



PFC Device Corporation

## P15V50SP

### 15A 50V MOS Schottky Rectifier

#### Major ratings and characteristics

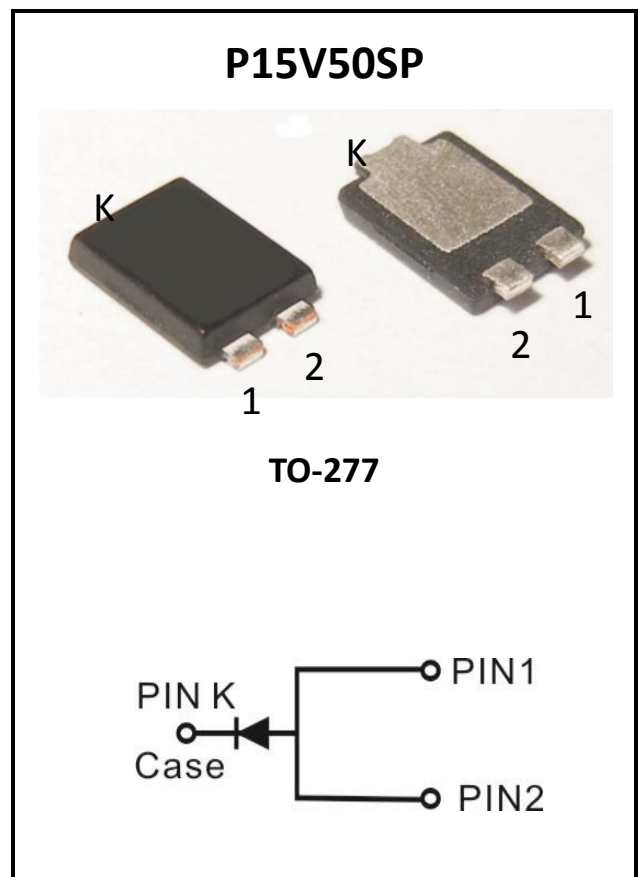
Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	15	A
$V_{RRM}$	50	V
$V_F@ 15A, T_J=125^\circ C$	0.45	V, typ.
$T_J$ Operating Junction Temperature	-65 to +150	$^\circ C$

#### Features

- Ultra 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 ultra-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	$V_{RM}$	50	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)	$R\theta_{JA}$	72	$^\circ\text{C} / \text{W}$
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	$T_J$	- 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	$I_F = 15 \text{ A}$	$V_F^*$	---	0.51	Volts
			$T_J = 125^\circ\text{C}$	0.45	
Instantaneous Reverse Current	At $V_{RM}$	$I_R^*$	---	500	$\mu\text{A}$
			$T_J = 125^\circ\text{C}$	---	100

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

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

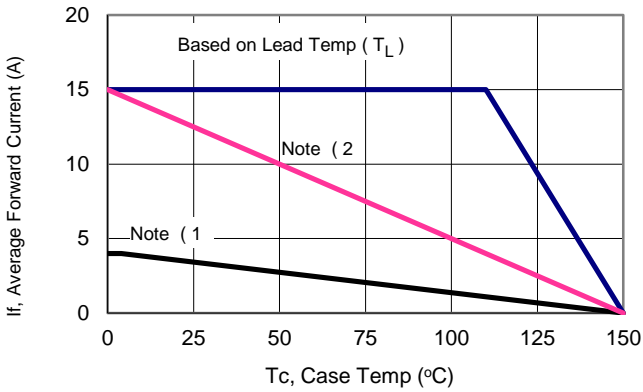
Note 2. Polyimide PCB, 2 oz Copper. Cathode pad dimensions 18.8x14.4mm , Anode pad dimensions- (5.6x14.4mm)



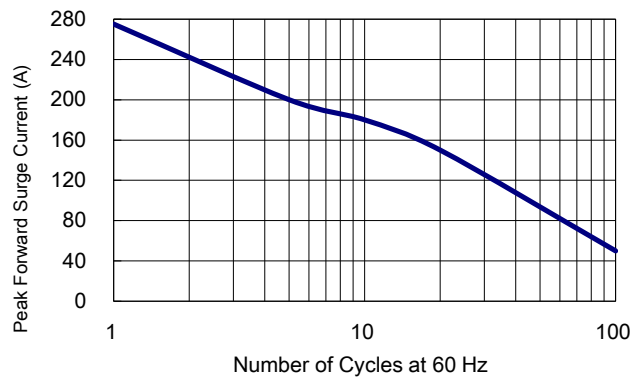
## 2. Characteristics Curves

### Ratings and Characteristics Curves

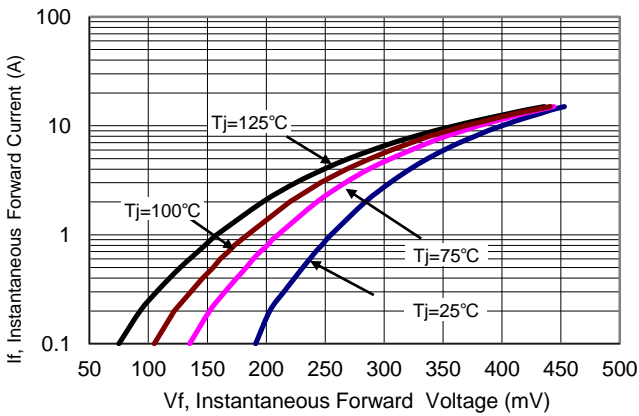
(  $T_A = 25^\circ\text{C}$  unless otherwise specified )



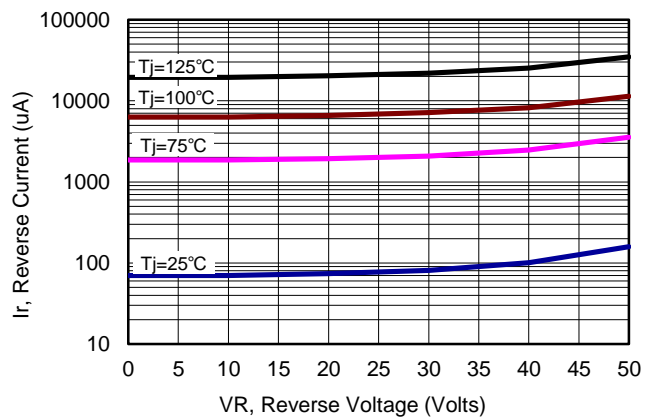
**Figure 1: Current Derating, Case**



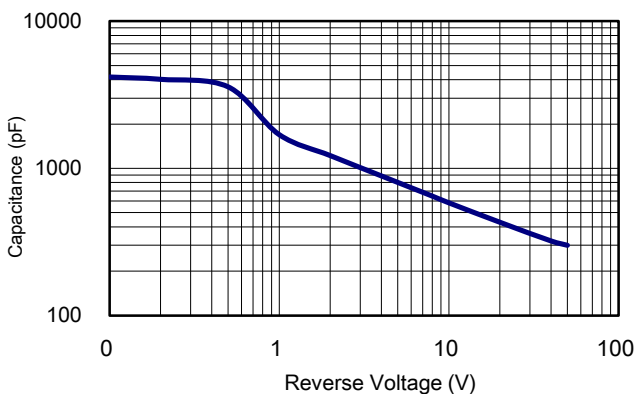
**Figure 2: Maximum Repetitive Surge Current**



**Figure 3: Typical Forward Voltage**



**Figure 4: Typical Reverse Current**

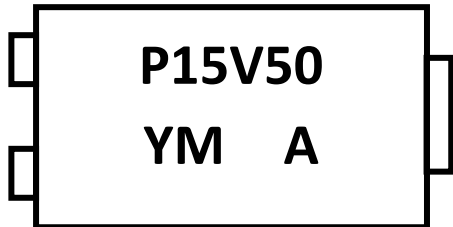


**Figure 5: Typical Junction Capacitance**



3. Marking information

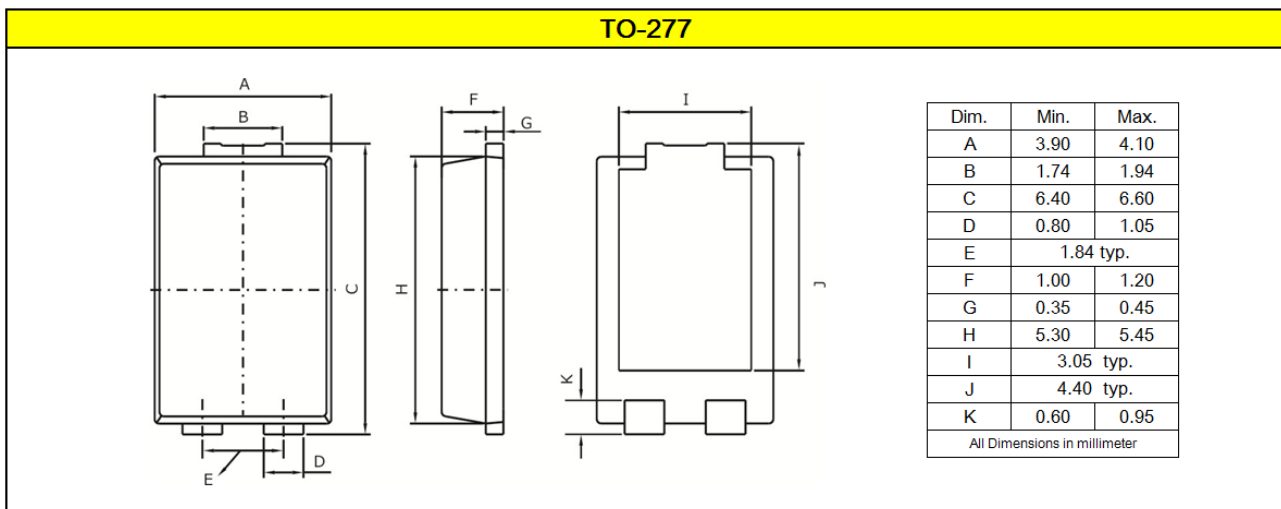
Top Marking Rule



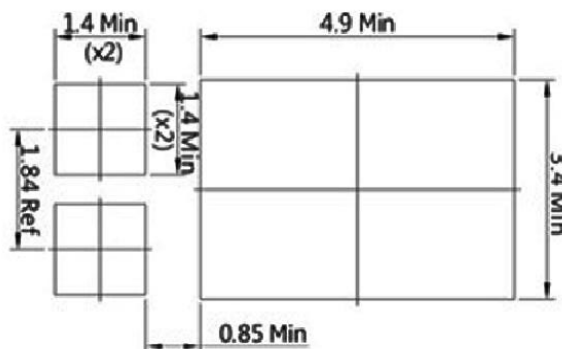
P15V50 = Product Type Marking Code  
 YM = Date Code  
 Y = Last one digits of year  
 M = Month code  
 A = Assembly Code

4. Package information

Suggested Package Outline Dimensions millimeters

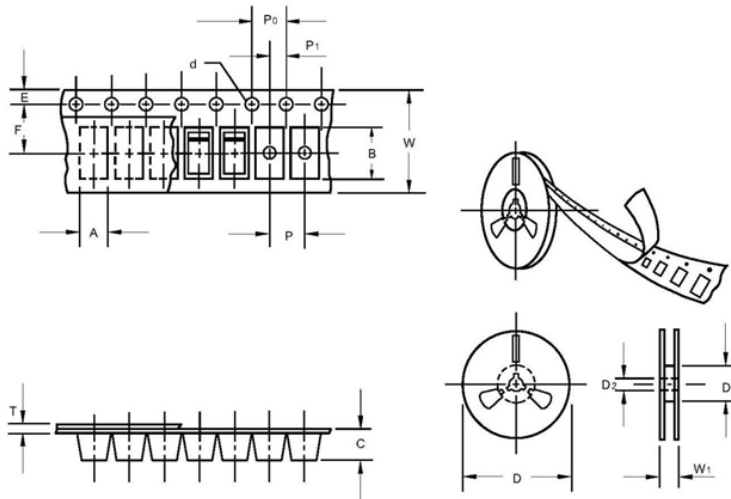


Mounting pad Outline Dimensions millimeters



5. Packing and Ordering information

Packing information millimeters



Item	Symbol	Dimension
Carrier width	A	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
Total 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
P15V50SP	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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