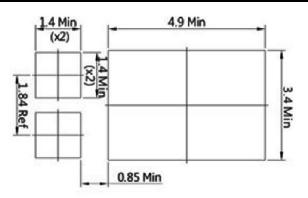
P5V45 = Product Type Marking Code
YM = Date Code
Y = Last one digits of year
M = Month code
A = Assembly Code
S = Series Number

4. Package information

Suggested Package Outline Dimensions millimeters



Mounting pad Outline Dimensions millimeters

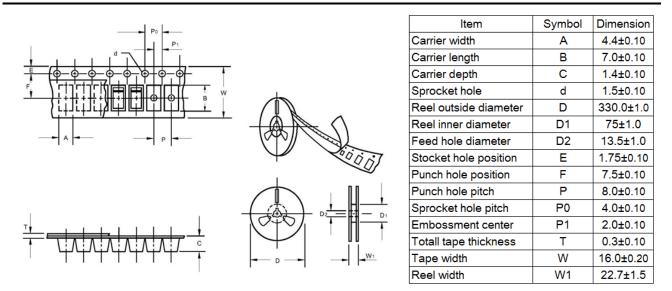




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5. Packing and Ordering information

Packing information millimeters



Ordering information

Part Number	Package	Base Quantity	Delivery mode
P5V45SP	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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