



PFC Device Corporation

P15L45SP

15A 45V MOS Schottky Rectifier

Major ratings and characteristics

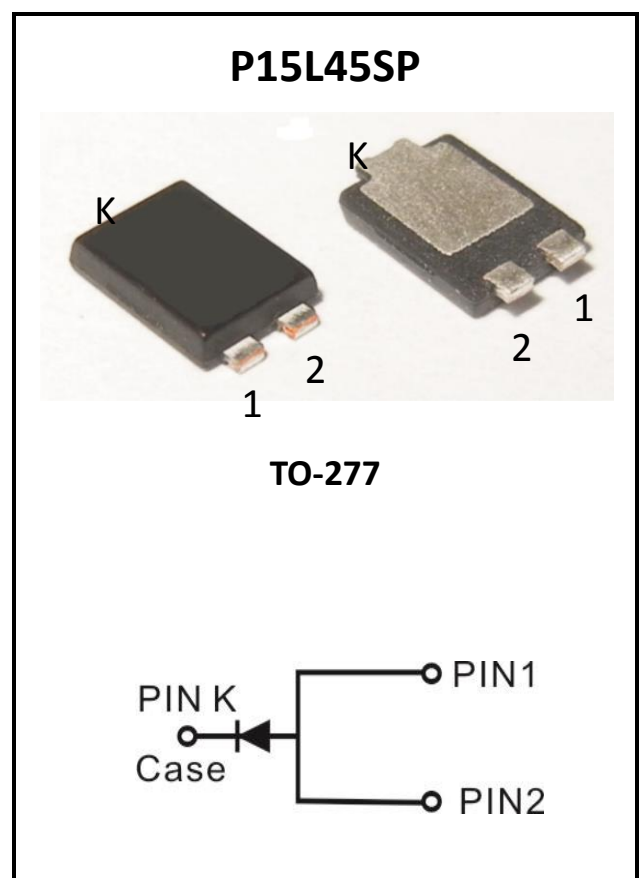
Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	15	A
V_{RRM}	45	V
$V_F@ 15A, T_J=125^{\circ}C$	0.47	V, typ.
T_J Operating Junction Temperature	-65 to +150	$^{\circ}C$

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 °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	I _O	15	Amps
Peak Forward Surge Current - 1/2 60hz	I _{FSM}	275	Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I _{RRM}	2	Amps
Typical Thermal Resistance			
Thermal Resistance junction to Ambient Note (1)	R _{θJA}	72	°C / W
Thermal Resistance junction to Ambient Note (2)	R _{θJA}	30	
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	

Electrical Characteristics - (per leg)			(T _A = 25 °C unless otherwise specified)			
Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Instantaneous Forward Voltage	IF = 15 A	T _J = 25 °C	VF*	----	0.53	Volts
		T _J = 125 °C		0.47	0.51	
Instantaneous Reverse Current	At V _{RM}	T _J = 25 °C	IR*	----	500	uA
		T _J = 125 °C		----	100	mA
* Pulse width < 300 uS, Duty cycle < 2%						
Note 1. FR-4 PCB, 2 oz Copper. Minimum recommended pad layout						
Note 2. Polyimide PCB, 2 oz Copper. Cathode pad dimensions 18.8x14.4mm , Anode pad dimensions- (5.6x14.4mm)						



2. Characteristics Curves

Ratings and Characteristics Curves

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

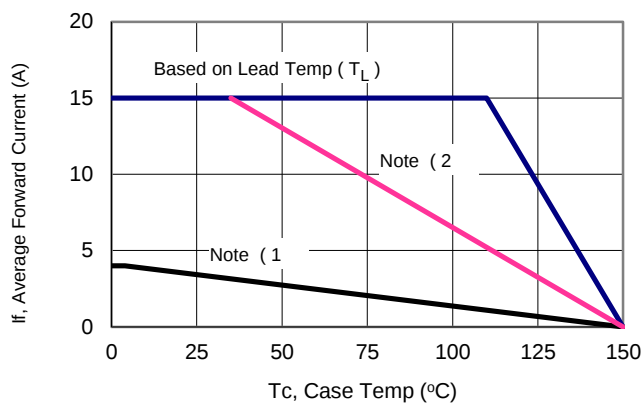


Figure 1: Current Derating, Case

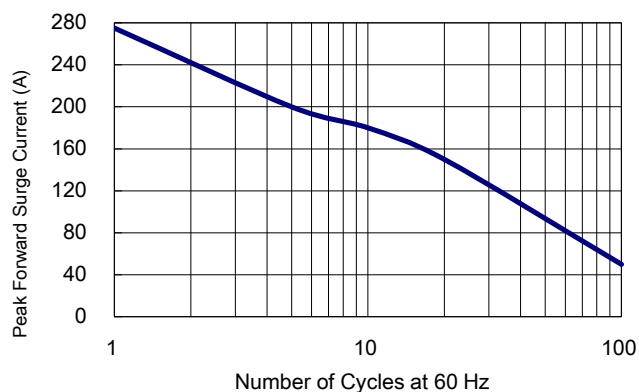


Figure 2: Maximum Repetitive Surge Current

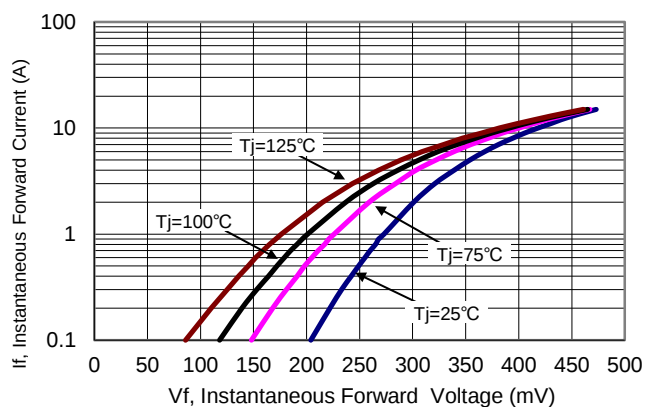


Figure 3: Typical Forward Voltage

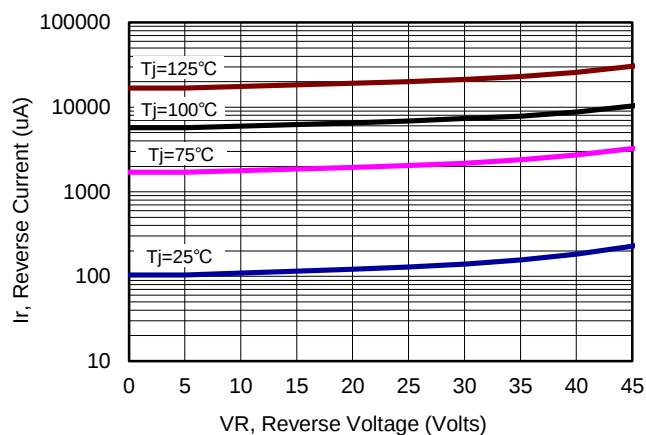


Figure 4: Typical Reverse Current

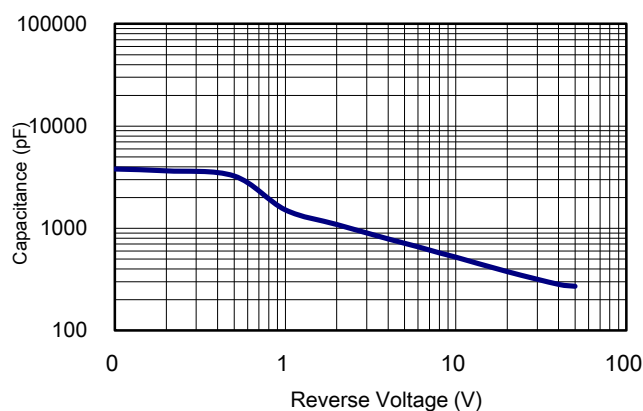
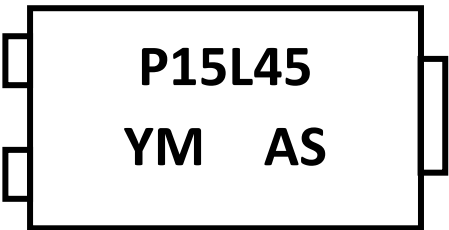


Figure 5: Typical Junction Capacitance



3. Marking information

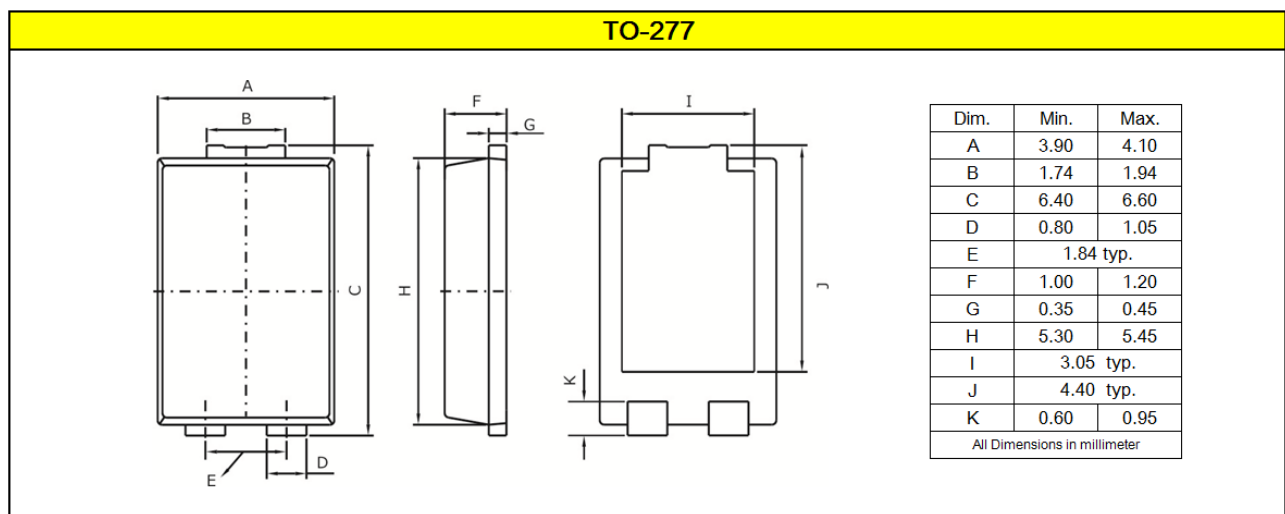
Top Marking Rule



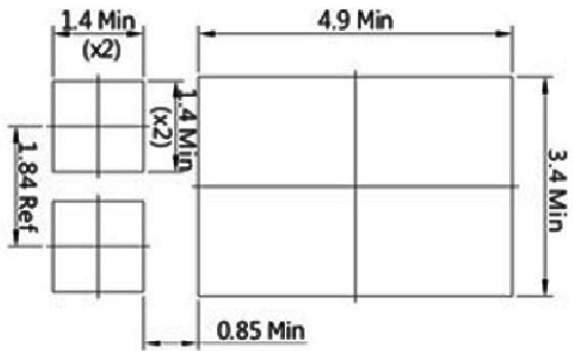
P15L45 = Product Type Marking Code
YM = Date Code
Y = Last one digits of year
M = Month code
A = Assembly Code
S = Series Number

4. Package information

Suggested Package Outline Dimensions millimeters

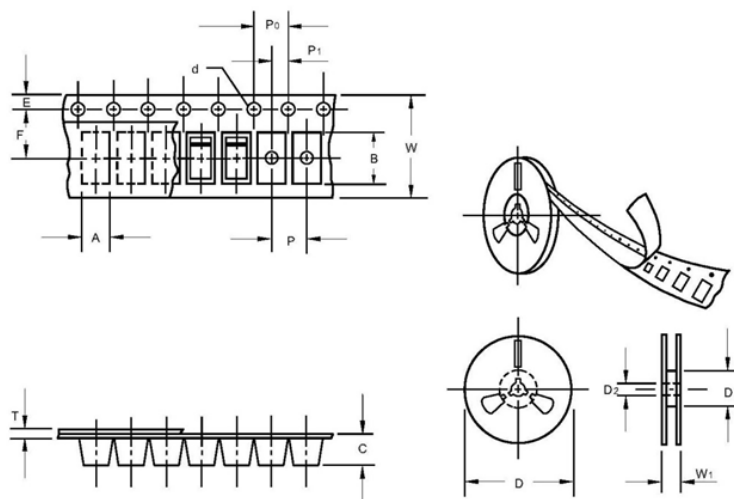


Mounting pad Outline Dimensions millimeters



5. Packing and Ordering information

Packing information millimeters



Item	Symbol	Dimension
Carrier width	A	4.4±0.10
Carrier length	B	7.0±0.10
Carrier depth	C	1.4±0.10
Sprocket hole	d	1.5±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	E	1.75±0.10
Punch hole position	F	7.5±0.10
Punch hole pitch	P	8.0±0.10
Sprocket hole pitch	P0	4.0±0.10
Embossment center	P1	2.0±0.10
Totall tape thickness	T	0.3±0.10
Tape width	W	16.0±0.20
Reel width	W1	22.7±1.5

Ordering information

Part Number	Package	Base Quantity	Delivery mode
P15L45SP	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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