



PFC Device Corporation

**PFR20L150CT**  
**PFR20L150CTF**  
**PFR20L150CTI**  
**PFR20L150CTB**

## 20A 150V MOS Schottky Rectifier

### Major ratings and characteristics

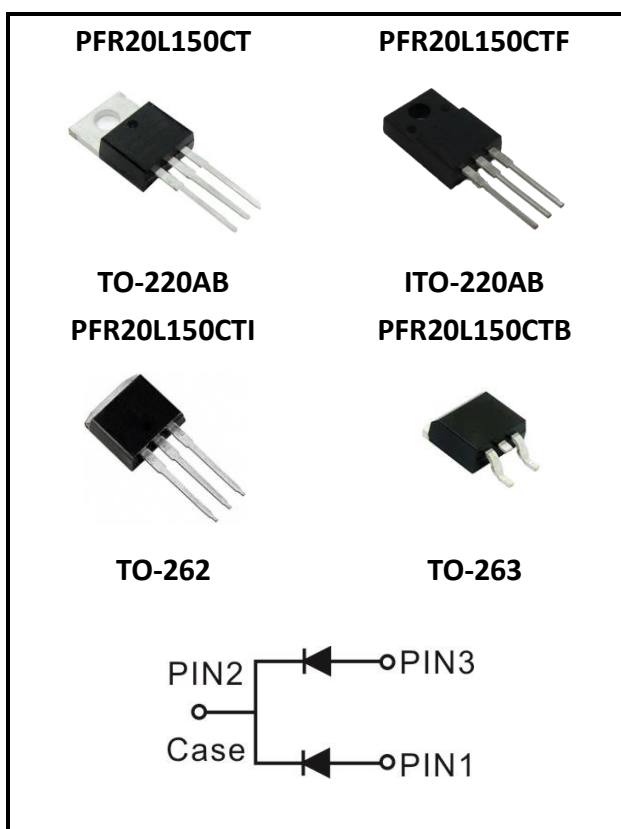
Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	10 × 2	A
$V_{RRM}$	150	V
$V_F@ 10A, T_J=125^{\circ}C$	0.66	V, typ.
$T_J$ Operating Junction Temperature	-65 to +175	$^{\circ}C$

### 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



## Characteristics

*PFR20L150*

## 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	$I_o$	20	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)	$R\theta_{JC}$		
Package = TO-220AB		2	°C / W
Package = ITO-220AB		4	
Package = TO-262		2.5	
Package = TO-263		3	
Isolation voltage (ITO-220 only)	$V_{AC}$	1500	V
Maximum Rate of Voltage Change ( at Rated $V_R$ )	$dv/dt$	10000	V/uS
Operating Junction Temperature	$T_J$	- 65 to +175	°C
Storage Junction Temperature	$T_{STG}$	- 65 to +175	

### Electrical Characteristics - (per leg)

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

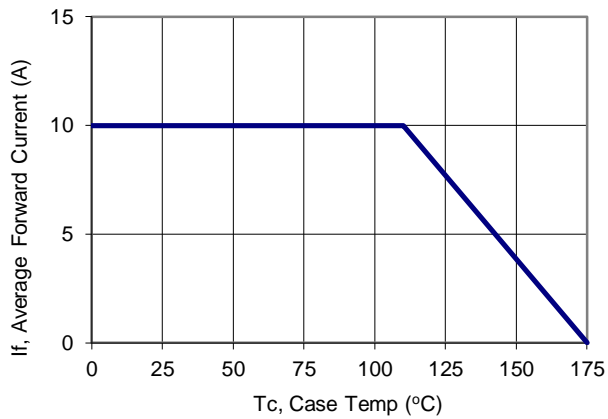
Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Instantaneous Forward Voltage	IF = 10 A	T <sub>J</sub> = 25 °C	VF*	----	0.81	Volts
		T <sub>J</sub> = 125 °C		0.66	0.68	
Instantaneous Reverse Current	At V <sub>RM</sub>	T <sub>J</sub> = 25 °C	IR*	----	100	uA
		T <sub>J</sub> = 125 °C		----	10	mA

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

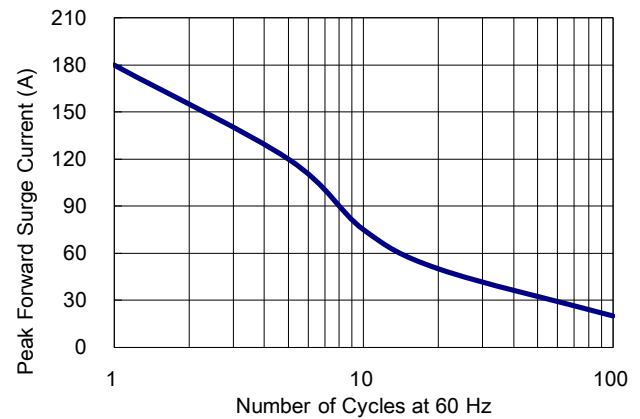
## 2. Characteristics Curves

### Ratings and Characteristics Curves

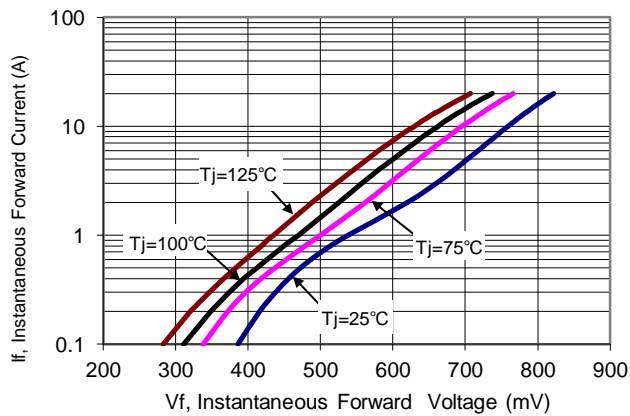
(  $T_A = 25^{\circ}\text{C}$  unless otherwise specified )



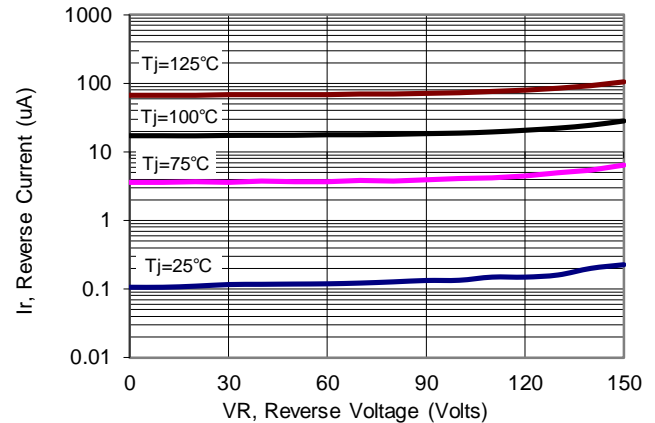
**Figure 1: Current Derating, Case**



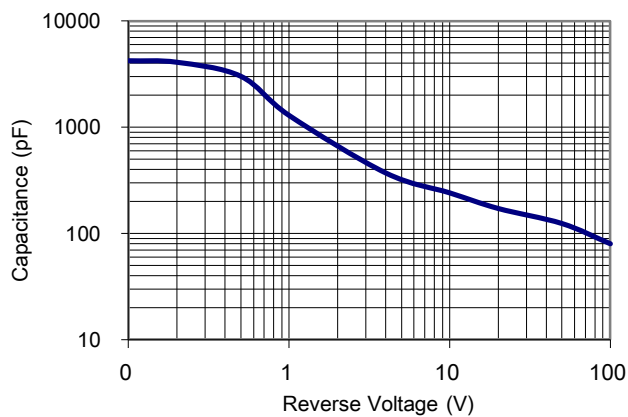
**Figure 2: Maximum Repetitive Surge Current**



**Figure 3: Typical Forward Voltage**



**Figure 4: Typical Reverse Current**



**Figure 5: Typical Junction Capacitance**

### 3. Marking information

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#### Top Marking Rule

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**PFC   PFR**  
**20L150CT**  
**YYWW   ABSH**

PFR20L150CT = 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**  
**20L150CTF**  
**YYWW   ABSH**

PFR20L150CTF = 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**  
**20L150CTI**  
**YYWW   ABSH**

PFR20L150CTI = 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**  
**20L150CTB**  
**YYWW   ABSH**

PFR20L150CTB = 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)

## 5. Ordering information

Part Number	Package	Delivery mode
PFR20L150CT	TO-220AB	50 pieces / tube
PFR20L150CTF	ITO-220AB	50 pieces / tube
PFR20L150CTI	TO-262	50 pieces / tube
PFR20L150CTB	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.