PTB3V100

PFC Device Corporation

3A 100V HPTR® Schottky Rectifier

Major ratings and characteristics

Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	3	A
V_{RRM}	100	V
V_F@ 3A , Tj=125 °C	0.57	V, typ.
T_J Operating Junction Temperature	-40 to +150	°C

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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 °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 (Rated VR-20Khz Square Wave) - 50% duty cycle	I_o	3	Amps
Peak Forward Surge Current - 1/2 60hz	I_{FSM}	130	Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I_{RRM}	1	Amps
Typical Thermal Resistance	$R\theta_{Jc}$	22	°C / W
Maximum Rate of Voltage Change (at Rated VR)	dv/dt	10000	V/uS
Operating Junction Temperature	T_J	- 40 to +150	°C
Storage Junction Temperature	T_{STG}	- 40 to +150	

Electrical Characteristics (T_A = 25 °C unless otherwise specified)

Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Instantaneous Forward Voltage	IF = 3 A	T_J = 25 °C	VF*	----	0.66	Volts
		T_J = 125 °C		0.57	0.61	
Instantaneous Reverse Current	At V_{RM}	T_J = 25 °C	IR*	----	100	uA
		T_J = 125 °C		3.0	15	mA
* Pulse width < 300 uS, Duty cycle < 2%						

2. Characteristics Curves

Ratings and Characteristics Curves (TA = 25℃ unless otherwise specified)

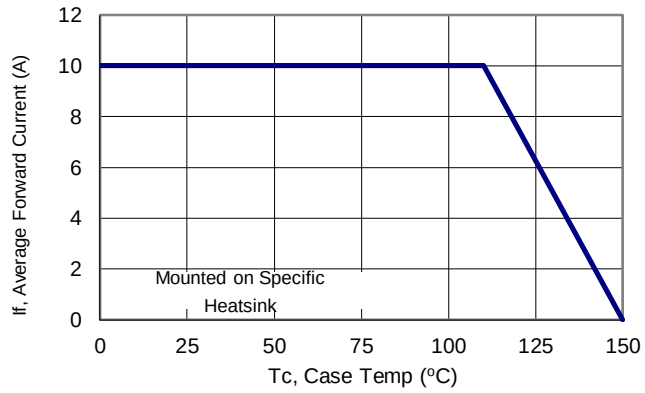


Figure 1: Current Derating, Case

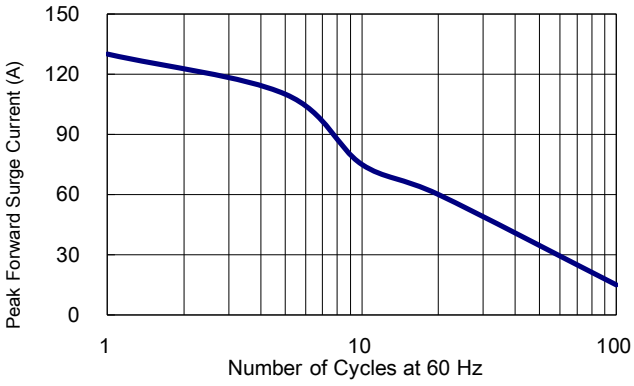


Figure 2: Maximum Repetitive Surge Current

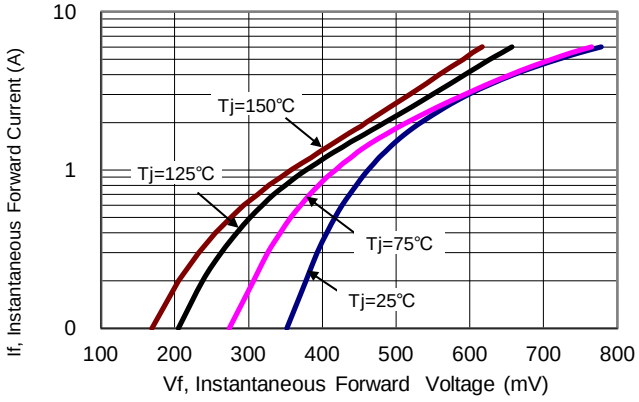


Figure 3: Typical Forward Voltage

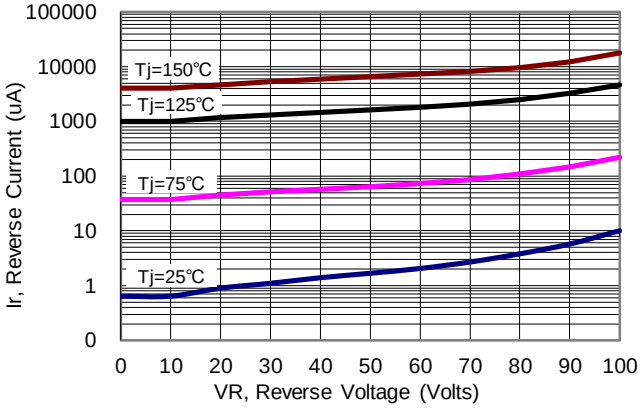


Figure 4: Typical Reverse Current

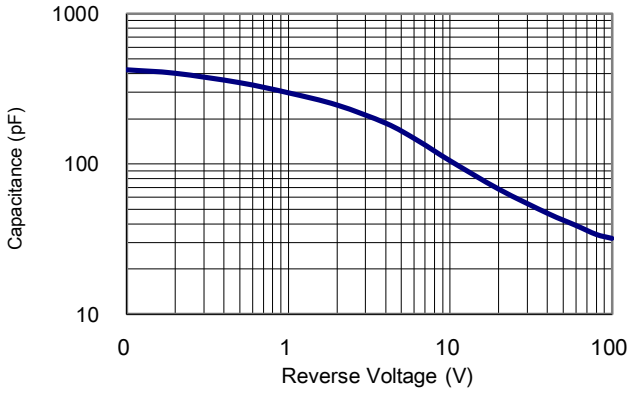
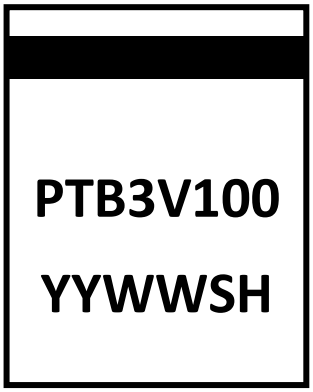


Figure 5: Typical Junction Capacitance

3. Marking information

Top Marking Rule



PTB3V100 = Product Type Marking Code
YYWW = Date Code
YY = Last two digits of year
WW = Week code
S = Series Number
H = Halogen Free (N/A = common molding compound)

4. Package information

Package Outline Dimensions millimeters

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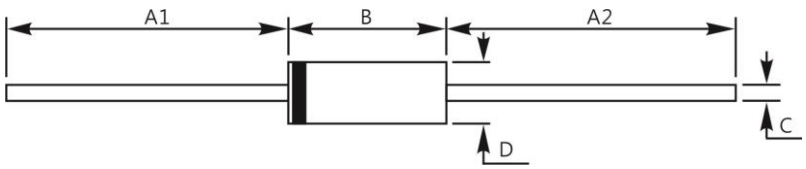

Dim.	Min.	Max.
A1	25.4 typ.	
A2	25.4 typ.	
B	5.80	7.60
C	0.71	0.86
D	2.60	3.60
All Dimensions in millimeter		

5. Ordering information

Part Number	Package	Delivery mode
PTB3V100	DO-15	2000 pieces / ammo-pack

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

Mechanical

- Molder Plastic: UL Flammability Classification Rating 94V-0
- Device Weight : 0.014 ounces (0.397grams) – DO-15