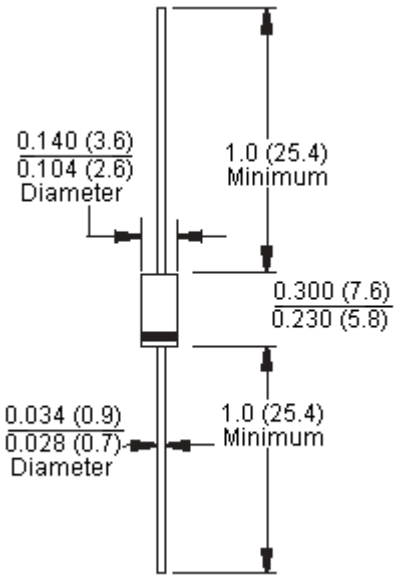
BZW06- Series

Features:

- Plastic package.
- Exceeds environmental standards of MIL-STD-19500.
- 600W surge capability at 10 x 1000µs waveform, duty cycle: 0.01%.
- Excellent clamping capability.
- Low zener impedance.
- Fast response time: typically less than 1.0ps from 0 volts to VBR for unidirectional and 5.0ns for bidirectional.
- Typical I_R less than 1µA above 10V.
- High temperature soldering guaranteed: 260°C/10 seconds/0.375 Inch (9.5mm) lead length/5lbs. (2.3kg) tension.

DO-15



Dimensions : Inches (Millimetres)

Mechanical Data

Case : Molded plastic.
Lead : Axial leads, solderable per MIL-STD-202, Method 208.
Polarity : Color band denotes cathode except bipolar.
Weight : 0.34 gram.

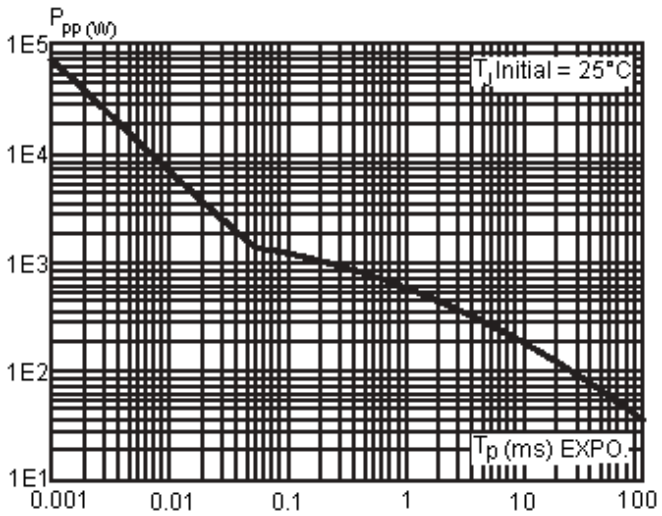
Maximum Ratings and Electrical Characteristics (T_A = 25°C)

Type Number	Symbol	Value	Units
Peak Pulse Power Dissipation at T_A = 25°C, T_p = 1ms (Note)	P_{PP}	Minimum 600	Watts
Steady State Power Dissipation at T_L = 75°C Lead Lengths 0.375 Inch 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	Amps
Junction to Leads	$R_{\theta JL}$	60	°C/W
Junction to Ambient on Printed Circuit. L Lead = 10mm	$R_{\theta JA}$	100	
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to + 175	°C

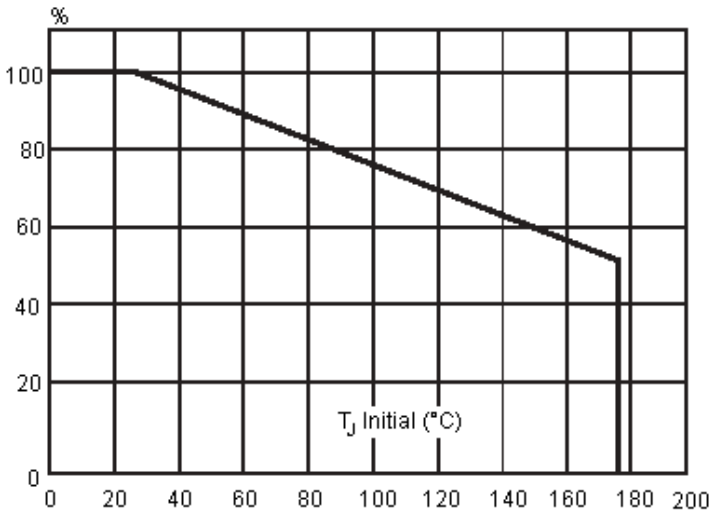
Notes: For a surge greater than the maximum values, the diode will fall in short-circuit.

Ratings and Characteristic Curves

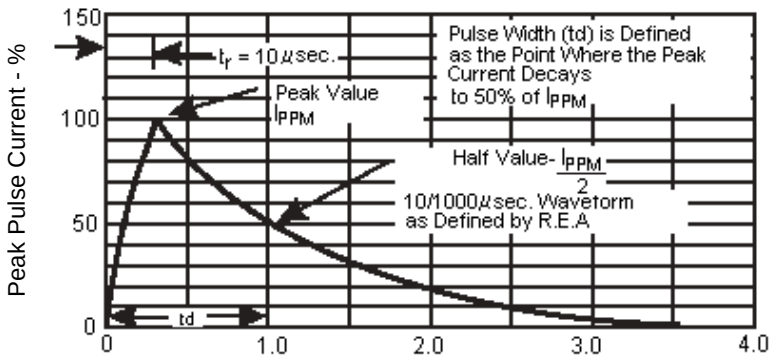
Peak Pulse Power Versus Exponential Pulse Duration



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

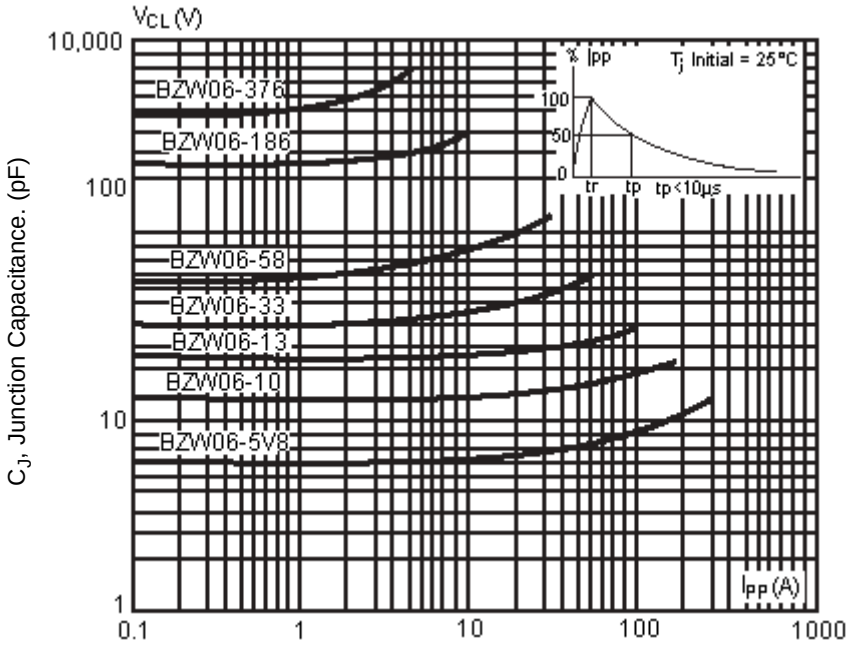


Pulse Waveform

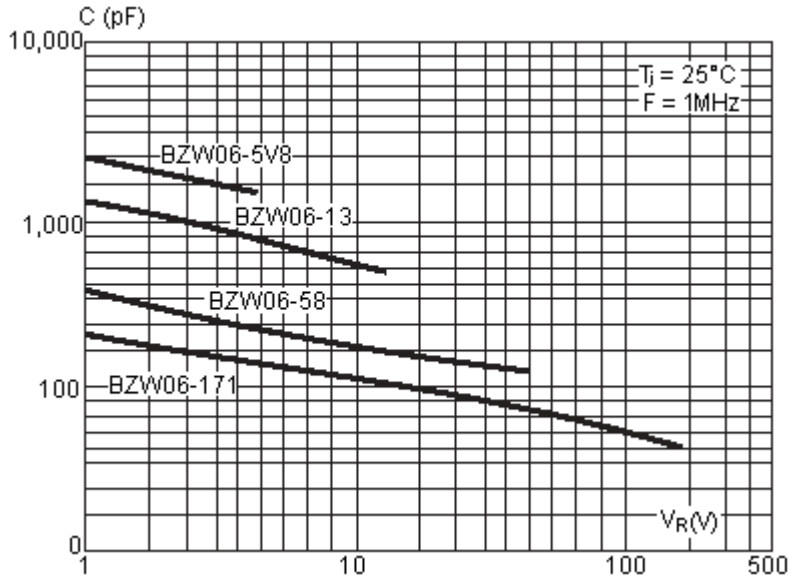


t, Time, ms

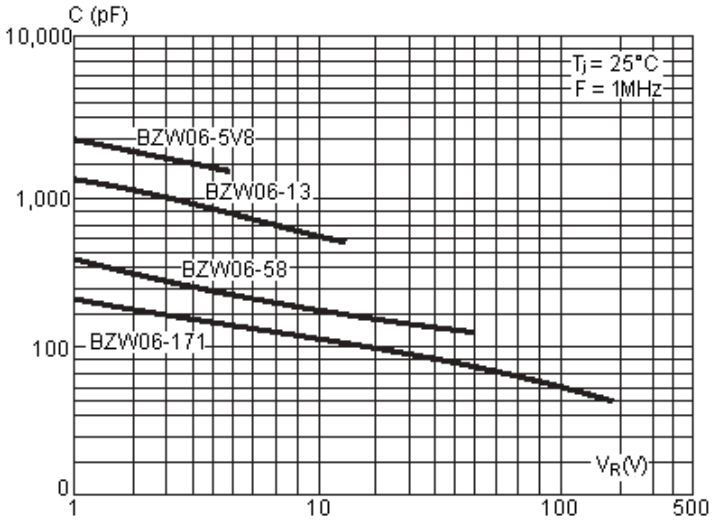
Clamping Voltage Versus Peak Pulse Current
Exponential Waveform tp-200µs
tp-1ms
tp-10m



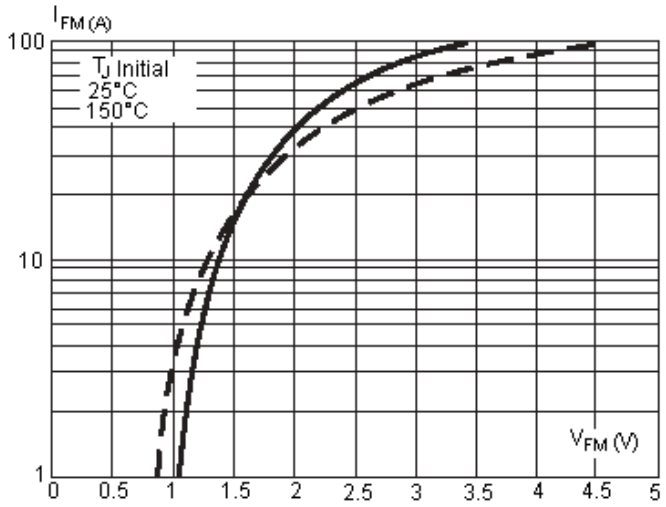
Characterastics Versus Reverse Applied
Voltage for Unidirectional Types
(Typical Values)



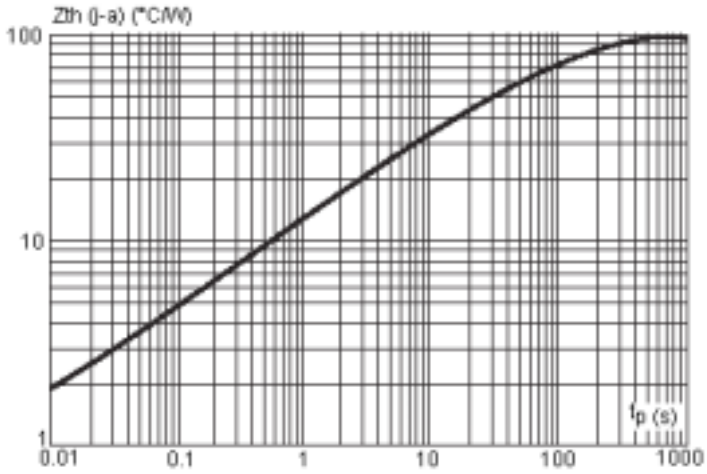
Characterastics Versus Reverse Applied Voltage for Unidirectional Types (Typical Values)



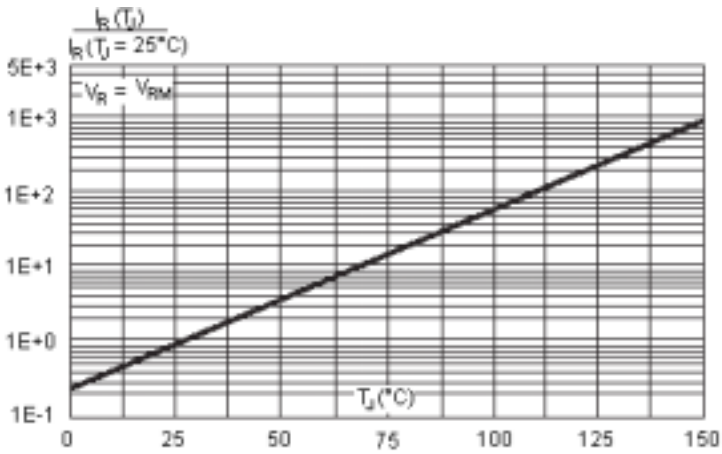
Peak Forward Voltage Drop Versus Peak Forward Current (Typical Values for Undirectional Types)



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



Relative Variation of Leakage Current Versus Junction Temperature



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

Device		I_{RM} at V_{RM}		V_{BR} at I_R				V_{CL} at I_{PP}		V_{CL} at I_{PP}		αT	C
		Maximum		Note1				Maximum		Maximum		Maximum	Typical
				Minimum	Nominal	Maximum		10/1000µs		8/20µS		Note2	Note3
Unidirectional	Bidirectional	µA	V	V	V	V	mA	V	A	V	A	10^{-4}/°C	(pF)
-	BZW06-102B	1	102	114	120	126	1	165	3.6	212	19	10.7	450
BZW06-13	BZW06-13B	5	12.8	14.3	15.0	15.8		21.2	28	27.2	147	8.4	1900
BZW06-15	BZW06-15B	1	15.3	17.1	18.0	18.9		25.2	24	32.5	123	8.8	1600
BZW06-20	BZW06-20B		20.5	22.8	24.0	25.2		33.2	28.0	42.8	93	9.4	1250
BZW06-31	BZW06-31B		30.8	34.2	36.0	37.8		49.9	12.0	64.3	62	9.6	950
BZW06-33	BZW06-33B		33.3	37.1	39.0	41.0		53.9	11.1	69.7	57	10.0	900

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

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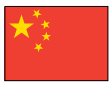

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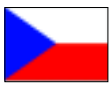

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