



PTR80L120PT ***PTR80L120PT-L*** *PFC Device Corporation*

80A 120V HPTR[®] Schottky Rectifier

Major ratings and characteristics

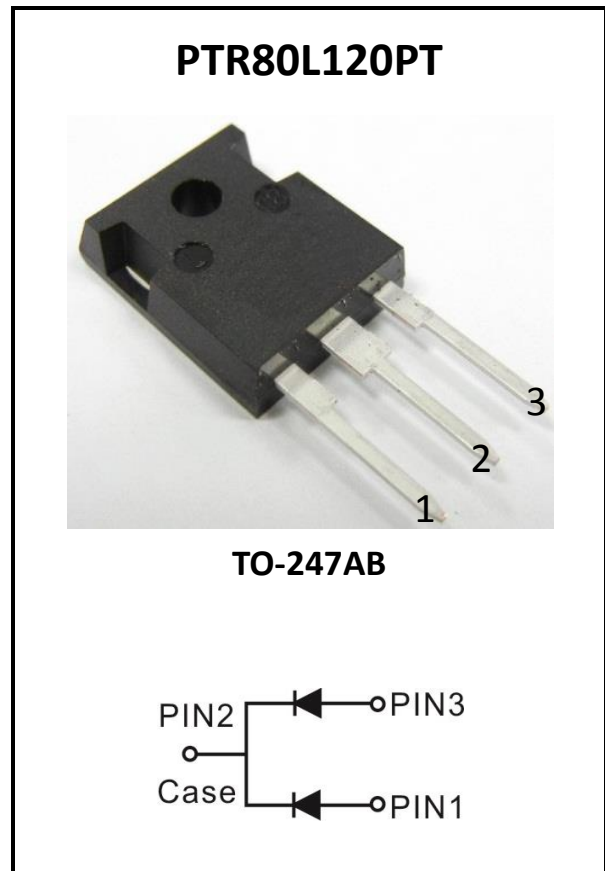
Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	40 × 2	A
V_{RRM}	120	V
$V_F@ 40A, T_j=125^\circ C$	0.68	V, typ.
T_j Operating Junction Temperature	-65 to +150	°C

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 ($T_A = 25^\circ\text{C}$ 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	80	Amps
Peak Forward Surge Current - 1/2 60hz	I_{FSM}	450	Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I_{RRM}	1	Amps
Typical Thermal Resistance (per leg)	$R\theta_{Jc}$	2.5	$^\circ\text{C} / \text{W}$
Maximum Rate of Voltage Change (at Rated VR)	dv/dt	10000	$\text{V}/\mu\text{S}$
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^*	120 (min.)		V
Instantaneous Forward Voltage	$I_F = 40\text{A}$	$T_J = 25^\circ\text{C}$	V_F^*	-----	0.92	Volts
		$T_J = 125^\circ\text{C}$		-----	0.75	
Instantaneous Reverse Current	$V_R = 120\text{V}$	$T_J = 25^\circ\text{C}$	I_R^*	-----	1	mA
		$T_J = 125^\circ\text{C}$		-----	100	mA

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



2. Characteristics Curves

Ratings and Characteristics Curves

(TA = 25°C unless otherwise specified)

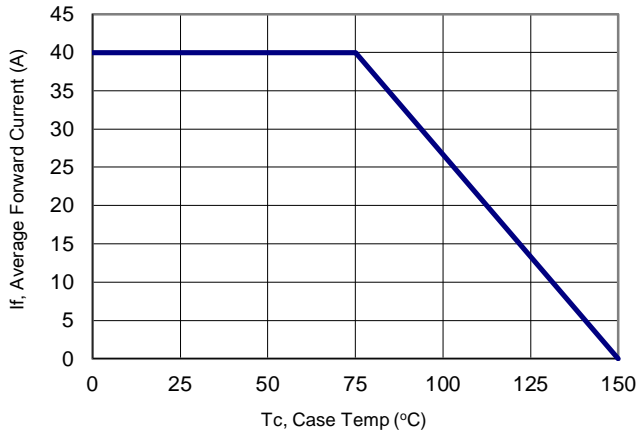


Figure 1: Current Derating, Case

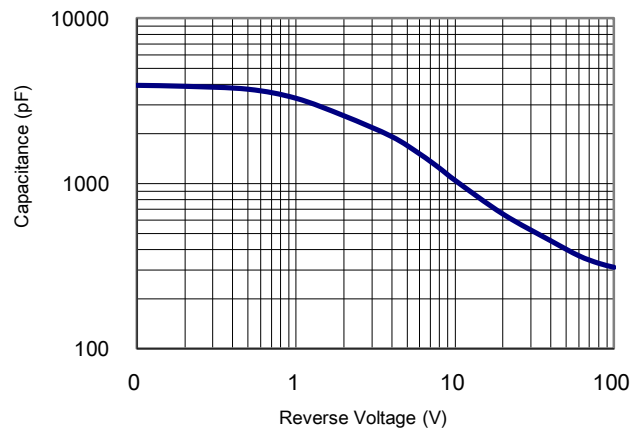


Figure 2: Typical Junction Capacitance

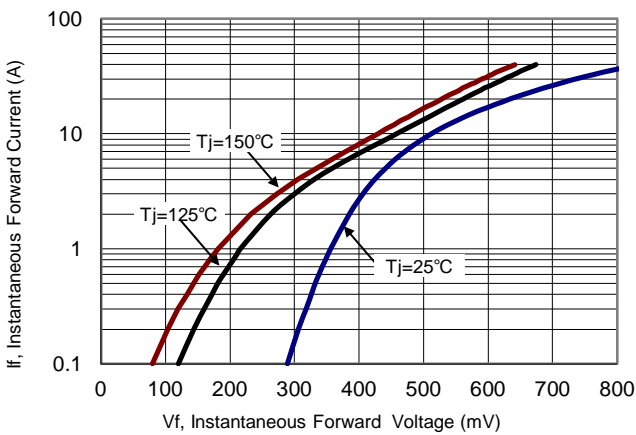


Figure 3: Typical Forward Voltage

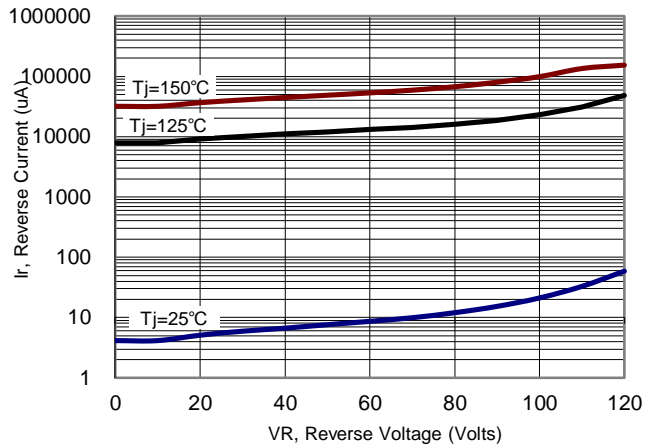


Figure 4: Typical Reverse Current



3. Marking information

Top Marking Rule



PTR80L120PT = 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

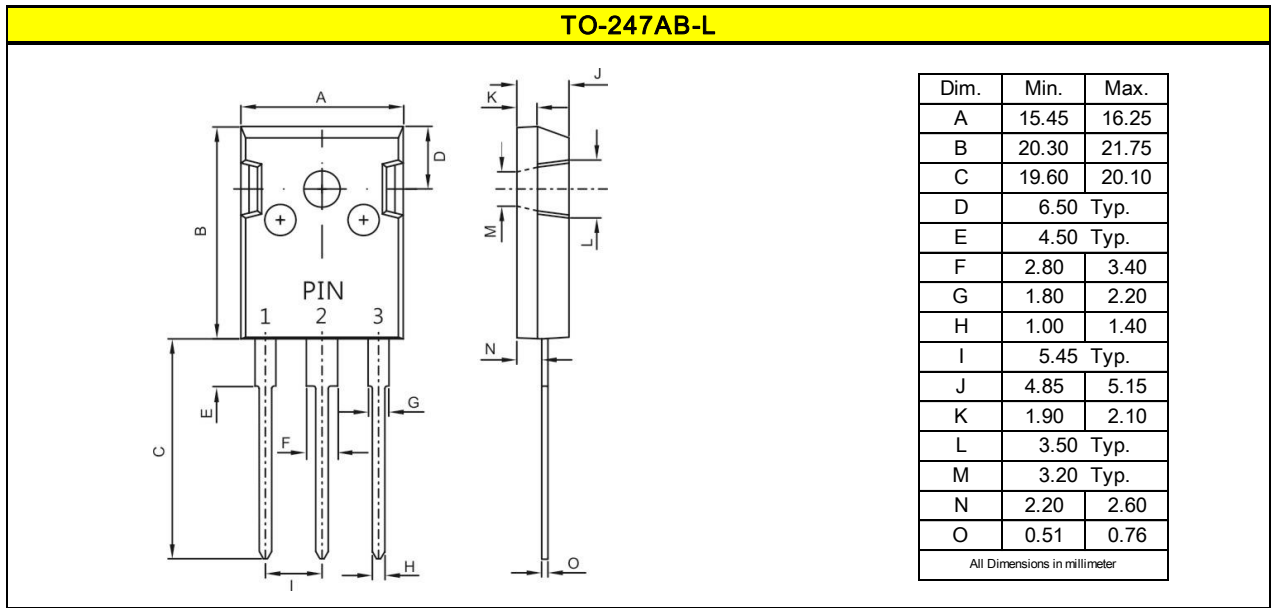
Package Outline Dimensions millimeters

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
PTR80L120PT	TO-247AB	30 pieces / tube
PTR80L120PT-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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