



PFC Device Corporation

**PTR40150CT**  
**PTR40150CTF**  
**PTR40150CTI**  
**PTR40150CTB**

## 40A 150V HPTR<sup>®</sup> Schottky Rectifier

**Ultra-Low  $V_F = 0.51V$  at  $I_F=5A$**

### Major ratings and characteristics

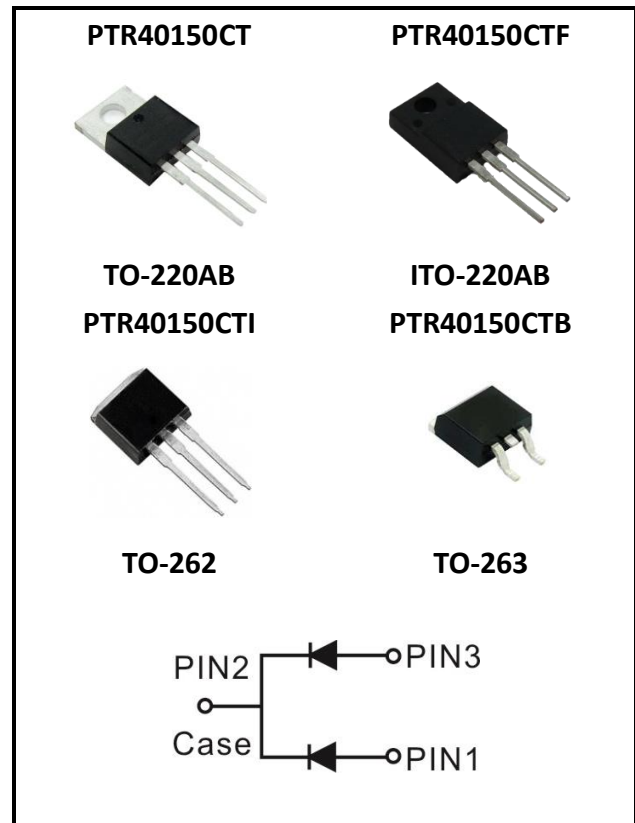
Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	20 × 2	A
$V_{RRM}$	150	V
$V_F@ 20A, T_j=125^\circ C$	0.7	V, typ.
$T_j$ Operating Junction Temperature	-65 to +150	°C

### Features

- Super Low Forward Voltage ( SLVF<sup>®</sup> ) 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	$V_{RM}$	150	Volts		
Working Peak Reverse Voltage	$V_{RWM}$				
Peak Repetitive Reverse Voltage	$V_{RRM}$				
Average Rectified Forward Current Per device	$I_o$	40	Amps		
(Rated VR-20Khz Square Wave) - 50% duty cycle					
Peak Forward Surge Current - 1/2 60hz	$I_{FSM}$	200	Amps		
Peak Repetitive Reverse Surge Current (2uS-1Khz)	$I_{RRM}$	0.5	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)		$V_{AC}$		1500	V
Maximum Rate of Voltage Change ( at Rated $V_R$ )		$dv/dt$		10000	V/uS
Operating Junction Temperature		$T_J$		- 65 to +150	$^\circ\text{C}$
Storage Junction Temperature	$T_{STG}$	- 65 to +150			

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

Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Breakdown Voltage	$I_R = 0.5\text{mA}$	$T_J = 25^\circ\text{C}$	$V_B^*$	150 (min.)		V
Instantaneous Forward Voltage	IF = 3 A	$T_J = 25^\circ\text{C}$	VF*	0.48	-----	Volts
	IF = 5 A			0.55	-----	
	IF = 20 A			-----	1.1	
	IF = 3 A	$T_J = 125^\circ\text{C}$		0.43	-----	
	IF = 5 A			0.51	-----	
	IF = 20 A			-----	0.78	
Instantaneous Reverse Current	At $V_{RM}$	$T_J = 25^\circ\text{C}$	IR*	-----	100	uA

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



2. Characteristics Curves

Ratings and Characteristics Curves

( TA = 25°C unless otherwise specified )

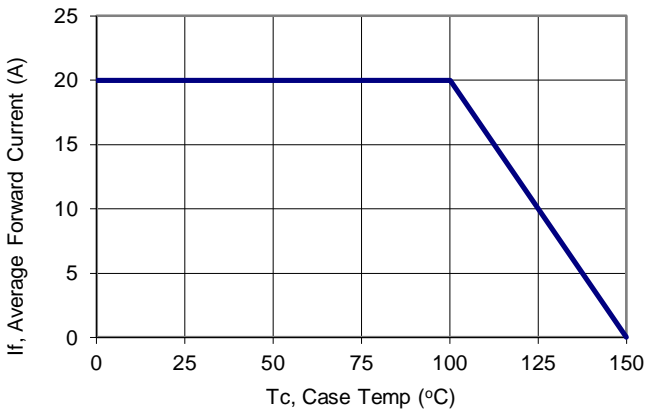


Figure 1: Current Derating, Case

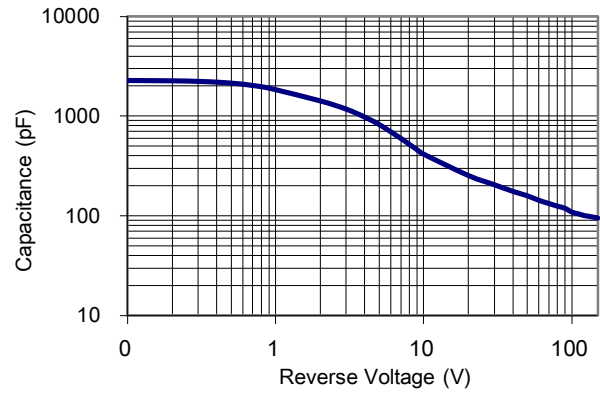


Figure 2: Typical Junction Capacitance

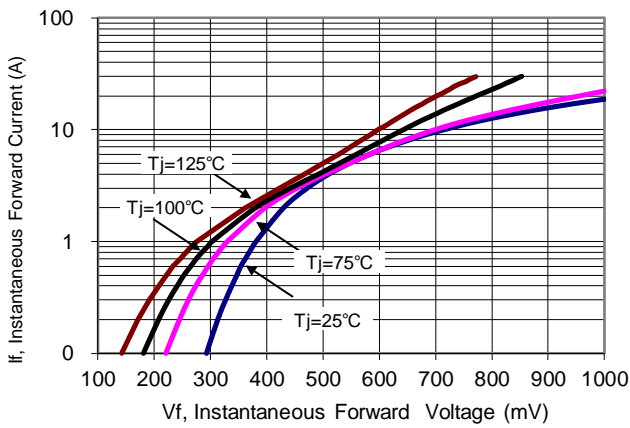


Figure 3: Typical Forward Voltage

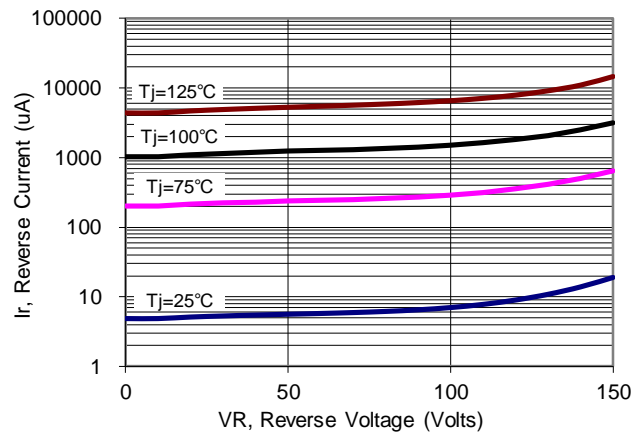


Figure 4: Typical Reverse Current



**3. Marking information**

**Top Marking Rule**

**PFC**  
**PTR40150CT**  
**YYWW    ABSH**

PTR40150CT = 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**  
**PTR40150CTF**  
**YYWW    ABSH**

PTR40150CTF = 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**  
**PTR40150CTI**  
**YYWW    ABSH**

PTR40150CTI = Product Type Marking Code  
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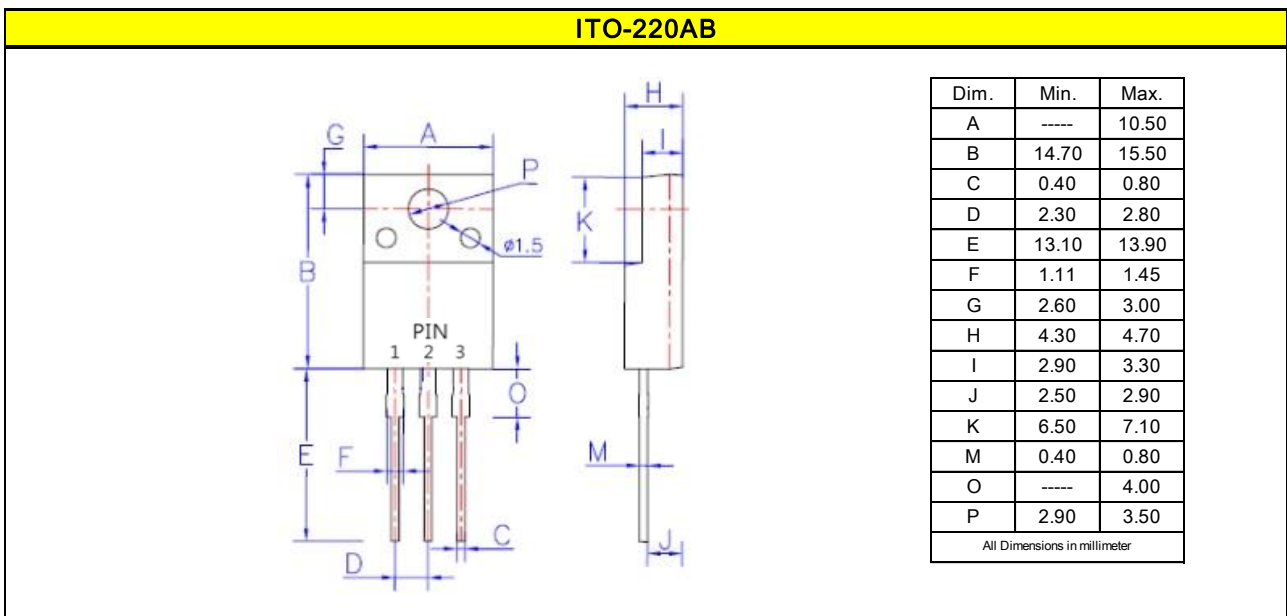
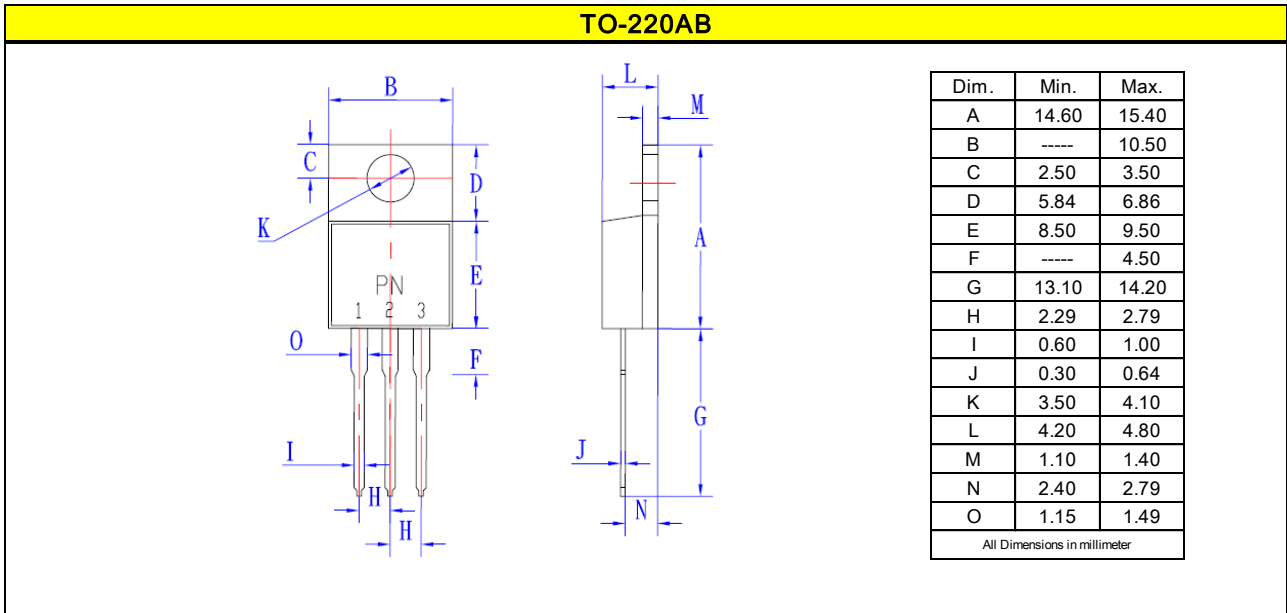
**PFC**  
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**YYWW    ABSH**

PTR40150CTB = Product Type Marking Code  
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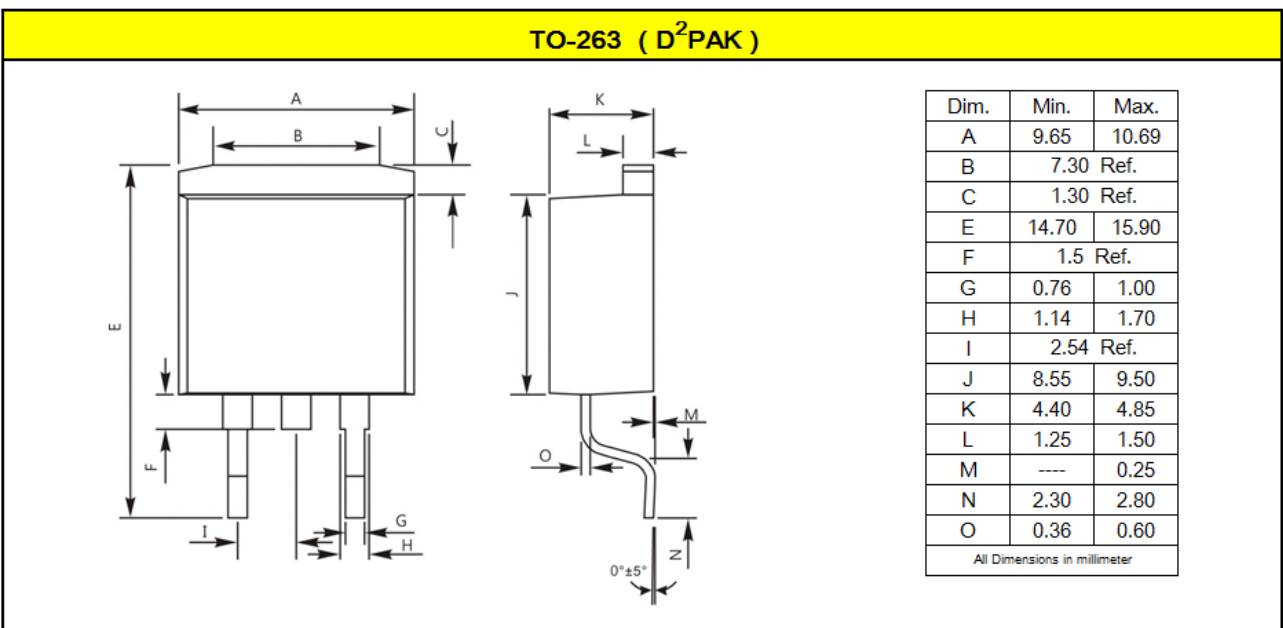
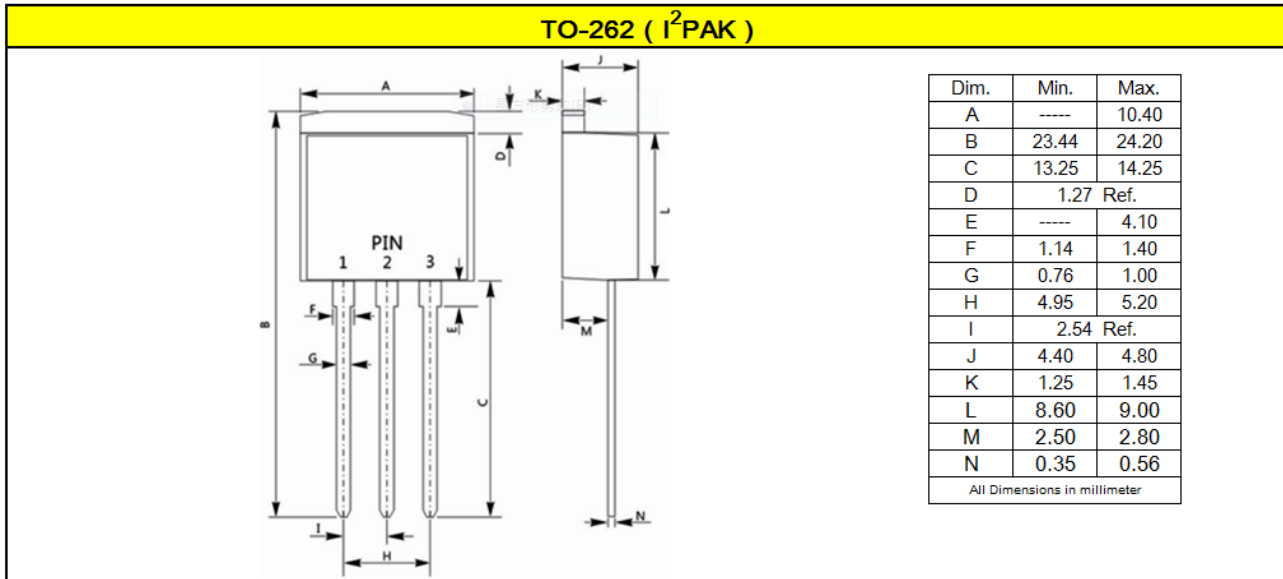


4. Package information

Package Outline Dimensions millimeters



Package Outline Dimensions millimeters



**5. Ordering information**

Part Number	Package	Delivery mode
PTR40150CT	TO-220AB	50 pieces / tube
PTR40150CTF	ITO-220AB	50 pieces / tube
PTR40150CTI	TO-262	50 pieces / tube
PTR40150CTB	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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