

PFC Device Corporation

PFR20V300CT PFR20V300CTF PFR20V300CTI PFR20V300CTB

20A 300V MOS Schottky Rectifier

Major ratings and characteristics

Characteristics	Values	Units	
I _{F(AV)} Rectangular	10 × 2	Α	
Waveform	10 X Z		
V_{RRM}	300	V	
V _F @ 10A , Tj=125 °C	0.71	V, typ.	
T _J Operating Junction	-65 to +175	°C	
Temperature	-05 (0 +175		

Features

- Ultra 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 PFR20V300CTB TO-262 TO-263 PIN2 PIN3 Case PIN1

Typical Applications

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

1. Characteristics

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

Parameter	Symbol	Values	Units
DC Blocking Voltage	V _{RM}		
Working Peak Reverse Voltage	V _{RWM}	300	Volts
Peak Repetitive Reverse Voltage	V_{RRM}		
Average Rectified Forward Current			
Per device	Io	20	Amps
(Rated VR-20Khz Square Wave) - 50% duty cycle	J 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)			
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 _{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)** ($T_A = 25^{\circ}C$ unless otherwise specified)

Parameter	Test Con	ditions	Symbol	Тур.	Max.	Units
Instantaneous	IF - 10 A	$T_J = 25$ °C	VF*		0.89	Volte
Forward Voltage	IF = 10 A	T _J = 125 °C	VF"	0.71	0.74	Volts
Instantaneous	At V _{RM}	T _J = 25 °C	IR*		100	uA
Reverse Current		T _J = 125 °C			30	mA
* Pulse width < 300 uS, Duty cycle < 2%						



Version 4.5 2 / 7

2. Characteristics Curves

Ratings and Characteristics Curves

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

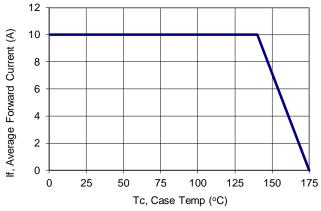


Figure 1: Current Derating, Case

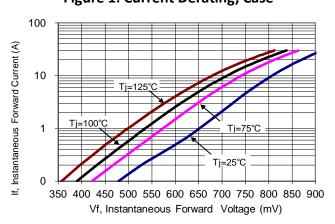


Figure 3: Typical Forward Voltage

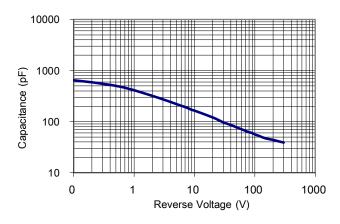


Figure 5: Typical Junction Capacitance

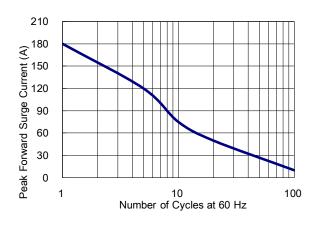


Figure 2: Maximum Repetitive Surge Current

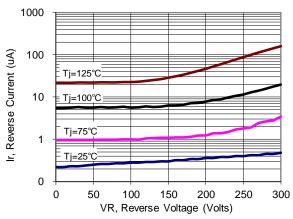


Figure 4: Typical Reverse Current

Version 4.5 3 / 7

3. Marking information

Top Marking Rule

PFC PFR 20V300CT YYWW ABSH PFR20V300CT = 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 20V300CTF YYWW ABSH PFR20V300CTF = 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 20V300CTI YYWW ABSH PFR20V300CTI = 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 20V300CTB YYWW ABSH PFR20V300CTB = Product Type Marking Code

YYWW = Date Code

YY = Last two digits of year

WW = Week code

AB = Assembly code

S = Series Number

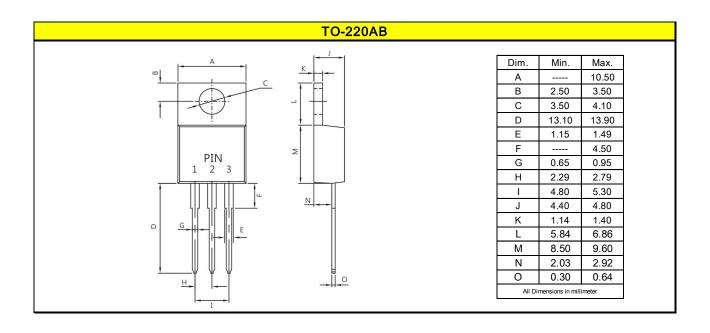
H = Halogen Free (N/A = common molding compound)

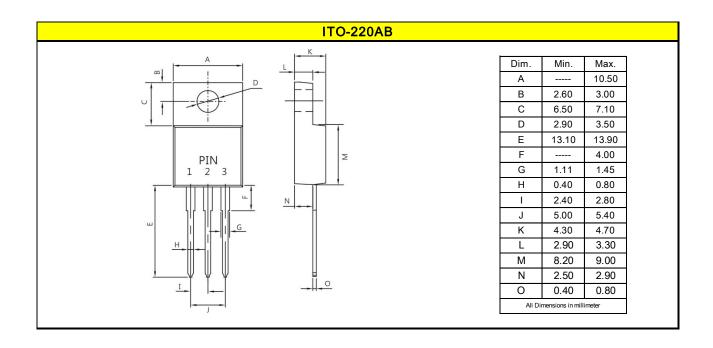


Version 4.5 4 / 7

4. Package information

Package Outline Dimensions millimeters

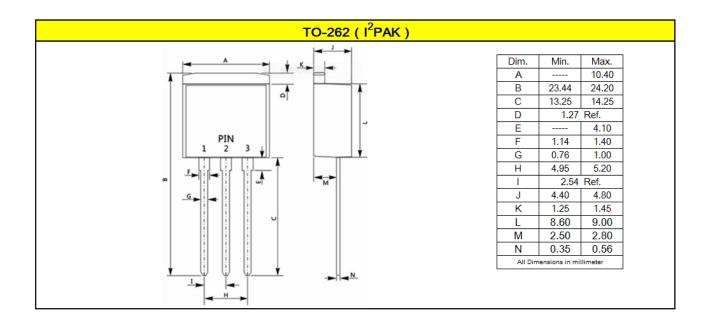


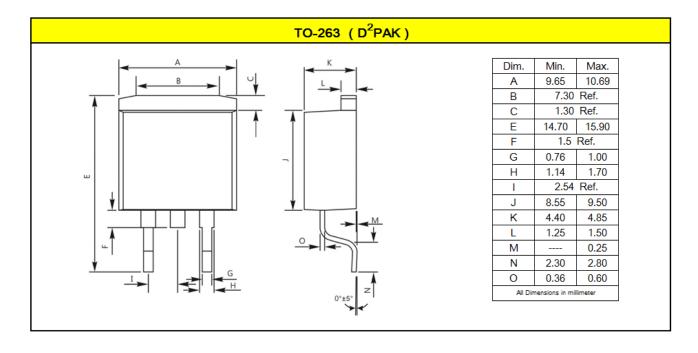




Version 4.5 5 / 7

Package Outline Dimensions millimeters







Version 4.5 6 / 7

5. Ordering information

Part Number	Package	Delivery mode
PFR20V300CT	TO-220AB	50 pieces / tube
PFR20V300CTF	ITO-220AB	50 pieces / tube
PFR20V300CTI	TO-262	50 pieces / tube
PFR20V300CTB	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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Version 4.5 7 / 7