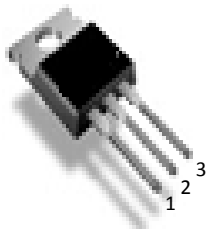
PFC Device Corporation

PFR10V300CT
PFR10V300CTF

Major ratings and characteristics

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

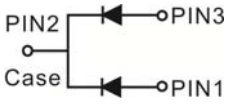
TO-220AB



ITO-220AB

Features

* Ultra-Low Forward Voltage Drop
* Reliable High Temperature Operation
* Softest, fast switching capability
* 175℃ 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

Mechanical

* Case: TO-220AB , ITO-220AB
* Molder Plastic: UL Flammability Classification Rating 94V-0
* Device Weight : 0.07 ounces (1.96grams) - TO-220AB
  0.06 ounces (1.74grams) - ITO-220AB
* Mounting Torque : 10 in-lbs maximum.

Maximum Ratings Characteristics (T_A = 25℃ unless otherwise specified)

Parameter	Symbol		Units
DC Blocking Voltage Working Peak Reverse Voltage Peak Repetitive Reverse Voltage	V_{RM} V_{RWM} V_{RRM}	300	Volts
Average Rectified Forward Current (Rated VR-20Khz Square Wave) - 50% duty cycle	I_o	10	Amps
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 ITO-220AB	$R\theta_{Jc}$	2 4	℃ / W
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	℃
Storage Junction Temperature	T_{STG}	- 65 to +175	

Electrical Characteristics - (per leg) (T_A = 25℃ unless otherwise specified)

Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Instantaneous Forward Voltage	IF = 5 A	T_J = 25℃	V_F*	----	0.89	Volts
		T_J = 125℃		0.63	0.77	
Instantaneous Reverse Current	At V_{RM}	T_J = 25℃	IR	----	100	uA
		T_J = 125℃		----	10	mA

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

Patings and Characteristics Curves (T_A = 25℃ unless otherwise specified)

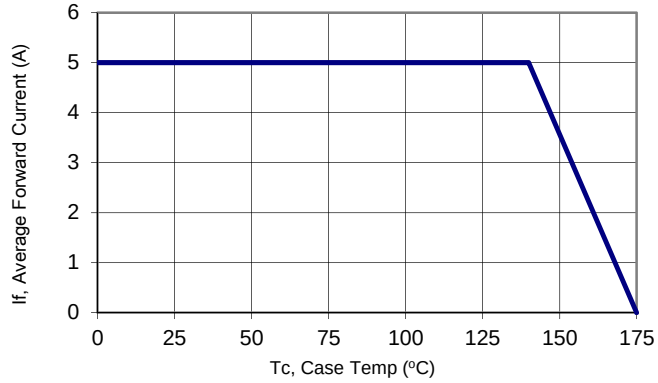


Figure 1: Current Derating, Case

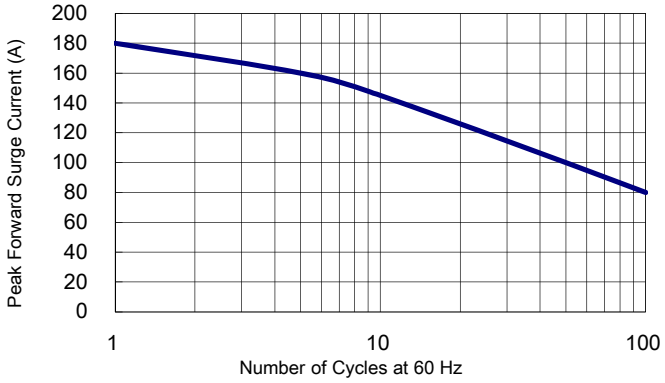


Figure 2: Maximum Repetitive Surge Current

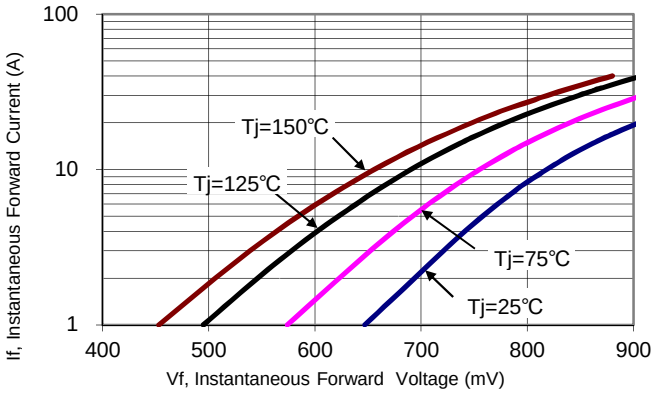


Figure 3: Typical Reverse Current

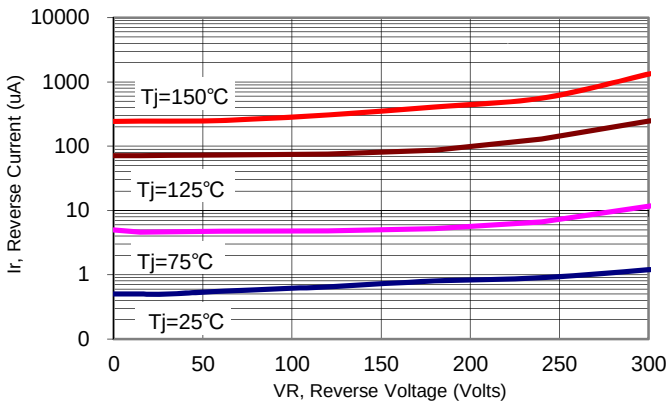


Figure 4: Typical Forward Voltage

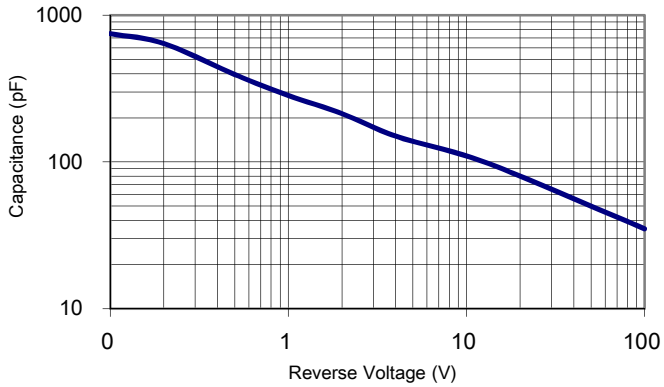
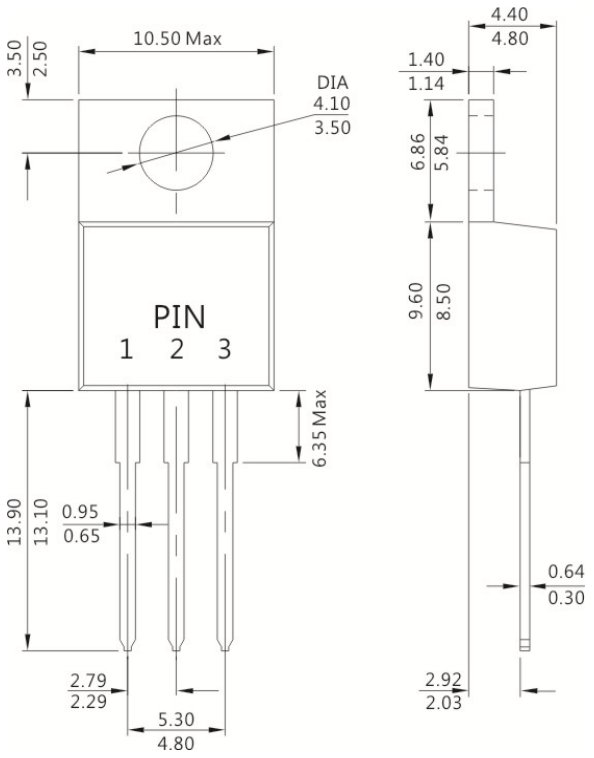


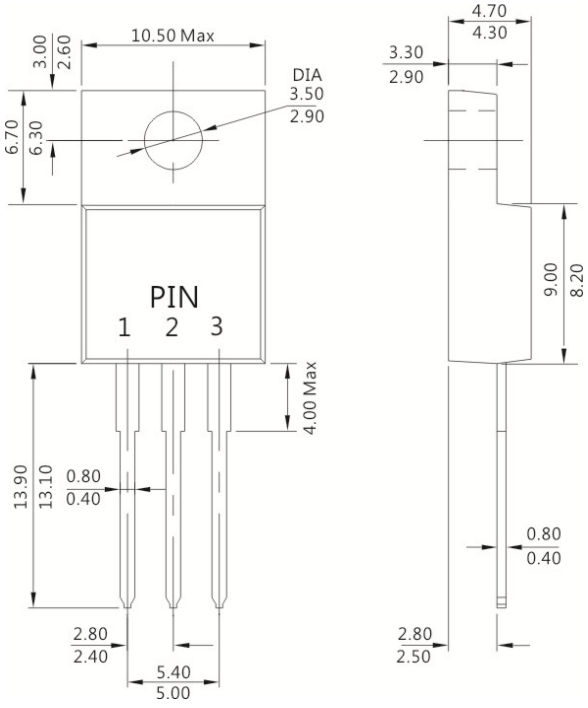
Figure 5: Typical Junction Capacitance

Package Outline Dimensions millimeters

TO-220AB



ITO-220AB



Ordering information

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

Note: For Halogen Free molding compound, add "H" suffix to part number above.

Marking information

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)