



PFC Device Corporation

## P10L200SP

### 10A 200V MOS Schottky Rectifier

#### Major ratings and characteristics

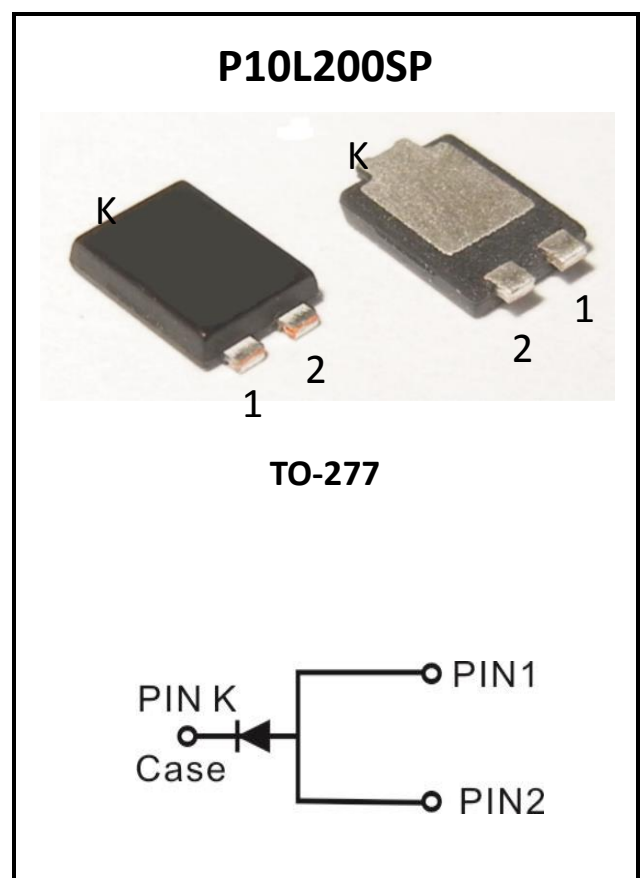
Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	10	A
$V_{RRM}$	200	V
$V_F@ 10A, T_J=125^\circ C$	0.69	V, typ.
$T_J$ Operating Junction Temperature	-65 to +150	$^\circ C$

#### 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

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

Parameter	Symbol	Values	Units
DC Blocking Voltage	$V_{RM}$	200	Volts
Working Peak Reverse Voltage	$V_{RWM}$		
Peak Repetitive Reverse Voltage	$V_{RRM}$		
Average Rectified Forward Current Per device	$I_o$	10	Amps
Peak Forward Surge Current - 1/2 60hz	$I_{FSM}$	180	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	
Thermal Resistance junction to Ambient      Note (2)	$R\theta_{JC}$	10	
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	IF = 5 A	T <sub>J</sub> = 25 °C	VF*	0.76	----	Volts
	IF = 10 A			0.81	0.86	
	IF = 5 A	T <sub>J</sub> = 125 °C		0.62	----	
	IF = 10 A			0.69	0.75	
Instantaneous Reverse Current	At V <sub>RM</sub>	T <sub>J</sub> = 25 °C	IR*	6.5	100	uA
		T <sub>J</sub> = 125 °C		0.047	10	mA

\* Pulse width < 300  $\mu\text{s}$ , 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) and additional heatsink (10cm x 10cm x 1cm)



## 2. Characteristics Curves

### Ratings and Characteristics Curves

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

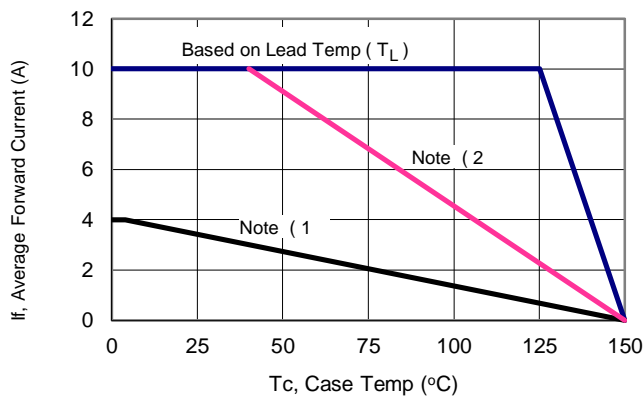


Figure 1: Current Derating, Case

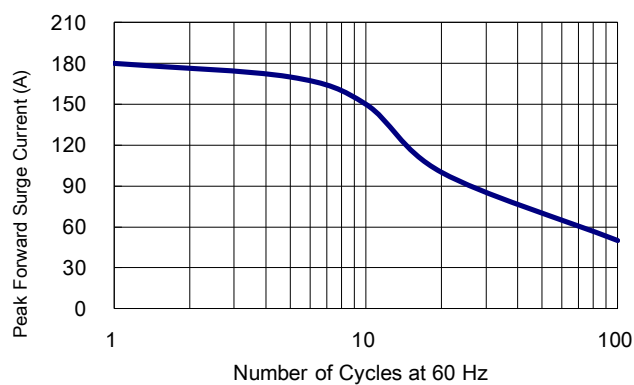


Figure 2: Maximum Repetitive Surge Current

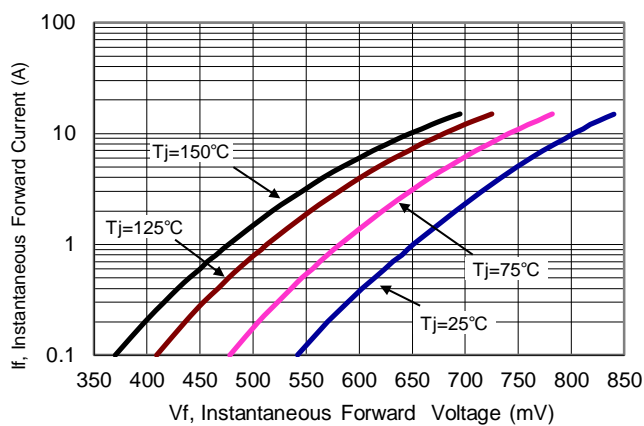


Figure 3: Typical Forward Voltage

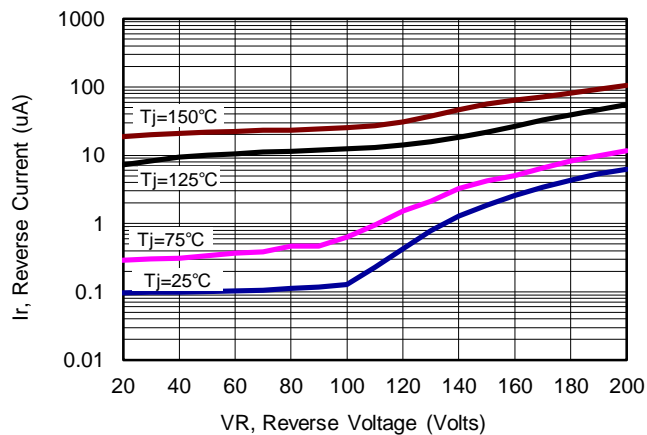


Figure 4: Typical Reverse Current

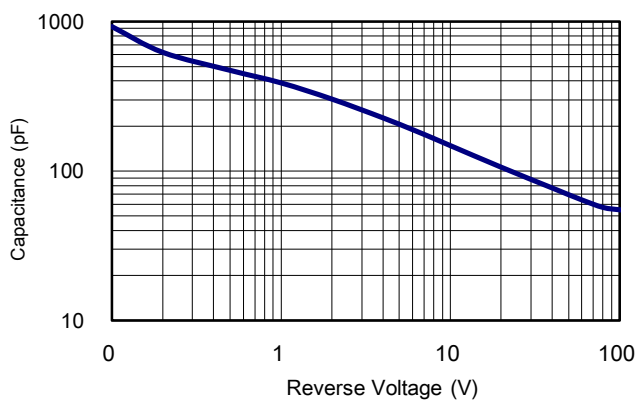
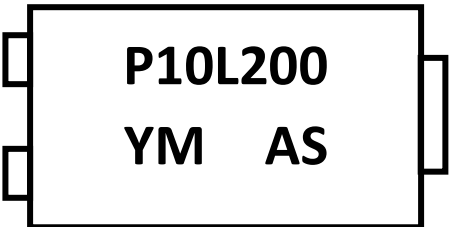


Figure 5: Typical Junction Capacitance



3. Marking information

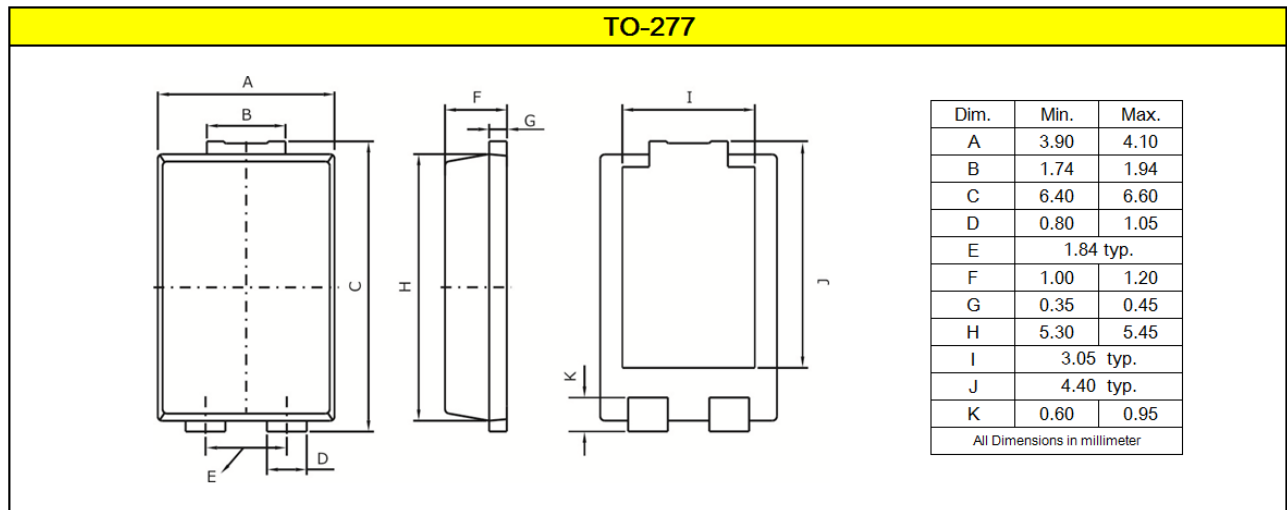
Top Marking Rule



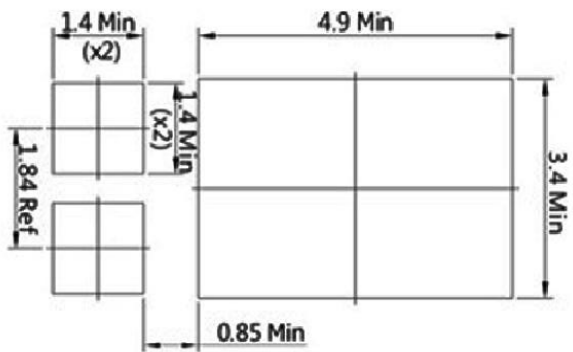
P10L200 = Product Type Marking Code  
YM = Date Code  
Y = Last one digits of year  
M = Month code  
A = Assembly Code  
S = Series Number

4. Package information

Suggested Package Outline Dimensions    millimeters

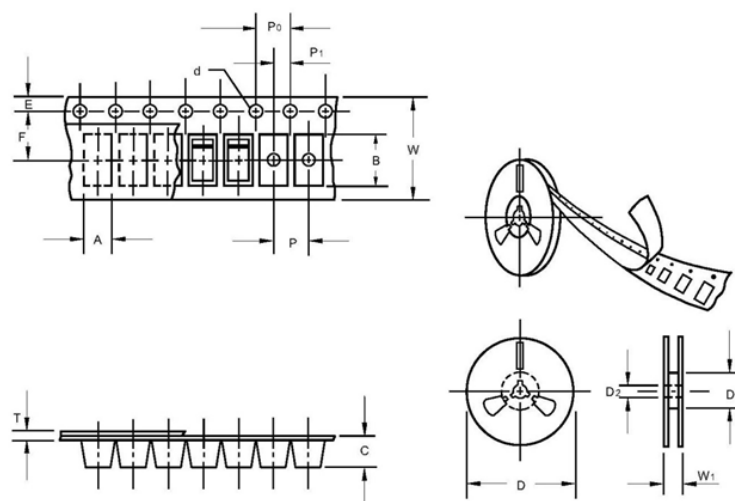


Mounting pad Outline Dimensions    millimeters



## 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
P10L200SP	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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