



PFC Device Corporation

**PFR10V300CT**  
**PFR10V300CTF**  
**PFR10V300CTI**  
**PFR10V300CTB**

## 10A 300V MOS Schottky Rectifier

### Major ratings and characteristics

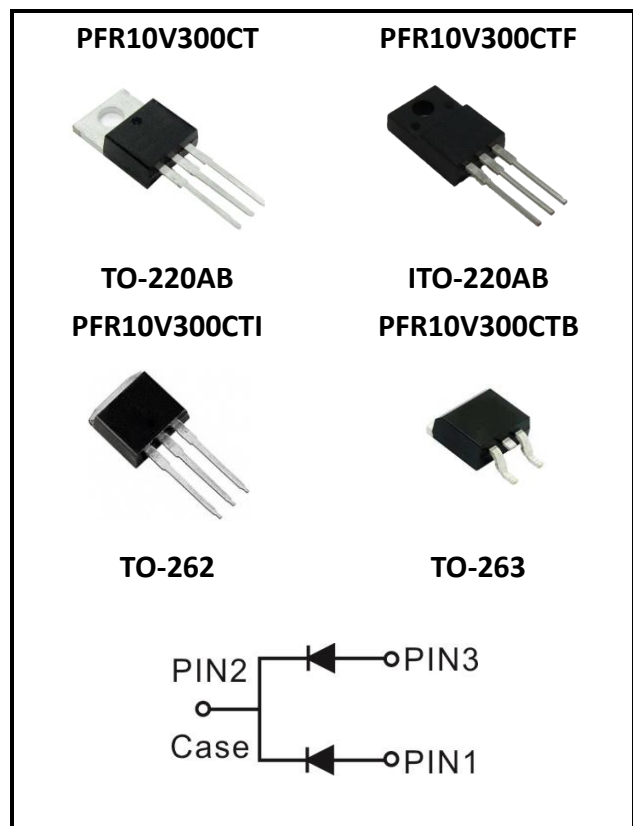
Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	5 × 2	A
$V_{RRM}$	300	V
$V_F$ @ 5A , $T_J=125^\circ\text{C}$	0.63	V, typ.
$T_J$ Operating Junction Temperature	-65 to +175	$^\circ\text{C}$

### 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	$V_{RM}$	300	Volts
Working Peak Reverse Voltage	$V_{RWM}$		
Peak Repetitive Reverse Voltage	$V_{RRM}$		
Average Rectified Forward Current 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)	$I_{RRM}$	1	Amps
Typical Thermal Resistance (per leg) Package = TO-220AB Package = ITO-220AB Package = TO-262 Package = TO-263	$R\theta_{JC}$	2 4 2.5 3	$^{\circ}\text{C} / \text{W}$
Isolation voltage (ITO-220 only)		1500	
Maximum Rate of Voltage Change ( at Rated $V_R$ )		10000	
Operating Junction Temperature		- 65 to +175	
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 <sub>J</sub> = 25 °C	VF*	----	0.89	Volts
		T <sub>J</sub> = 125 °C		0.63	0.77	
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 )

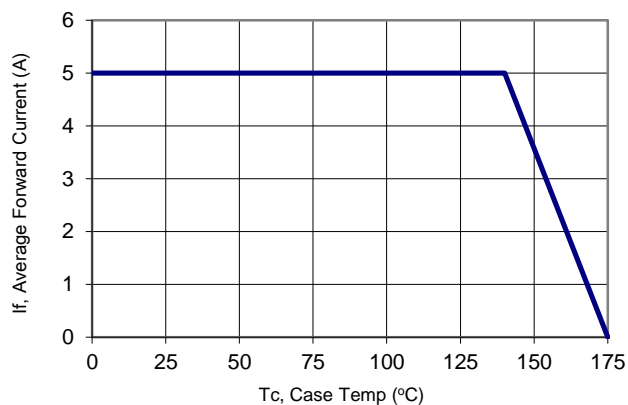


Figure 1: Current Derating, Case

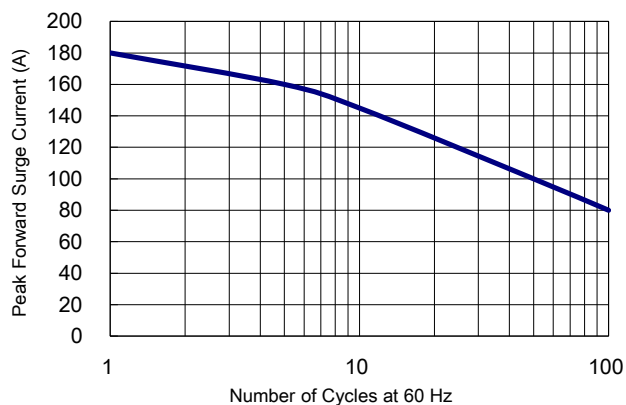


Figure 2: Maximum Repetitive Surge Current

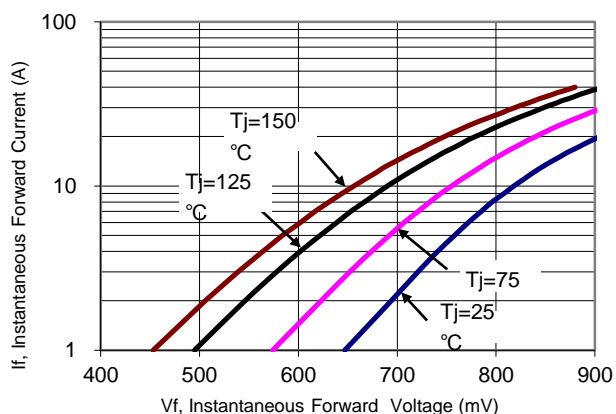


Figure 3: Typical Forward Voltage

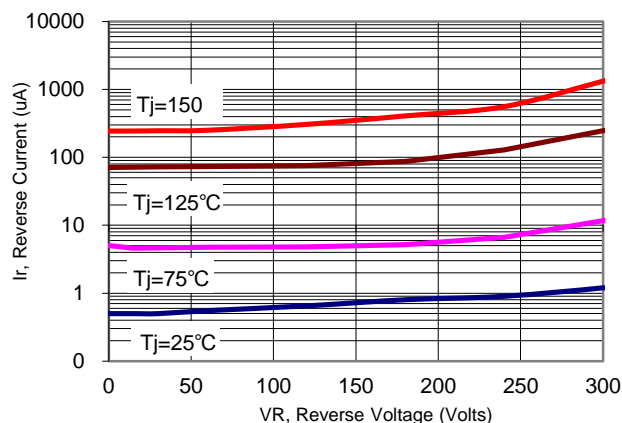


Figure 4: Typical Reverse Current

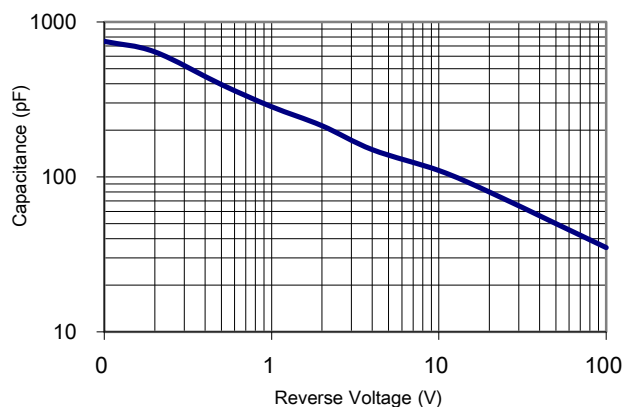


Figure 5: Typical Junction Capacitance



### 3. Marking information

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#### Top Marking Rule

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**PFC   PFR**  
**10V300CT**  
**YYWW   ABH**

PFR10V300CT = 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   PFR**  
**10V300CTF**  
**YYWW   ABH**

PFR10V300CTF = 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   PFR**  
**10V300CTI**  
**YYWW   ABH**

PFR10V300CTI = 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)

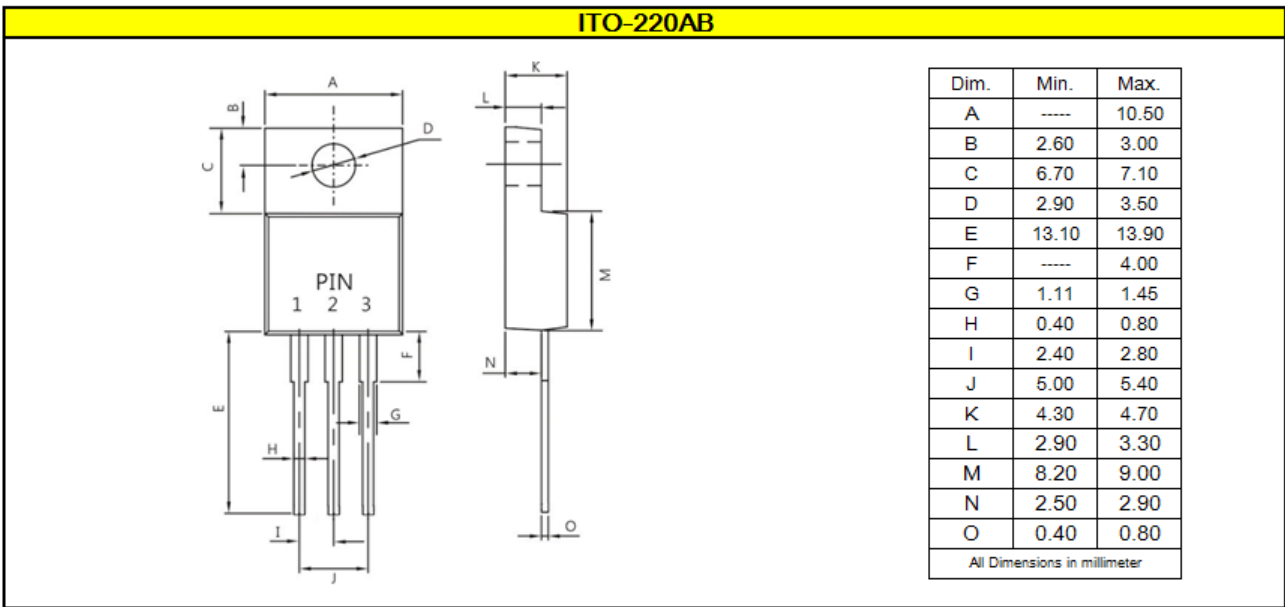
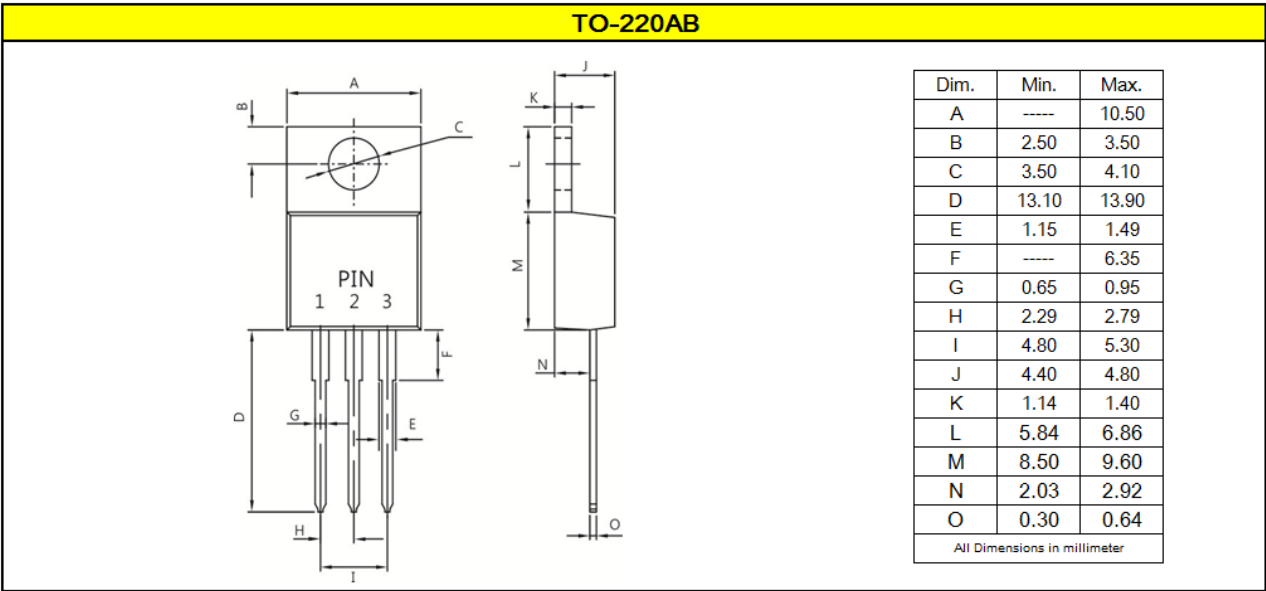
**PFC   PFR**  
**10V300CTB**  
**YYWW   ABH**

PFR10V300CTB = 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)

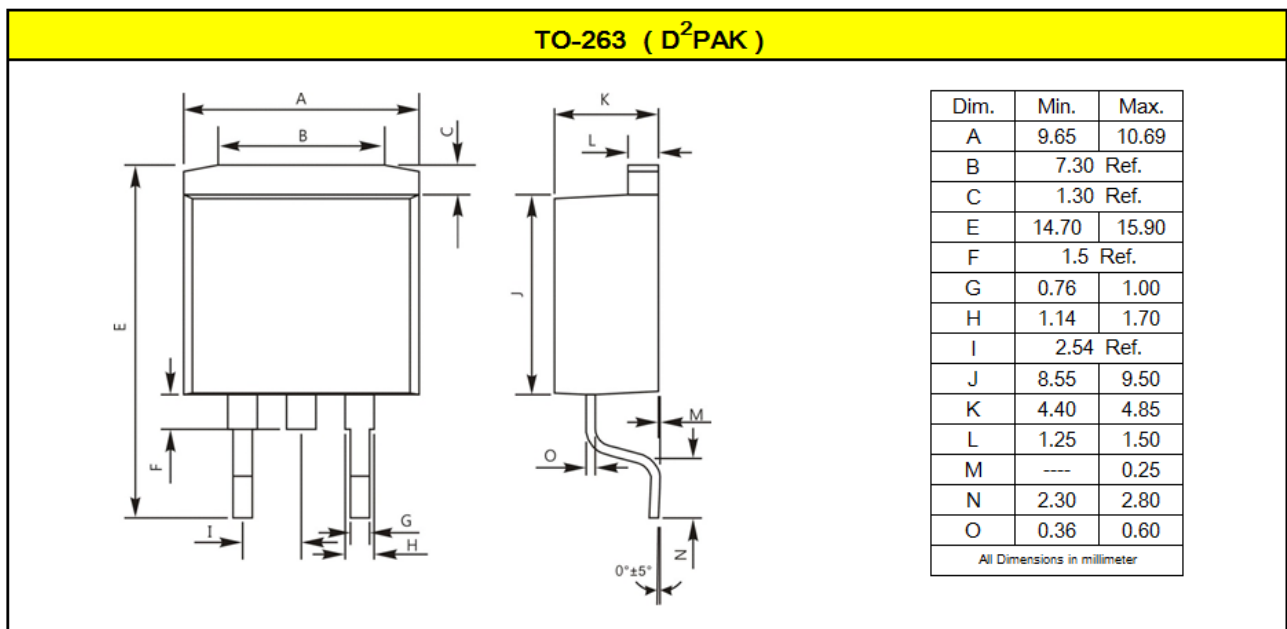


4. Package information

Package Outline Dimensions    millimeters



Package Outline Dimensions    millimeters



## 5. Ordering information

Part Number	Package	Delivery mode
PFR10V300CT	TO-220AB	50 pieces / tube
PFR10V300CTF	ITO-220AB	50 pieces / tube
PFR10V300CTI	TO-262	50 pieces / tube
PFR10V300CTB	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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