



PFC Device Corporation

**PFR10V150CT**  
**PFR10V150CTF**  
**PFR10V150CTI**  
**PFR10V150CTB**

## 10A 150V MOS Schottky Rectifier

### Major ratings and characteristics

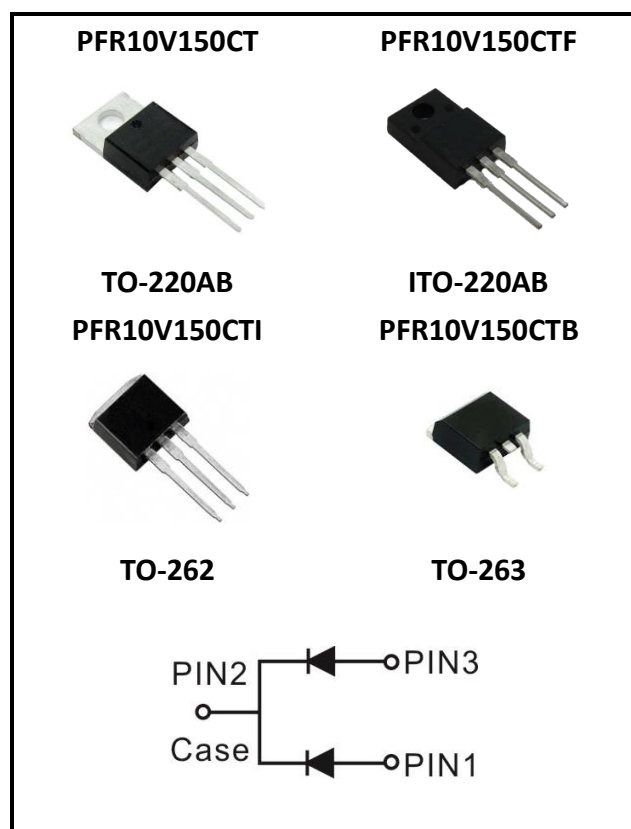
| Characteristics                      | Values      | Units            |
|--------------------------------------|-------------|------------------|
| $I_{F(AV)}$ Rectangular Waveform     | 5 × 2       | A                |
| $V_{RRM}$                            | 150         | V                |
| $V_F$ @ 5A , $T_j=125^\circ\text{C}$ | 0.62        | V, typ.          |
| $T_j$ Operating Junction Temperature | -65 to +175 | $^\circ\text{C}$ |

### Features

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

### 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                                                                                                       | $V_{RM}$       | 150                | Volts                         |
| Working Peak Reverse Voltage                                                                                              | $V_{RWM}$      |                    |                               |
| Peak Repetitive Reverse Voltage                                                                                           | $V_{RRM}$      |                    |                               |
| Average Rectified Forward Current<br>Per device                                                                           | $I_o$          | 10                 | Amps                          |
| (Rated VR-20Khz Square Wave) - 50% duty cycle                                                                             |                |                    |                               |
| Peak Forward Surge Current - 1/2 60hz                                                                                     | $I_{FSM}$      | 180                | Amps                          |
| Peak Repetitive Reverse Surge Current (2uS-1Khz)                                                                          | $I_{RRM}$      | 0.5                | Amps                          |
| Typical Thermal Resistance (per leg)<br>Package = TO-220AB<br>Package = ITO-220AB<br>Package = TO-262<br>Package = TO-263 | $R\theta_{JC}$ | 2<br>4<br>2.5<br>3 | $^{\circ}\text{C} / \text{W}$ |
| Isolation voltage (ITO-220 only)                                                                                          |                | $V_{AC}$           |                               |
| Maximum Rate of Voltage Change ( at Rated $V_R$ )                                                                         |                | $dv/dt$            |                               |
| Operating Junction Temperature                                                                                            |                | $T_J$              |                               |
| Storage Junction Temperature                                                                                              | $T_{STG}$      | - 65 to +175       | $^{\circ}\text{C}$            |

### 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*    | ---- | 0.79 | Volts         |
|                               |                 | $T_J = 125^{\circ}\text{C}$ |        | 0.62 | 0.63 |               |
| Instantaneous Reverse Current | At $V_{RM}$     | $T_J = 25^{\circ}\text{C}$  | IR*    | ---- | 100  | $\mu\text{A}$ |
|                               |                 | $T_J = 125^{\circ}\text{C}$ |        | ---- | 10   | mA            |

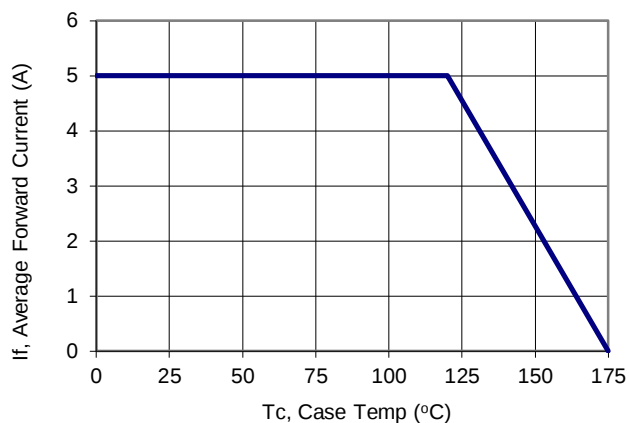
\* Pulse width < 300 uS, Duty cycle < 2%



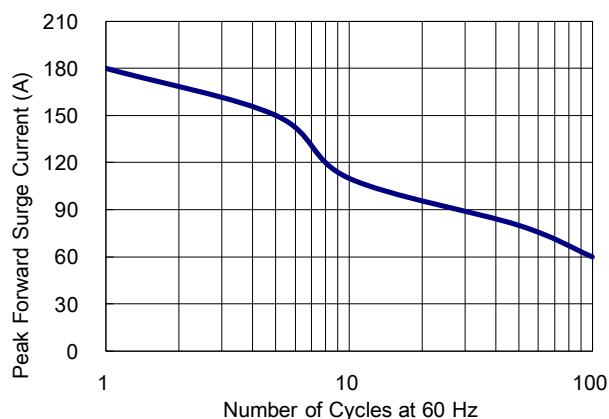
## 2. Characteristics Curves

### Ratings and Characteristics Curves

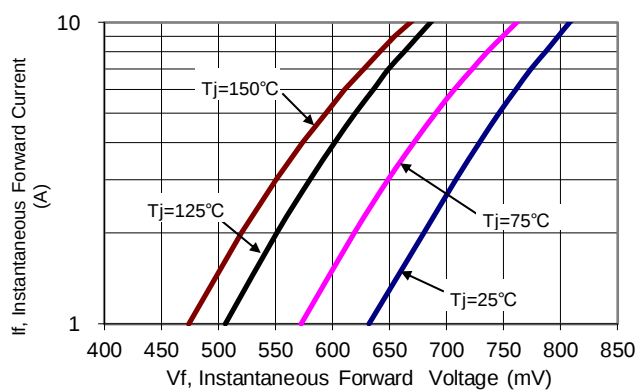
(  $T_A = 25^{\circ}\text{C}$  unless otherwise specified )



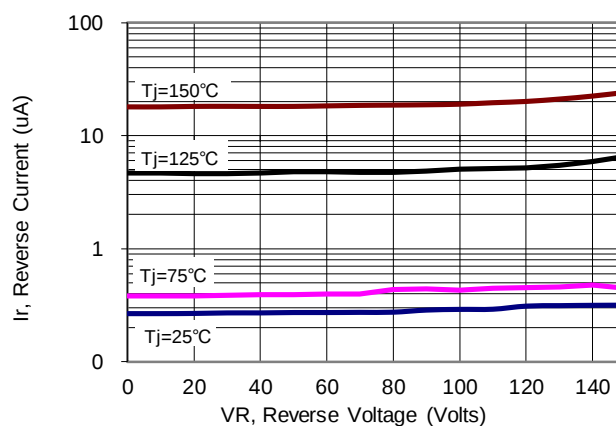
**Figure 1: Current Derating, Case**



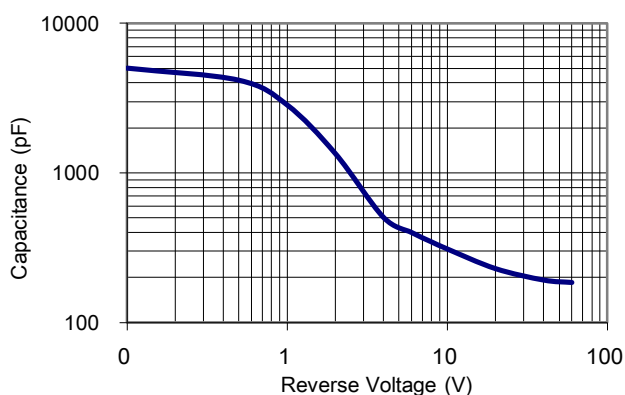
**Figure 2: Maximum Repetitive Surge Current**



**Figure 3: Typical Forward Voltage**



**Figure 4: Typical Reverse Current**



**Figure 5: Typical Junction Capacitance**



### 3. Marking information

#### Top Marking Rule

**PFC PFR**  
**10V150CT**  
**YYWW ABSH**

PFR10V150CT = Product Type Marking Code  
YYWW = Date Code  
YY = Last two digits of year  
WW = Week code  
AB = Assembly code  
S = Series Number  
H = Halogen Free (N/A = common molding compound)

**PFC PFR**  
**10V150CTF**  
**YYWW ABSH**

PFR10V150CTF = Product Type Marking Code  
YYWW = Date Code  
YY = Last two digits of year  
WW = Week code  
AB = Assembly code  
S = Series Number  
H = Halogen Free (N/A = common molding compound)

**PFC PFR**  
**10V150CTI**  
**YYWW ABSH**

PFR10V150CTI = Product Type Marking Code  
YYWW = Date Code  
YY = Last two digits of year  
WW = Week code  
AB = Assembly code  
S = Series Number  
H = Halogen Free (N/A = common molding compound)

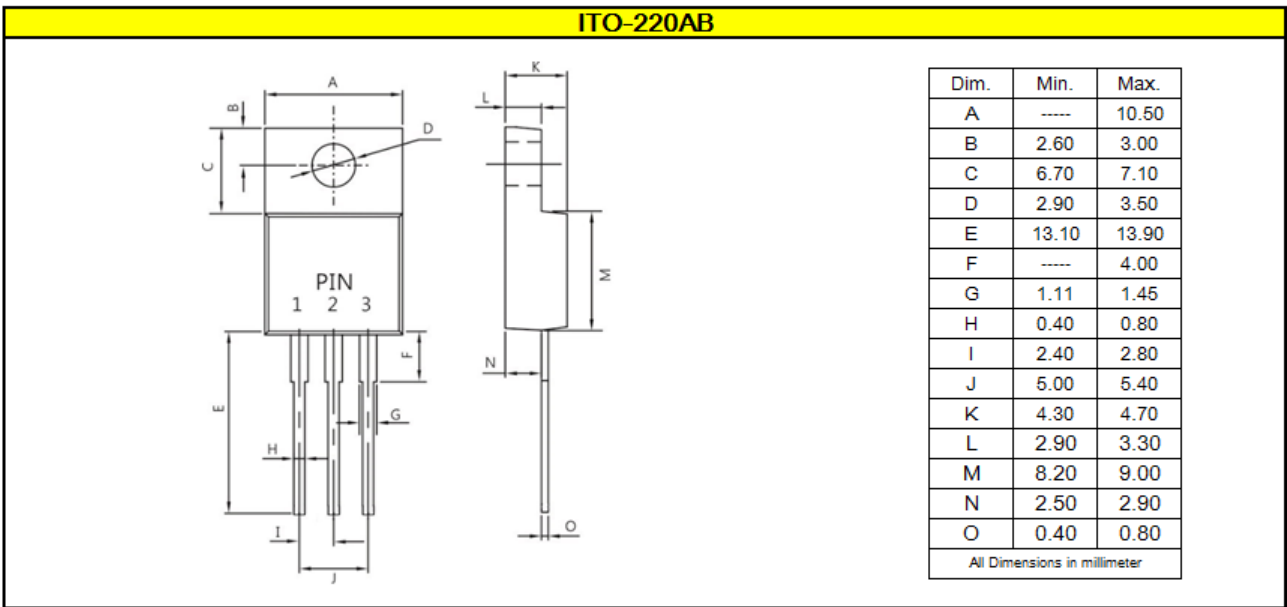
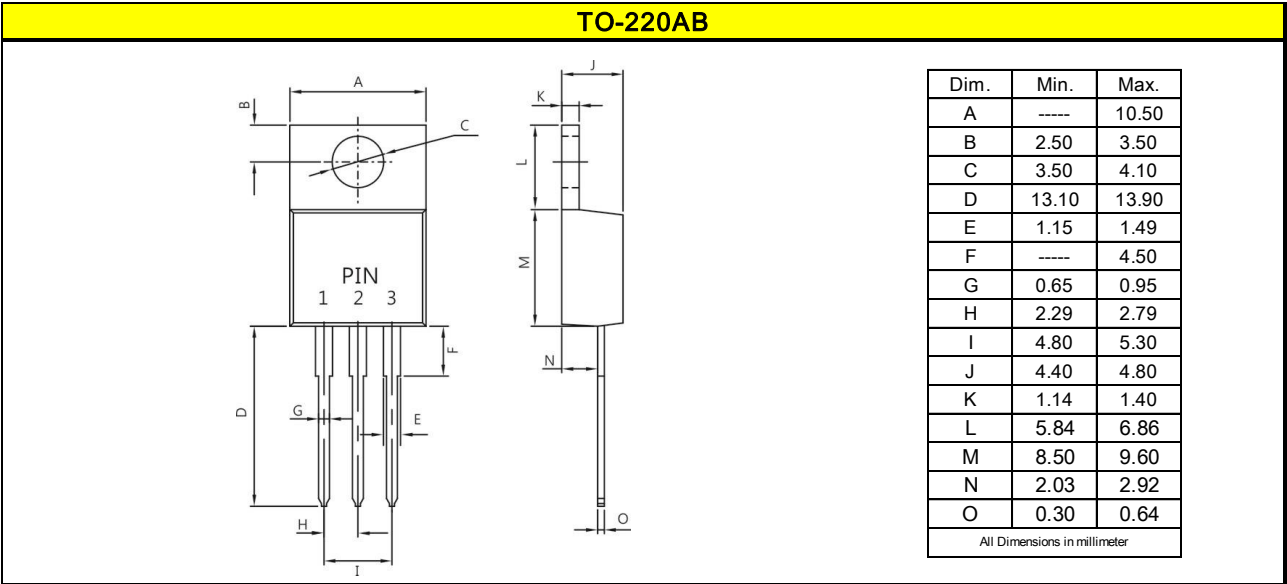
**PFC PFR**  
**10V150CTB**  
**YYWW ABSH**

PFR10V150CTB = Product Type Marking Code  
YYWW = Date Code  
YY = Last two digits of year  
WW = Week code  
AB = Assembly code  
S = Series Number  
H = Halogen Free (N/A = common molding compound)

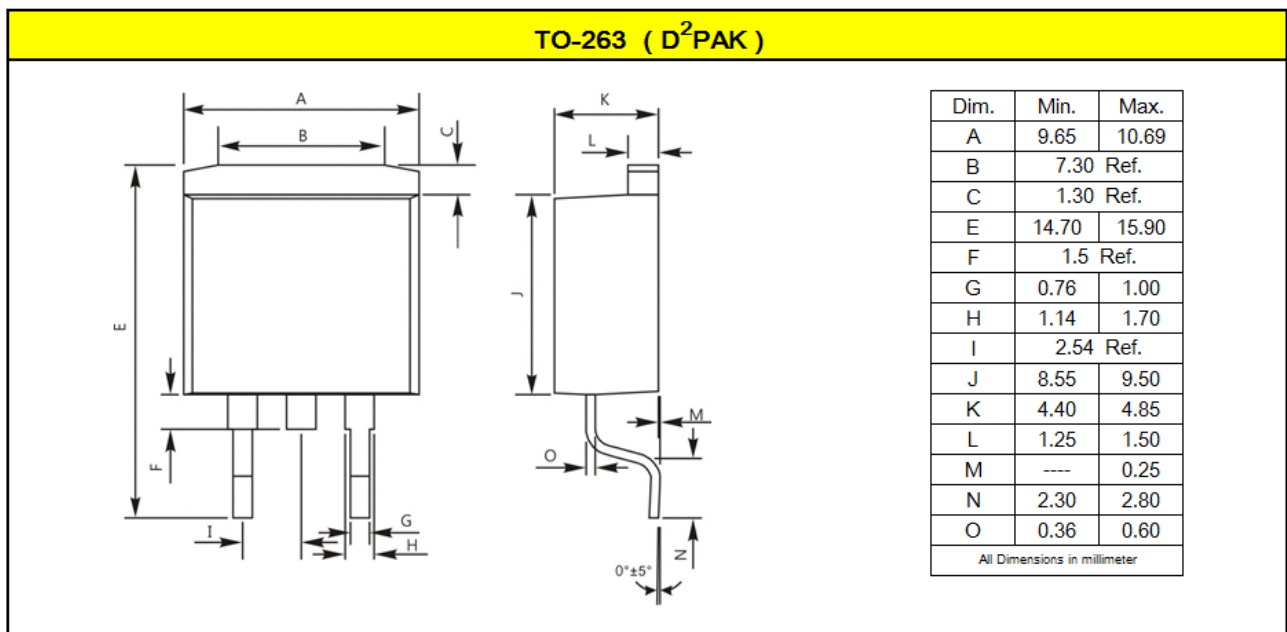
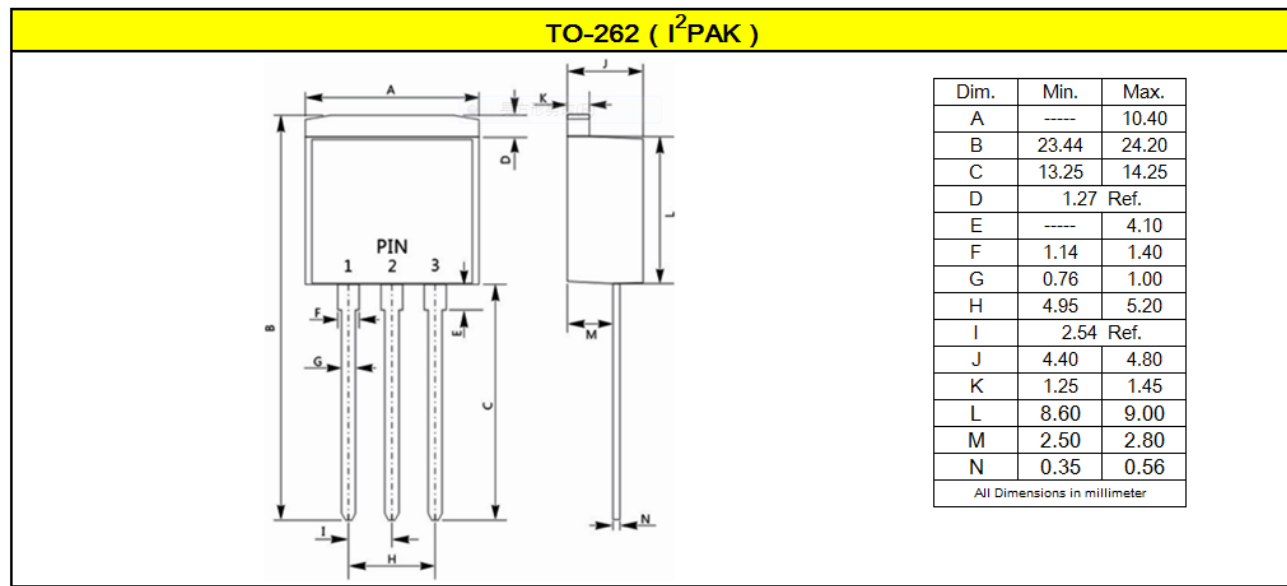


4. Package information

Package Outline Dimensions    millimeters



Package Outline Dimensions    millimeters



## 5. Ordering information

| Part Number  | Package   | Delivery mode                  |
|--------------|-----------|--------------------------------|
| PFR10V150CT  | TO-220AB  | 50 pieces / tube               |
| PFR10V150CTF | ITO-220AB | 50 pieces / tube               |
| PFR10V150CTI | TO-262    | 50 pieces / tube               |
| PFR10V150CTB | TO-263    | 800 pieces / 13" diameter 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 : 0.07 ounces (1.96grams) - TO-220AB  
0.06 ounces (1.74grams) - ITO-220AB  
0.05 ounces (1.45 grams) - TO-262  
0.04 ounces (1.16 grams) - TO-263
- Mounting Torque : Recommended 4~5 kg-cm.

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