



PFC Device Corporation

**P5L150DS**

## 5A 150V MOS Schottky Rectifier

### Major ratings and characteristics

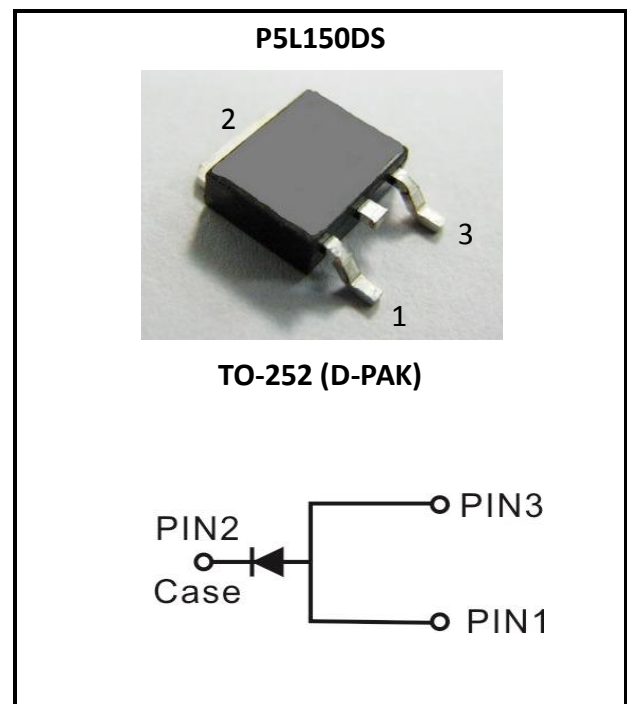
| Characteristics                      | Values      | Units      |
|--------------------------------------|-------------|------------|
| $I_{F(AV)}$ Rectangular Waveform     | 5           | A          |
| $V_{RRM}$                            | 150         | V          |
| $V_F@ 5A, T_J=125^\circ C$           | 0.64        | 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
- 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  | $V_{RM}$       | 150          | Volts                         |
| Working Peak Reverse Voltage   | $V_{RWM}$      |              |                               |
| Peak Repetitive Reverse Voltage  | $V_{RRM}$      |              |                               |
| Average Rectified Forward Current<br>Per device<br>(Rated VR-20Khz Square Wave) - 50% duty cycle | $I_o$          | 5            | Amps                          |
| Peak Forward Surge Current - 1/2 60hz  | $I_{FSM}$      | 80           | Amps                          |
| Peak Repetitive Reverse Surge Current (2uS-1Khz)   | $I_{RRM}$      | 0.5          | Amps                          |
| Typical Thermal Resistance (per leg)<br>Package D-PAK TO-252                                     | $R\theta_{JC}$ | 6            | $^{\circ}\text{C} / \text{W}$ |
| Maximum Rate of Voltage Change ( at Rated $V_R$ )  | $dv/dt$        | 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         |
|                               |                 | $T_J = 125^{\circ}\text{C}$ |        | 0.64 | 0.74 |               |
| Instantaneous Reverse Current | At $V_{RM}$     | $T_J = 25^{\circ}\text{C}$  | IR*    | ---- | 100  | $\mu\text{A}$ |
|                               |                 | $T_J = 125^{\circ}\text{C}$ |        | ---- | 10   | $\text{mA}$   |

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



2. Characteristics Curves

Ratings and Characteristics Curves

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

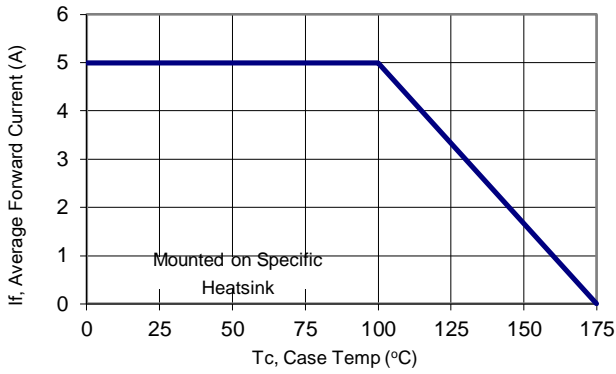


Figure 1: Current Derating, Case

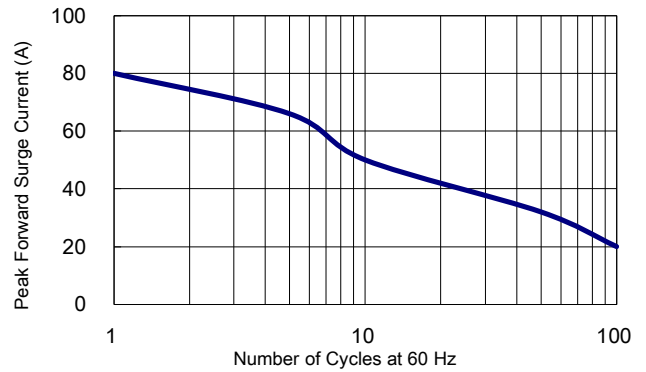


Figure 2: Maximum Repetitive Surge Current

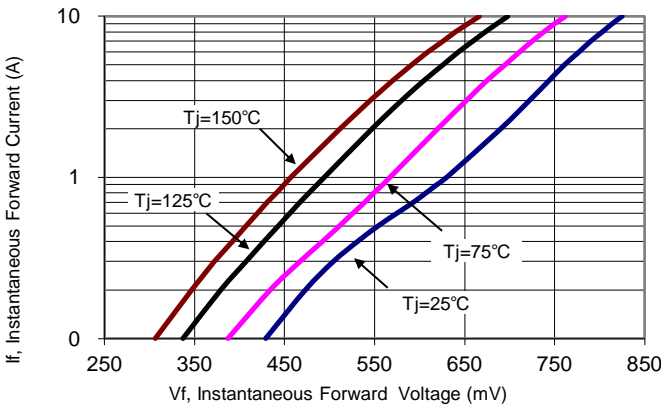


Figure 3: Typical Forward Voltage

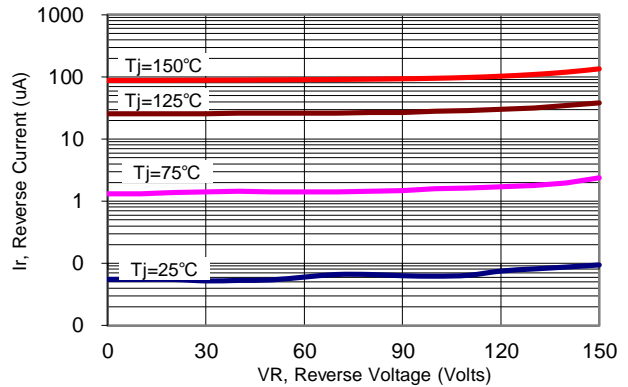


Figure 4: Typical Reverse Current

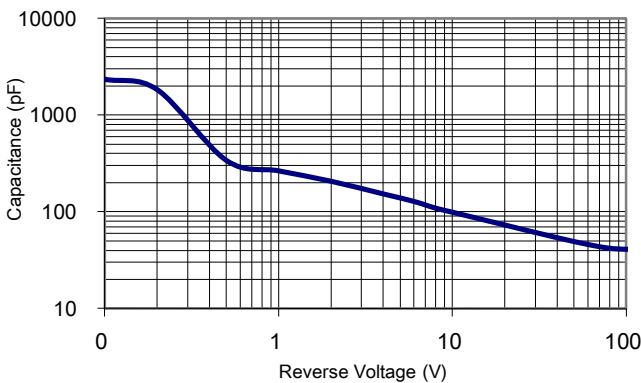
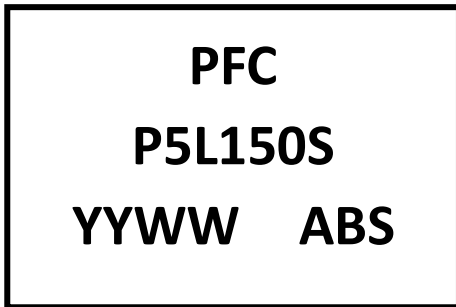


Figure 5: Typical Junction Capacitance



### 3. Marking information

Top Marking Rule



P5L150S = Product Type Marking Code

YYWW = Date Code

YY = Last two digits of year

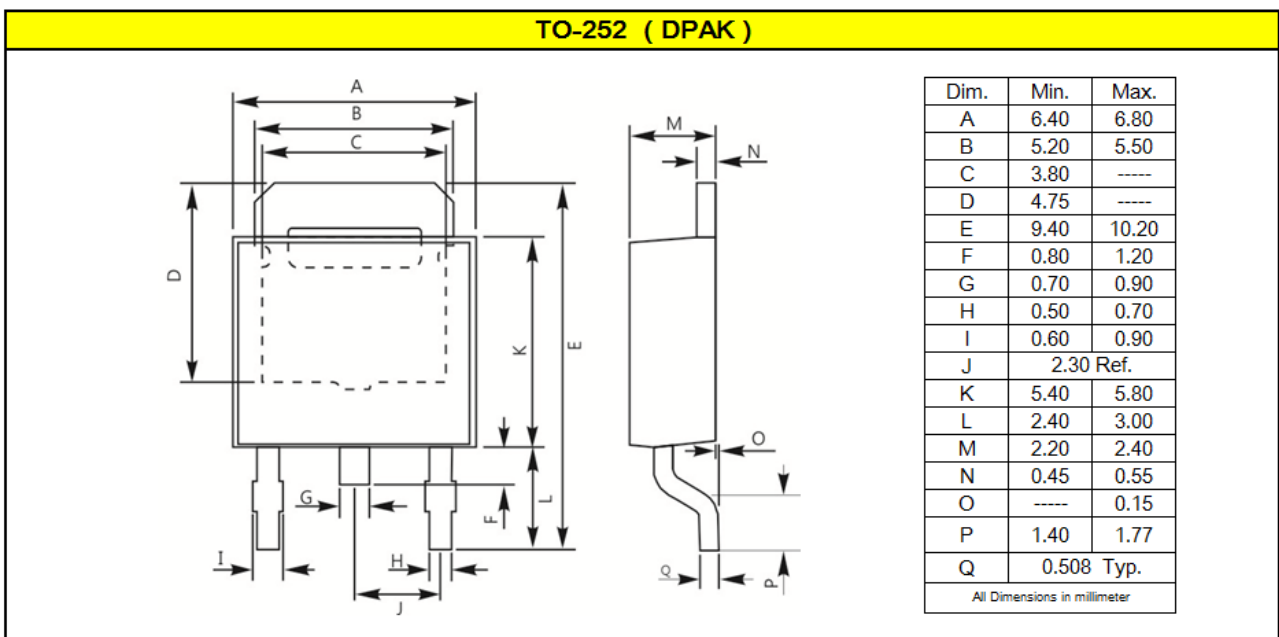
WW = Week code

S = Series Number

AB = Assembly code

### 4. Package information

Package Outline Dimensions    millimeters



**5. Ordering information**

| Part Number | Package        | Delivery mode                |
|-------------|----------------|------------------------------|
| P5L150DS    | TO-252 (D-PAK) | 2500 pcs / 13" diameter reel |

Mechanical

- Molder Plastic: UL Flammability Classification Rating 94V-0
- Device Weight : 0.01 ounces (0.3grams) - TO-252 (D-PAK)

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