



# **PTR40L100PT** **PTR40L100PT-L**

*PFC Device Corporation*

## 40A 100V HPTR<sup>®</sup> Schottky Rectifier

### Major ratings and characteristics

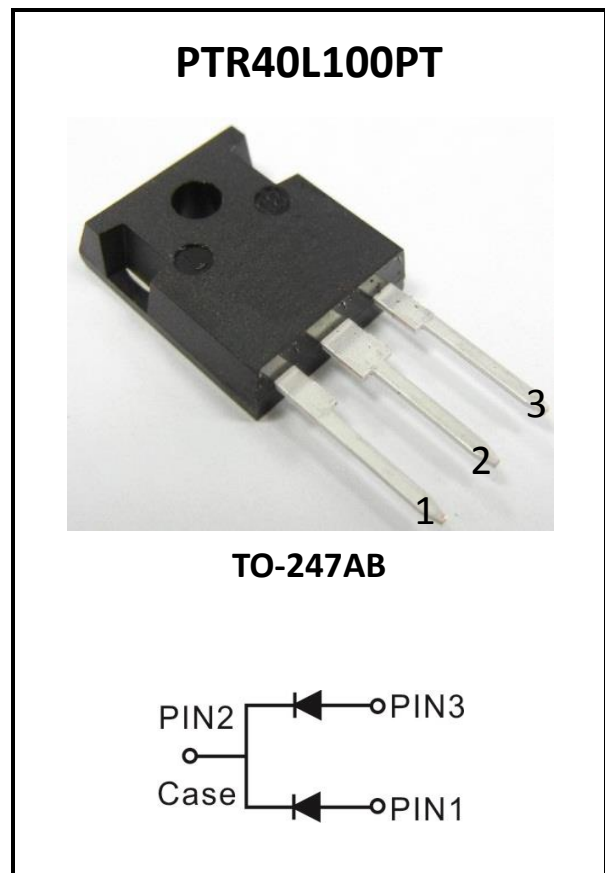
Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	20 × 2	A
$V_{RRM}$	100	V
$V_F@ 20A, T_j=125^\circ C$	0.61	V, typ.
$T_j$ Operating Junction Temperature	-65 to +150	°C

### Features

- 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

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

Parameter	Symbol	Values	Units
DC Blocking Voltage	$V_{RM}$	100	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	$I_{FSM}$	250	Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	$I_{RRM}$	1	Amps
Typical Thermal Resistance (per leg)	$R\theta_{JC}$	1.5	$^\circ\text{C} / \text{W}$
Maximum Rate of Voltage Change ( at Rated VR )	$dv/dt$	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)

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

Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Breakdown Voltage	IR = 0.5mA	$T_J = 25\text{ }^\circ\text{C}$	$V_B^*$	100 (min.)		V
Instantaneous Forward Voltage	IF = 5 A	$T_J = 25\text{ }^\circ\text{C}$	VF*	0.47	-----	Volts
	IF = 10 A			0.54	-----	
	IF = 20 A			0.67	0.73	
	IF = 5 A	$T_J = 125\text{ }^\circ\text{C}$		0.38	-----	
	IF = 10 A			0.45	-----	
	IF = 20 A			0.61	0.67	
Instantaneous Reverse Current	VR = 70V	$T_J = 25\text{ }^\circ\text{C}$	IR*	7.0	-----	uA
	VR = 100V			-----	300	
	VR = 70V	$T_J = 125\text{ }^\circ\text{C}$		8.0	-----	
	VR = 100V			14.0	45	mA

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



2. Characteristics Curves

Ratings and Characteristics Curves

( TA = 25°C unless otherwise specified )

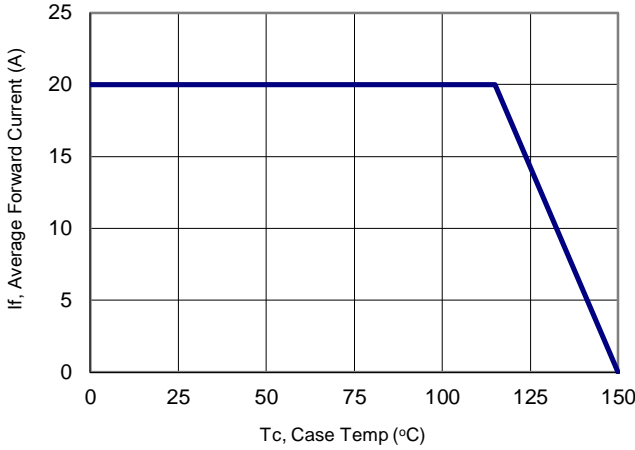


Figure 1: Current Derating, Case

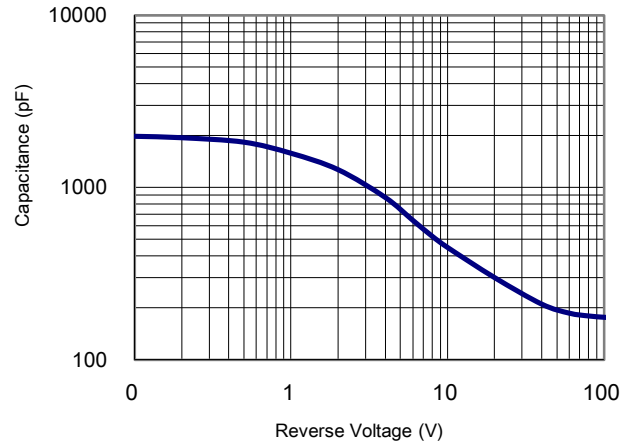


Figure 2: Typical Junction Capacitance

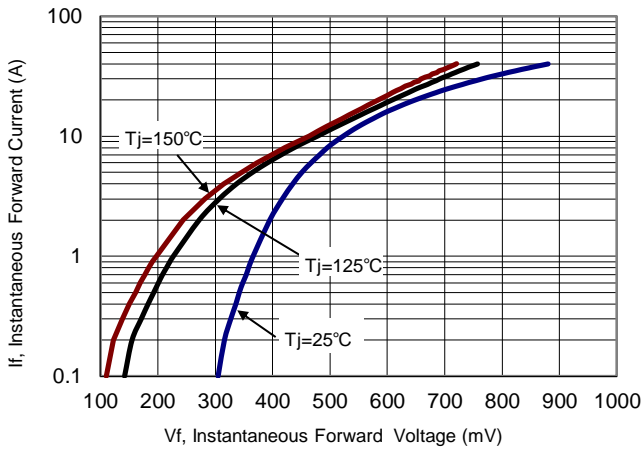


Figure 3: Typical Forward Voltage

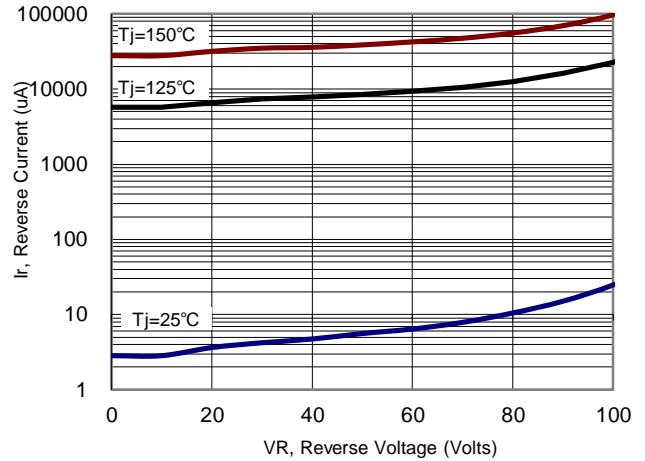
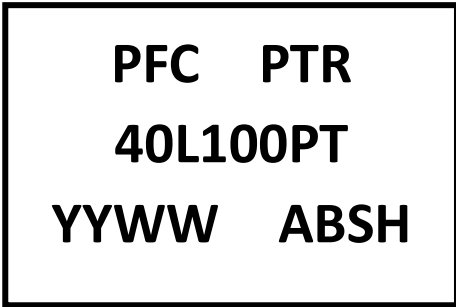


Figure 4: Typical Reverse Current



3. Marking information

Top Marking Rule



PTR40L100PT = 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

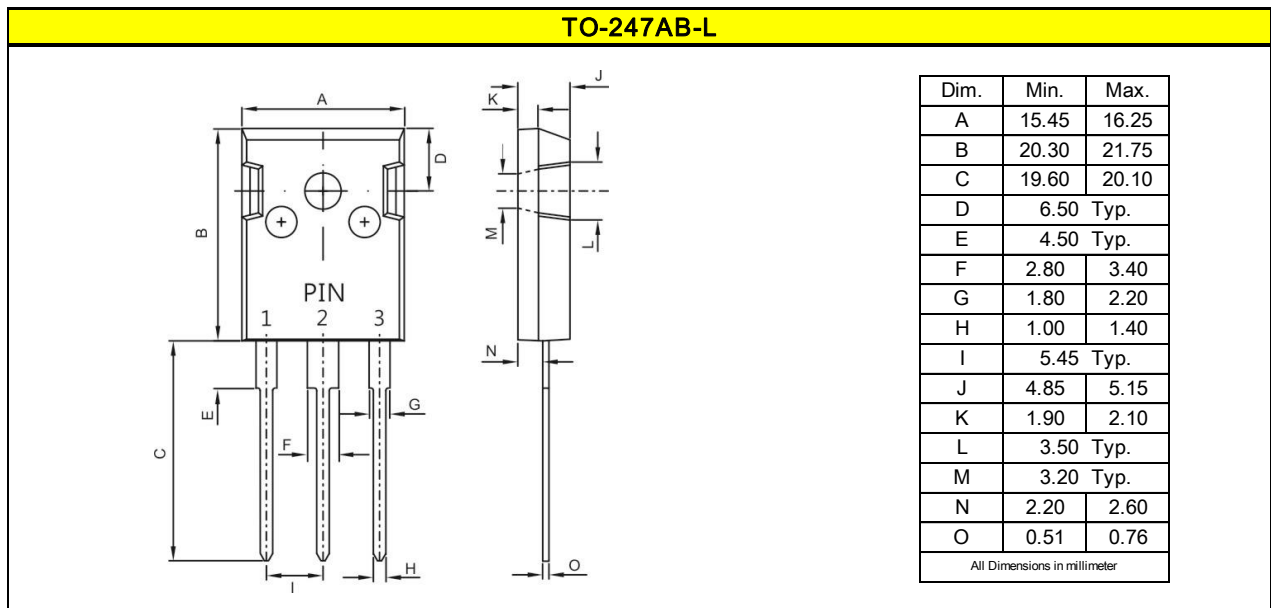
Package Outline Dimensions millimeters

**TO-247AB**

Dim.	Min.	Max.
A	15.20	16.00
B	19.13	20.87
C	13.00	16.00
D	5.50 Typ.	
E	4.00 Typ.	
F	2.80	3.20
G	1.70	2.30
H	0.88	1.52
I	5.45 Typ.	
J	4.66	5.34
K	1.17	1.37
L	4.00 Typ.	
M	3.60 Typ.	
N	2.20	2.60
O	0.42	0.58

All Dimensions in millimeter





### 5. Ordering information

Part Number	Package	Delivery mode
PTR40L100PT	TO-247AB	30 pieces / tube
PTR40L100PT-L	TO-247AB-L(long lead)	30 pieces / tube

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

#### Mechanical

- Molder Plastic: UL Flammability Classification Rating 94V-0
- Device Weight : 0.16 ounces (4.53grams) - TO-247AB  
0.197 Ounces (5.6grams) – TO-247AB-L (long lead)  
Mounting Torque : 10 in-lbs maximum.



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