

Diode BZW06



Features:

- Plastic package
- Exceeds environmental standards of MIL-STD-19500
- 600W surge capability at $10 \times 1,000\mu\text{s}$ waveform, duty cycle: 0.01%
- Excellent clamping capability
- Low Zener impedance
- Fast response time: typically less than 1ps from 0V to VBR for unidirectional and 5ns for bidirectional
- Typical I_R less than $1\mu\text{A}$ above 10V
- High temperature soldering guaranteed: $260^\circ\text{C}/10$ seconds/ $0.375''$ (9.5mm) lead length/5lbs. (2.3kg) tension

Mechanical Data:

Case	: Moulded plastic
Lead	: Axial leads, solderable per MIL-STD-202, Method 208
Polarity	: Colour band denotes cathode except bipolar
Weight	: 0.34g

Maximum Ratings and Electrical Characteristics ($T_A = 25^\circ\text{C}$)

Type Number	Symbol	Value	Units
Peak Pulse Power Dissipation at $T_A = 25^\circ\text{C}$, $T_p = 1\text{ms}$ (Note)	P_{PP}	Min. 600	W
Steady State Power Dissipation at $T_L = 75^\circ\text{C}$ Watts Lead Lengths $0.375''$ 9.5mm	P_D	1.7	
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	100	A
Junction to Leads	$R_{\theta JL}$	60	$^\circ\text{C}/\text{W}$
Junction to Ambient on Printed Circuit. L Lead = 10mm	$R_{\theta JA}$	100	
Operating and Storage Temperature Range	T_J, T_{STG}	-65°C to $+175^\circ\text{C}$	$^\circ\text{C}$

Note: For a surge greater than the maximum values, the diode will fall in short-circuit

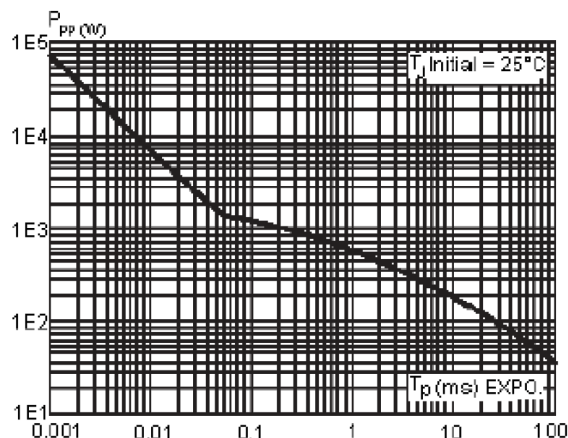
Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

I_{RM} at V_{RM}		V_{BR} at I_R				V_{CL} at I_{PP}		V_{CL} at I_{PP}		αT	C	
Max.		Note1				Max.		Max.		Max.	Typ.	
		Min.	Nom.	Max.								
						10/1,000 μs		8/20 μs		Note2	Note3	
μA	V	V	V	V	mA	V	A	V	A	$10^{-4}/^\circ\text{C}$	(pF)	Bidirectional
1	10.2	114	120	126	1	165	3.6	212	19	10.7	450	BZW06-102B

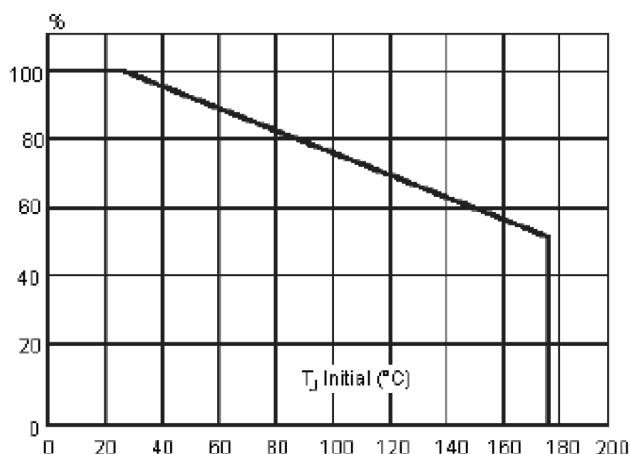
- Notes: 1. Pulse test: $t_p < 50\text{ms}$.
2. $\Delta V_{BR} = \alpha T \times (T_{amb} - 25) \times V_{BR} (25^\circ\text{C})$.
3. $V_R = 0\text{V}$, $F = 1\text{MHz}$, For bidirectional types, capacitance value is divided by 2.

Ratings and Characteristic Curves

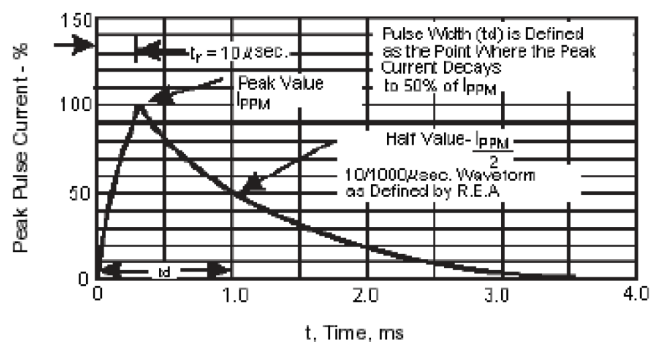
Peak Pulse Power Versus Exponential
Pulse Duration



Peak Pulse Power Dissipation Versus Initial Junction
Temperature (Printed Circuit Board)

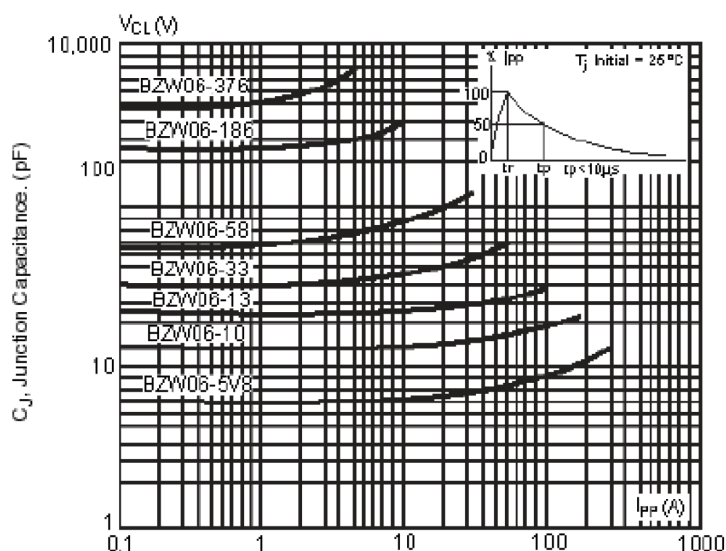


Pulse Waveform

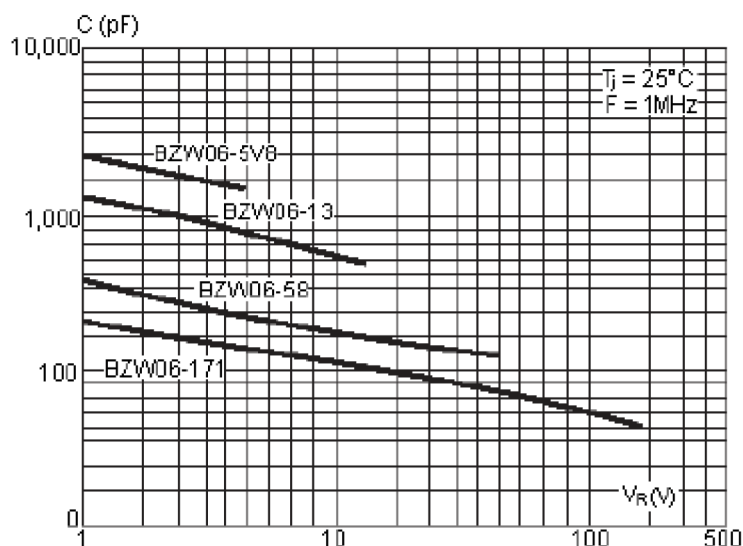


Ratings and Characteristic Curves

Clamping Voltage Versus Peak Pulse Current
Exponential Waveform $t_p=200\mu s$
 $t_p=1ms$
 $t_p=10ms$

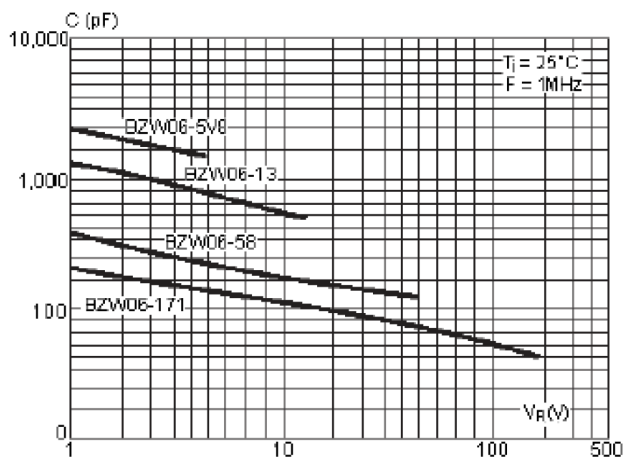


Characteristics Versus Reverse Applied
Voltage for Unidirectional Types
(Typical Values)

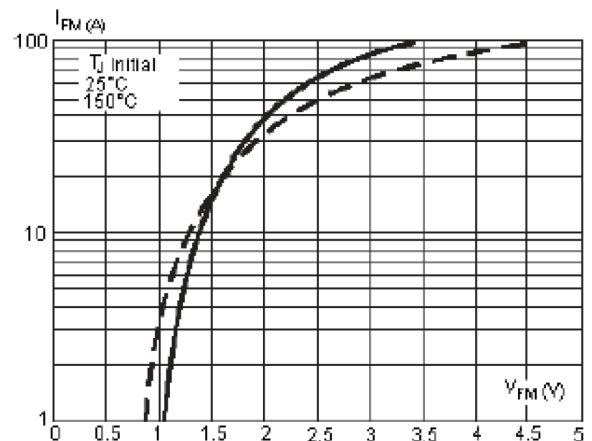


Ratings and Characteristic Curves

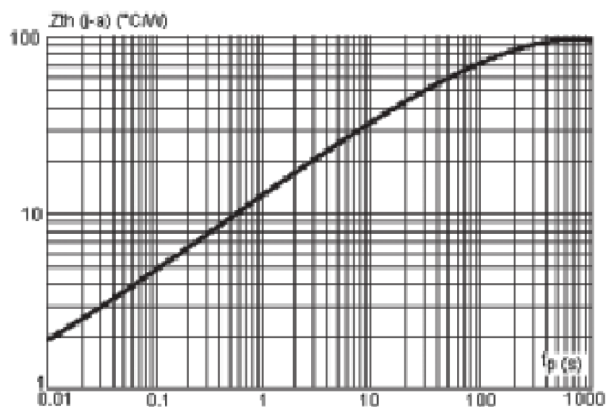
Characteristics Versus Reverse Applied Voltage for Unidirectional Types (Typical Values)



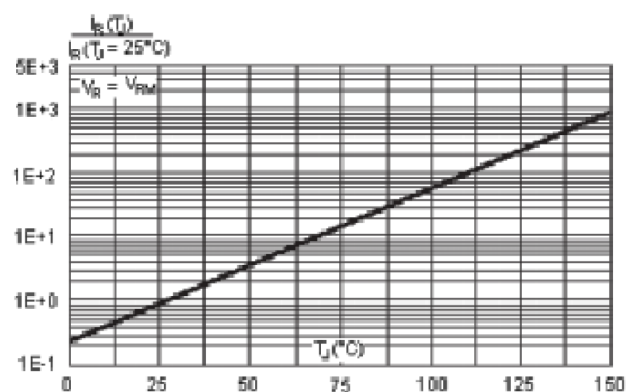
Peak Forward Voltage Drop Versus Peak Forward Current (Typical Values for Unidirectional Types)



Transient Thermal Impedance Junction Ambient Versus Pulse Duration (For FR4 PC Board With L Lead = 10mm)



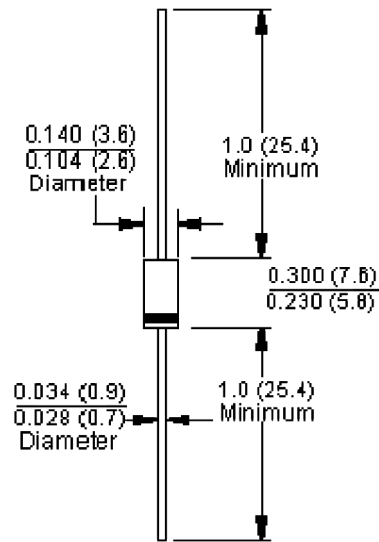
Relative Variation of Leakage Current Versus Junction Temperature



Diode BZW06



DO-15



Dimensions : Inches (Millimetres)

Part Number Table

Description	Part Number
Diode, TVS, 120V, 600W	BZW06-102B

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