

PFC Device Corporation

PTR30100CT PTR30100CTF PTR30100CTI PTR30100CTB

30A 100V HPTR® Schottky Rectifier

Major ratings and characteristics

Characteristics	Values	Units	
I _{F(AV)} Rectangular Waveform	15 × 2	А	
V_{RRM}	100	V	
V _F @ 5A , Tj=125 °C	0.50	V, typ.	
T _J Operating Junction Temperature	-40 to +150	°C	

Features

- Super Low Forward Voltage (SLVF®) Drop
- Reliable High Temperature Operation
- Softest, fast switching capability
- 150°C Operating Junction Temperature
- Lead Free Finish, RoHS Compliant

TO-220AB ITO-220AB PTR30100CTB 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 _{RM}			
Working Peak Reverse Voltage	V_{RWM}	100	Volts	
Peak Repetitive Reverse Voltage	V_{RRM}			
Average Rectified Forward Current				
Per device	Io	30	Amps	
(Rated VR-20Khz Square Wave) - 50% duty cycle				
Peak Forward Surge Current - 1/2 60hz	I _{FSM}	150	Amps	
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I _{RRM}	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 _{AC}	1500	V	
Maximum Rate of Voltage Change (at Rated V_R)	dv/dt	10000	V/uS	
Operating Junction Temperature	nction Temperature T _J - 40 to +150		°C	
Storage Junction Temperature	T _{STG}	- 40 to +150		

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

Parameter	Test Conditions		Symbol	Тур.	Max.	Units
Instantaneous	IF = 5 A	T - 25 °C		0.55		
Forward Voltage	IF = 15 A	$T_J = 25$ °C	· V _F *		0.93	Volte
	IF = 5 A	T _J = 125 °C	V _F	0.50		Volts
	IF = 15 A				0.75	
Instantaneous	VR=70V	T _J = 25 °C		2.0		uA
Reverse Current	VR=100V		IR*		200	uA
	VR=70V	T _J = 125 °C	IK	3		mA
	VR=100V			4.5	22	mA
* Pulse width < 300 uS, Duty cycle < 2%						

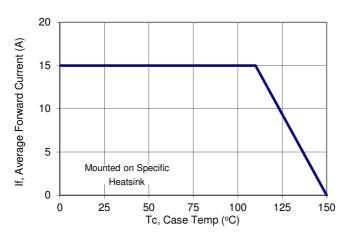


Version 4.3 2 / 7

2. Characteristics Curves

Ratings and Characteristics Curves

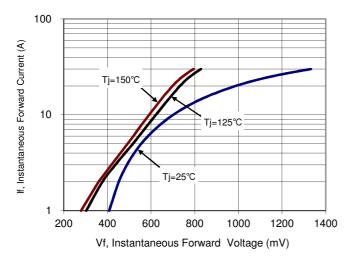
(TA = 25° C unless otherwise specified)



10000 (Ld) 90 (P) 100 (D) 100 (D) 100 (D) Reverse Voltage (V)

Figure 1: Current Derating, Case

Figure 2: Typical Junction Capacitance



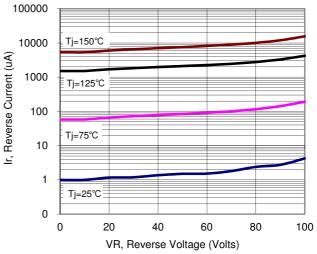


Figure 3: Typical Forward Voltage

Figure 4: Typical Reverse Current



Version 4.3 3 / 7

3. Marking information

Top Marking Rule

PFC PTR30100CT YYWW ABH PTR30100CT = 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 PTR30100CTF YYWW ABH PTR30100CTF = 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 PTR30100CTI YYWW ABH PTR30100CTI = 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
PTR30100CTB
YYWW ABH

PTR30100CTB = Product Type Marking Code

YYWW = Date Code

YY = Last two digits of year

WW = Week code

AB = Assembly code

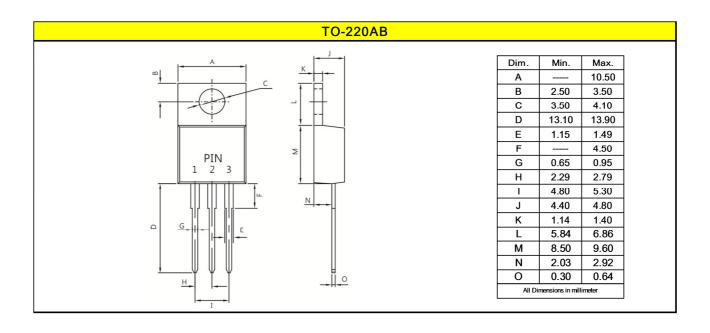
H = Halogen Free (N/A = common molding compound)

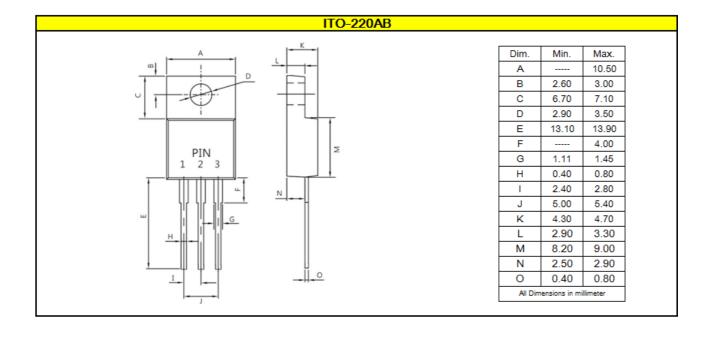


Version 4.3 4 / 7

4. Package information

Package Outline Dimensions millimeters

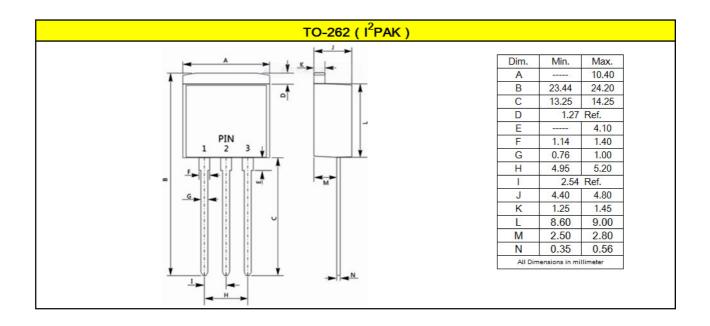


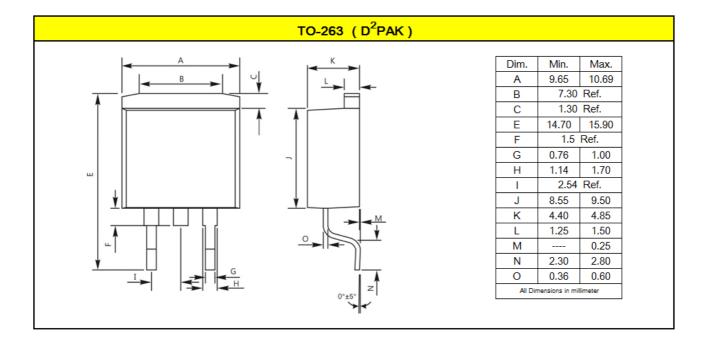




Version 4.3 5 / 7

Package Outline Dimensions millimeters







Version 4.3 6 / 7

5. Ordering information

Part Number	Package	Delivery mode
PTR30100CT	TO-220AB	50 pieces / tube
PTR30100CTF	ITO-220AB	50 pieces / tube
PTR30100CTI	TO-262	50 pieces / tube
PTR30100CTB	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.

PFC Device Corp reserves the right to make changes without further notice to any products herein. PFC Device Corp makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does PFC Device Corp assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. "Typical" parameters which may be provided in PFC Device Corp data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typical" must be validated for each customer application by customer's technical experts. PFC Device Corp does not convey any license under its patent rights nor the rights of others. PFC Device Corp products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the PFC Device Corp product could create a situation where personal injury or death may occur. Should Buyer purchase or use PFC Device Corp products for any such unintended or unauthorized application, Buyer shall indemnify and hold PFC Device Corp and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that PFC Device Corp. was negligent regarding the design or manufacture of the part.



Version 4.3 7 / 7