

# PFC Device Corporation

PFR10150CT PFR10150CTF PFR10150CTI PFR10150CTB

# 10A 150V MOS Schottky Rectifier

## Major ratings and characteristics

Characteristics	Values	Units	
I <sub>F(AV)</sub> Rectangular	5 × 2	А	
Waveform			
$V_{RRM}$	150	V	
V <sub>F</sub> @ 5A , Tj=125 °C	0.66	V, typ.	
T <sub>J</sub> Operating Junction	6F to 117F	°C	
Temperature	-65 to +175		

#### **Features**

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

# TO-220AB ITO-220AB PFR10150CTB TO-262 TO-263 PIN2 PIN3 Case PIN1

# **Typical Applications**

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

## 1. Characteristics

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

Parameter	Symbol	Values	Units
DC Blocking Voltage	V <sub>RM</sub>		
Working Peak Reverse Voltage	$V_{RWM}$	150	Volts
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>		
Average Rectified Forward Current			
Per device	Io	10	Amps
(Rated VR-20Khz Square Wave) - 50% duty cycle			
Peak Forward Surge Current - 1/2 60hz	I <sub>FSM</sub>	120	Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I <sub>RRM</sub>	1	Amps
Typical Thermal Resistance (per leg)			
Package = TO-220AB		2	
Package =ITO-220AB	$R\theta_{Jc}$	4	°C/W
Package =TO-262		2.5	
Package =TO-263		3	
Isolation voltage (ITO-220 only)	V <sub>AC</sub>	1500	V
Maximum Rate of Voltage Change ( at Rated $V_R$ )	dv/dt	10000	V/uS
Operating Junction Temperature	TJ	- 65 to +175	°C
Storage Junction Temperature	T <sub>STG</sub>	- 65 to +175	

# **Electrical Characteristics** - **(per leg)** ( $T_A = 25^{\circ}C$ unless otherwise specified)

Parameter	Test Con	ditions	Symbol	Тур.	Max.	Units
Instantaneous	IF - F A	$T_J = 25$ °C	VF*		0.88	Volte
Forward Voltage	IF = 5 A	T <sub>J</sub> = 125 °C	VF**	0.66	0.78	Volts
Instantaneous	At V <sub>RM</sub>	$T_J = 25$ °C	IR*		100	uA
Reverse Current		T <sub>J</sub> = 125 °C			10	mA
* Pulse width < 300 uS, Duty cycle < 2%						



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#### 2. Characteristics Curves

### **Ratings and Characteristics Curves**

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

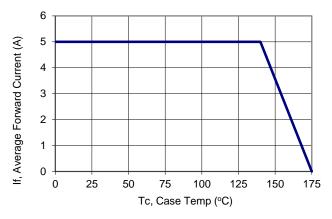


Figure 1: Current Derating, Case

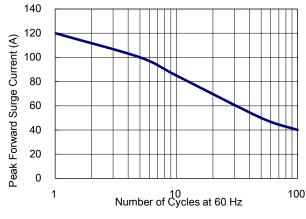
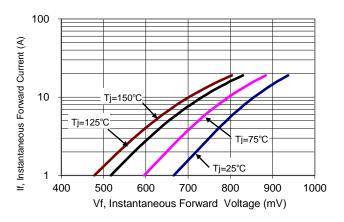
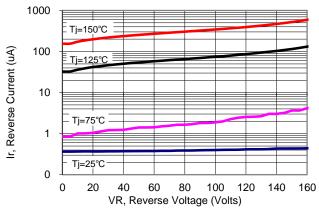


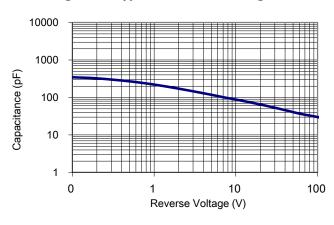
Figure 2: Maximum Repetitive Surge Current



**Figure 3: Typical Forward Voltage** 



**Figure 4: Typical Reverse Current** 



**Figure 5: Typical Junction Capacitance** 



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# 3. Marking information

**Top Marking Rule** 

PFC
PFR10150CT
YYWW ABH

PFR10150CT = Product Type Marking Code

YYWW = Date Code

YY = Last two digits of year

WW = Week code

AB = Assembly code

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

PFC
PFR10150CTF
YYWW ABH

PFR10150CTF = Product Type Marking Code

YYWW = Date Code

YY = Last two digits of year

WW = Week code

AB = Assembly code

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

PFC PFR10150CTI YYWW ABH PFR10150CTI = Product Type Marking Code

YYWW = Date Code

YY = Last two digits of year

WW = Week code

AB = Assembly code

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

PFC
PFR10150CTB
YYWW ABH

PFR10150CTB = Product Type Marking Code

YYWW = Date Code

YY = Last two digits of year

WW = Week code

AB = Assembly code

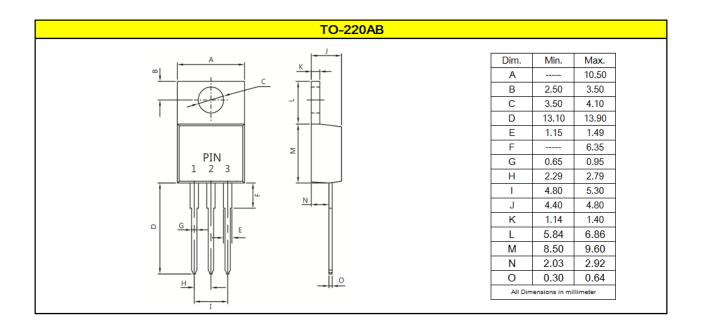
H = Halogen Free (N/A = common molding compound)

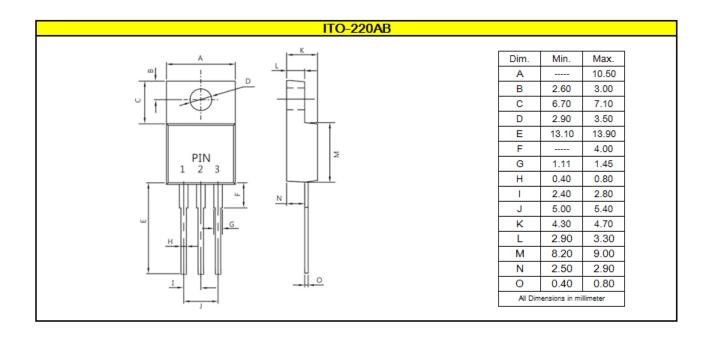


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# 4. Package information

#### Package Outline Dimensions millimeters

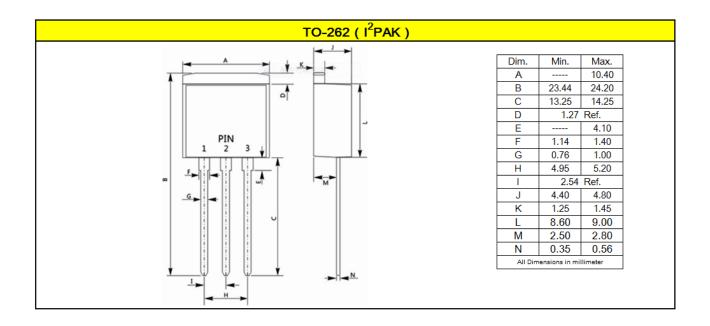


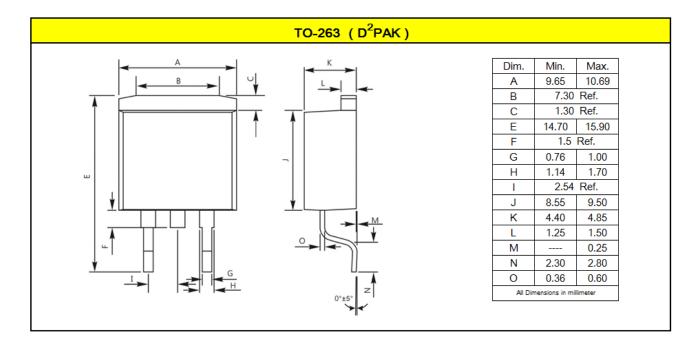




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#### Package Outline Dimensions millimeters







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# 5. Ordering information

Part Number	Package	Delivery mode
PFR10150CT	TO-220AB	50 pieces / tube
PFR10150CTF	ITO-220AB	50 pieces / tube
PFR10150CTI	TO-262	50 pieces / tube
PFR10150CTB	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-220AB0.05 ounces (1.45 grams) - TO-2620.04 ounces (1.16 grams) - TO-263

■ Mounting Torque : Recommended 4~5 kg-cm.

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