



PFC Device Corporation

PTR30A120CT
PTR30A120CTF
PTR30A120CTI
PTR30A120CT

30A 120V HPTR® Schottky Rectifier

Major ratings and characteristics

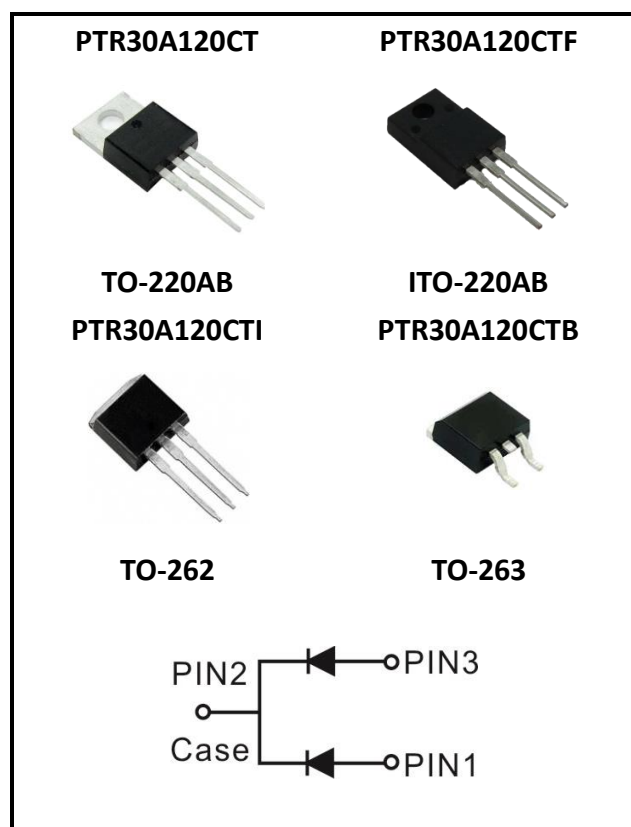
Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	15 × 2	A
V_{RRM}	120	V
$V_F@ 15A, T_J=125^\circ C$	0.67	V, typ.
T_J Operating Junction Temperature	-40 to +150	°C

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

Typical Applications

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



1. Characteristics

Maximum Ratings Characteristics

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

Parameter	Symbol	Values	Units
DC Blocking Voltage	V_{RM}	120	Volts
Working Peak Reverse Voltage	V_{RWM}		
Peak Repetitive Reverse Voltage	V_{RRM}		
Average Rectified Forward Current Per device (Rated VR-20Khz Square Wave) - 50% duty cycle	I_o	30	Amps
Peak Forward Surge Current - 1/2 60hz	I_{FSM}	160	Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I_{RRM}	1	Amps
Typical Thermal Resistance Package = TO-220AB (per leg) 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)	V_{AC}	1500	V
Maximum Rate of Voltage Change (at Rated V_R)	dv/dt	10000	V/uS
Operating Junction Temperature	T_J	- 40 to +150	$^{\circ}\text{C}$
Storage Junction Temperature	T_{STG}	- 40 to +150	

Electrical Characteristics - (per leg)

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

Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Instantaneous Forward Voltage	IF = 3 A	T _J = 25 °C	V _F [*]	0.53	-----	Volts
	IF = 5 A			0.61		
	IF = 15 A			0.94	1.00	
	IF = 3 A	T _J = 125 °C		0.45	-----	
	IF = 5 A			0.52		
	IF = 15 A			0.67	0.75	
Instantaneous Reverse Current	V _R = 90V	T _J = 25 °C	I _R [*]	3.0	-----	uA
	V _R = 120V			-----	200	uA
	V _R = 90V	T _J = 125 °C		6.0	-----	mA
	V _R = 120V			12.0	30	mA

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



2. Characteristics Curves

Ratings and Characteristics Curves

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

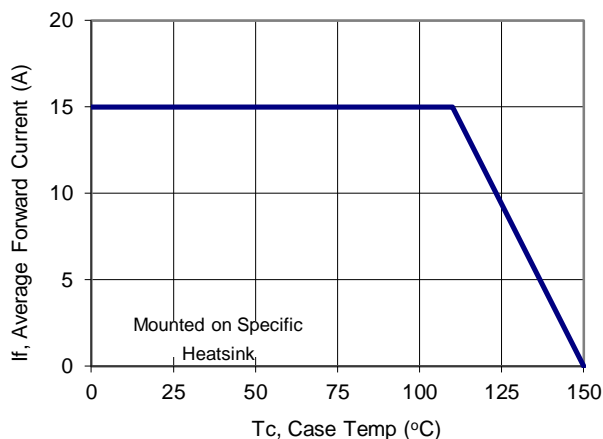


Figure 1: Current Derating, Case

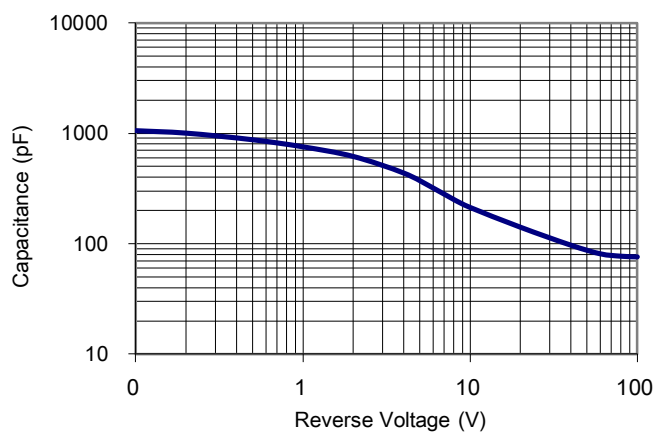


Figure 2: Typical Junction Capacitance

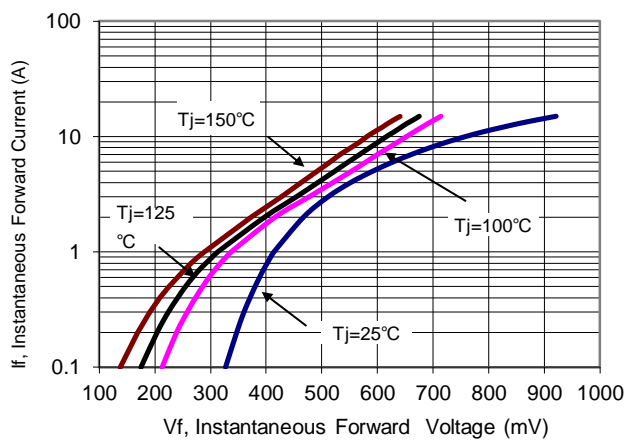


Figure 3: Typical Forward Voltage

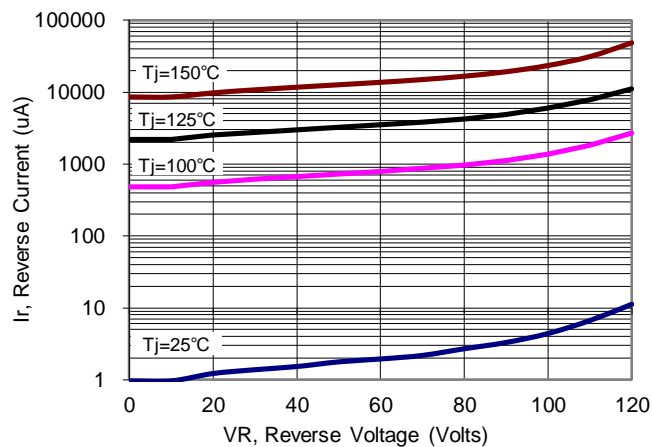


Figure 4: Typical Reverse Current



3. Marking information

Top Marking Rule

PFC PTR
30A120CT
YYWW ABSH

PTR30A120CT = 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 PTR
30A120CTF
YYWW ABSH

PTR30A120CTF = 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 PTR
30A120CTI
YYWW ABSH

PTR30A120CTI = Product Type Marking Code
YYWW = Date Code
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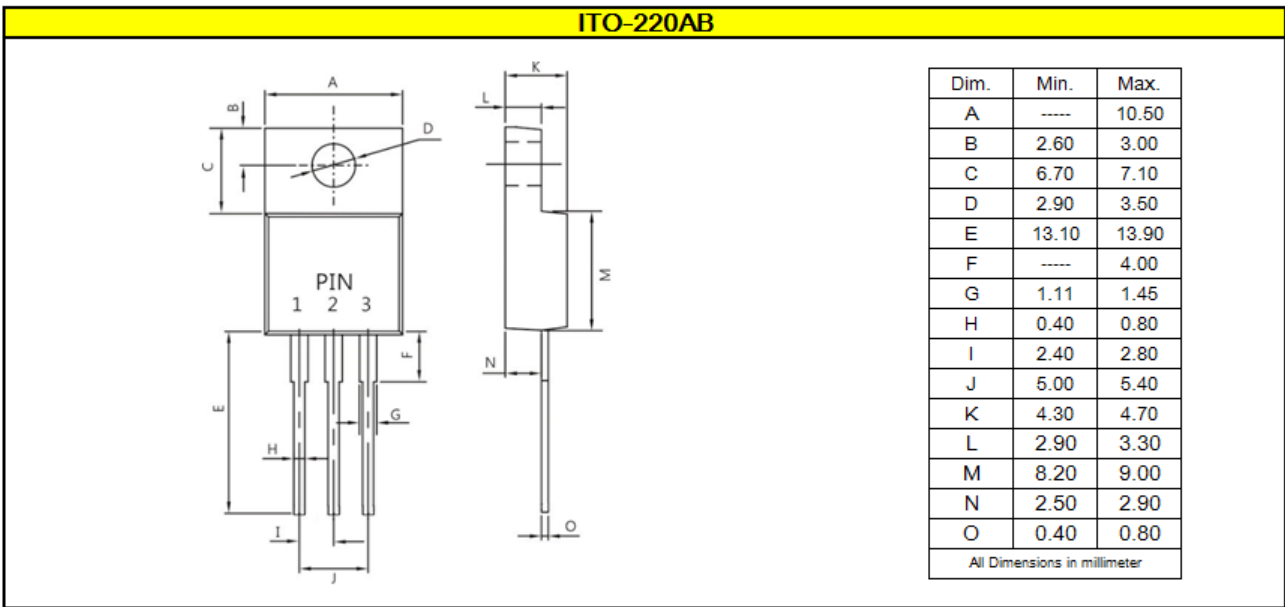
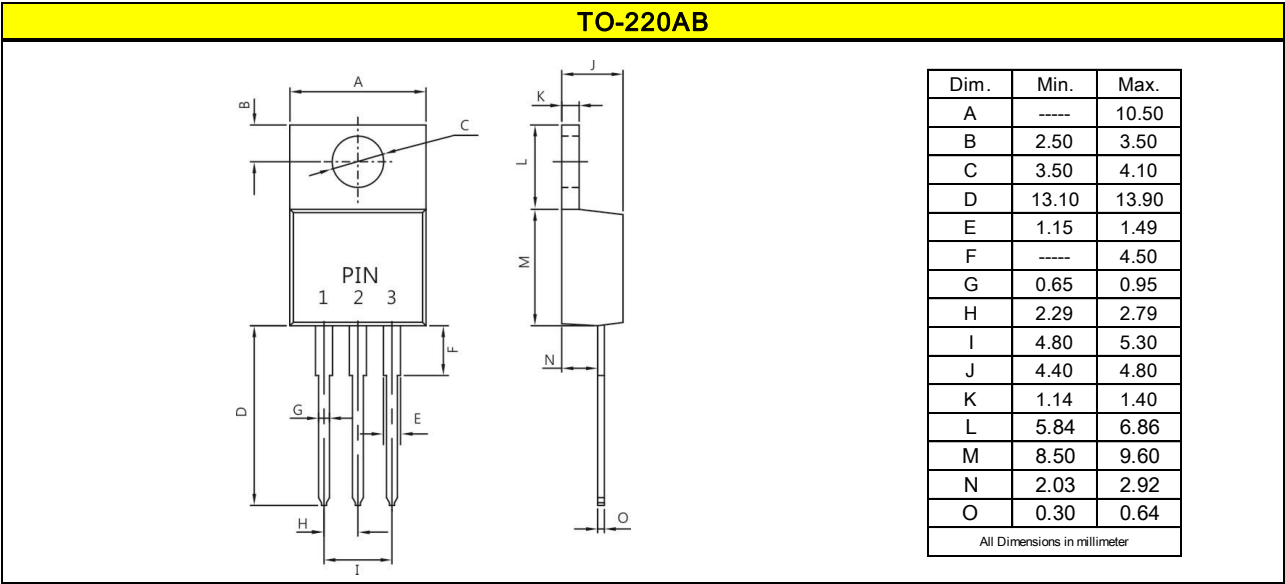
PFC PTR
30A120CTB
YYWW ABSH

PTR30A120CTB = 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)



4. Package information

Package Outline Dimensions millimeters



Package Outline Dimensions millimeters



5. Ordering information

Part Number	Package	Delivery mode
PTR30A120CT	TO-220AB	50 pieces / tube
PTR30A120CTF	ITO-220AB	50 pieces / tube
PTR30A120CTI	TO-262	50 pieces / tube
PTR30A120CTB	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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