



PFC Device Corporation

P5L150B

5A 150V MOS Schottky Rectifier

Major ratings and characteristics

| Characteristics | Values | Units |
|--------------------------------------|-------------|------------|
| $I_{F(AV)}$ Rectangular Waveform | 5 | A |
| V_{RRM} | 150 | V |
| $V_F@ 5A, T_J=125^\circ C$ | 0.65 | V, typ. |
| T_J Operating Junction Temperature | -65 to +175 | $^\circ C$ |

Features

- Low Forward Voltage Drop
- Reliable High Temperature Operation
- Softest, fast switching capability
- $175^\circ C$ Operating Junction Temperature
- Lead Free Finish, RoHS Compliant

Typical Applications

Device optimized for low forward voltage drop to maximize efficiency in Power Supply applications

P5L150B



DO-214AA (SMB)



1. Characteristics

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

| Parameter | Symbol | Values | Units |
|--|----------------|--------------|-----------------------------|
| DC Blocking Voltage | V_{RM} | 150 | Volts |
| Working Peak Reverse Voltage | V_{RWM} | | |
| Peak Repetitive Reverse Voltage | V_{RRM} | | |
| Average Rectified Forward Current Per device (Rated VR-20Khz Square Wave) - 50% duty cycle | I_o | 5 | Amps |
| Peak Forward Surge Current - 1/2 60hz | I_{FSM} | 120 | Amps |
| Peak Repetitive Reverse Surge Current (2uS-1Khz) | I_{RRM} | 0.5 | Amps |
| Typical Thermal Resistance | $R\theta_{JL}$ | 20 | $^\circ\text{C} / \text{W}$ |
| Maximum Rate of Voltage Change (at Rated VR) | dv/dt | 10000 | $\text{V}/\mu\text{S}$ |
| Operating Junction Temperature | T_J | - 65 to +175 | $^\circ\text{C}$ |
| Storage Junction Temperature | T_{STG} | - 65 to +175 | |

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 | $T_J = 25^\circ\text{C}$ | VF* | ---- | 0.84 | Volts |
| | | $T_J = 125^\circ\text{C}$ | | 0.65 | 0.70 | |
| Instantaneous Reverse Current | At V_{RM} | $T_J = 25^\circ\text{C}$ | IR* | ---- | 100 | μA |
| | | $T_J = 125^\circ\text{C}$ | | ---- | 20 | mA |

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



2. Characteristics Curves

Ratings and Characteristics Curves

(TA = 25°C unless otherwise specified)

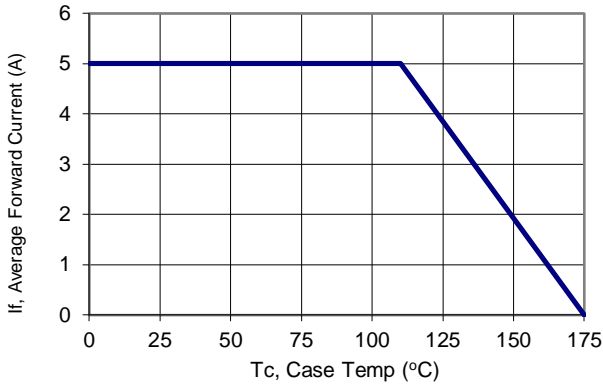


Figure 1: Current Derating, Case

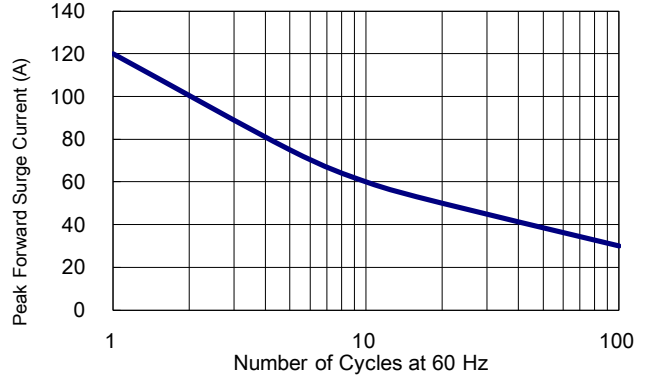


Figure 2: Maximum Repetitive Surge Current

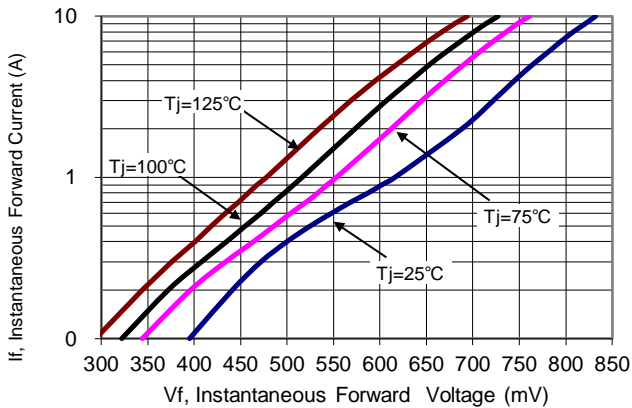


Figure 3: Typical Forward Voltage

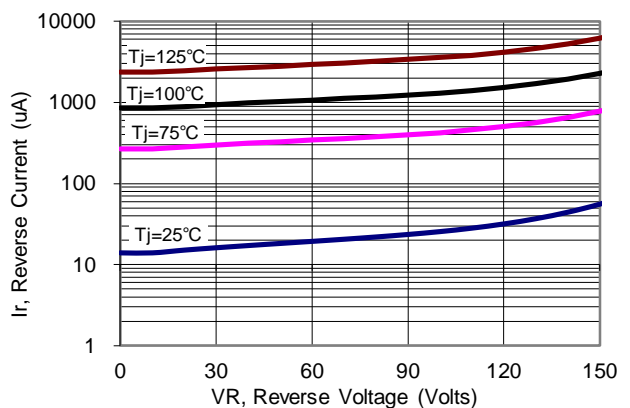


Figure 4: Typical Reverse Current

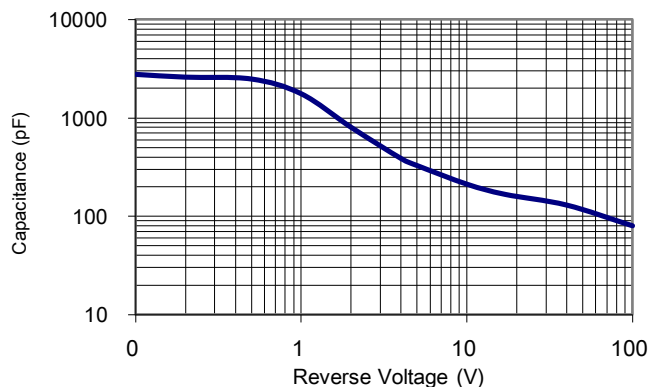


Figure 5: Typical Junction Capacitance



3. Marking information

Top Marking Rule



P5L150B= Product Type Marking Code

A = Assembly code

Y = Last one digits of year

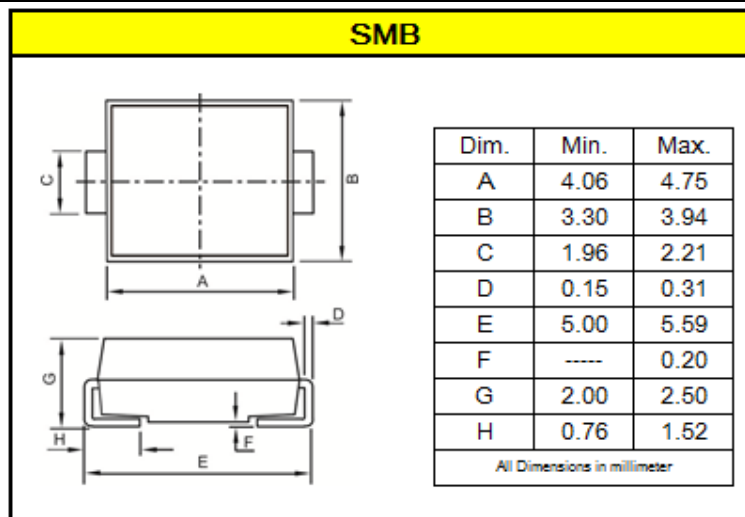
M = Month code

S = Series Number

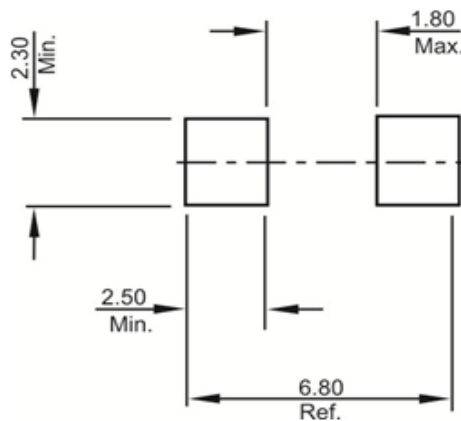
H = Halogen Free (N/A = common molding compound)

4. Package information

Suggested Package Outline Dimensions millimeters

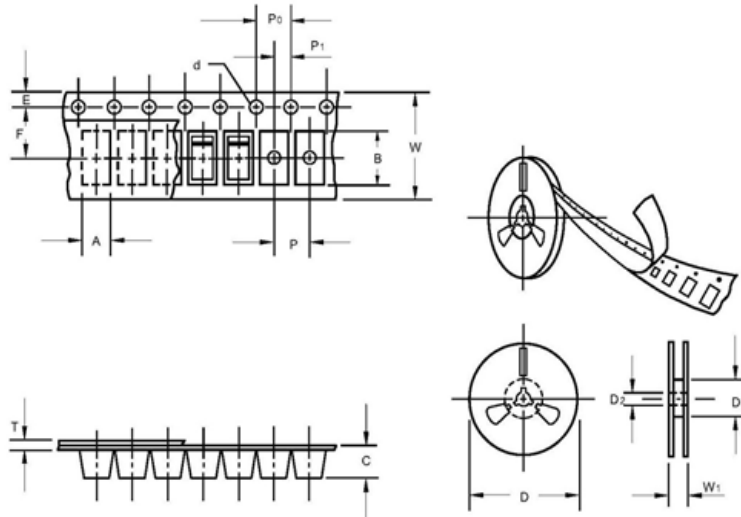


Mounting pad Outline Dimensions millimeters



5. Packing and Ordering information

Packing information millimeters



| Item | Symbol | Dimension |
|-----------------------|--------|-----------|
| Carrier width | A | 3.77±0.10 |
| Carrier length | B | 5.7±0.10 |
| Carrier depth | C | 2.45±0.10 |
| Sprocket hole | d | 1.55±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 | 5.5±0.05 |
| 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 | 0.25±0.10 |
| Tape width | W | 12.0±0.15 |
| Reel width | W1 | 18.1±1.5 |

Ordering information

| Part Number | Package | Base Quantity | Delivery mode |
|-------------|----------------|---------------|------------------------------------|
| P5L150B | DO-214AA (SMB) | 3000 | 13" diameter plastic tape and reel |

Note: For Halogen Free molding compound, add "H" suffix to part number above.

Mechanical

- Molder Plastic: UL Flammability Classification Rating 94V-0
- Device Weight : 0.003 ounces (0.093grams) - DO-214AA(SMB)

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