

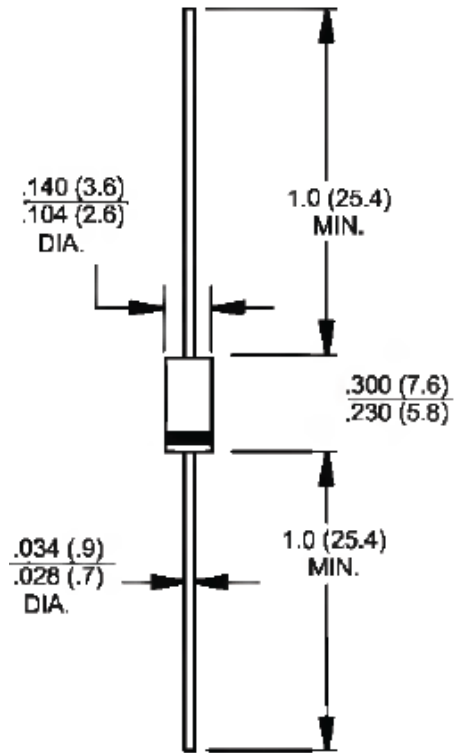
BZW06-5V8
600 Watts Transient Voltage Suppressor
DO-15

Features

- ✧ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ✧ Exceeds environmental standards of MIL-STD-19500
- ✧ 600W surge capability at 10 x 1000 us waveform
- ✧ Excellent clamping capability
- ✧ Low Dynamic impedance
- ✧ Fast response time: Typically less than 1.0ps from 0 volt to VBR for unidirectional and 5.0 ns for bidirectional
- ✧ Typical I_R less than 1uA above 10V
- ✧ High temperature soldering guaranteed: 260°C / 10 seconds / .375", (9.5mm) lead length / 5lbs., (2.3kg) tension
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode

Mechanical Data

- ✧ Case: Molded plastic
- ✧ Lead: Axial leads, solderable per MIL-STD-202, Method 208
- ✧ Polarity: Color band denotes cathode except bipolar
- ✧ Weight: 0.354 gram



Dimensions in inches and (millimeters)
Marking Diagram



- BZW06XX = Specific Device Code
- G = Green Compound
- Y = Year
- WW = Work Week

Maximum Ratings and Electrical Characteristics

Type Number	Symbol	Value	Unit
Peak Pulse Power Dissipation at $T_A=25^\circ\text{C}$, $T_p=1\text{ms}$ (Note 1)	P_{PK}	Minimum 600	Watts
Steady State Power Dissipation at $T_L=75^\circ\text{C}$ Lead Lengths .375", 9.5mm	P_D	1.7	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)(Note 2)	I_{FSM}	100	Amps
Junction to leads	$R_{\theta JL}$	60	$^\circ\text{C/W}$
Junction to ambient on printed circuit L lead=10mm	$R_{\theta JA}$	100	$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +175	$^\circ\text{C}$

Note 1: Non-repetitive Current Pulse, Per Fig. 3

Note 2: Mounted on 8.3ms Single Half Sine-wave or Equivalent Square Wave

RATINGS AND CHARACTERISTIC CURVES (BZW06 SERIES)

FIG.1- PEAK PULSE POWER VERSUS EXPONENTIAL PULSE DURATION

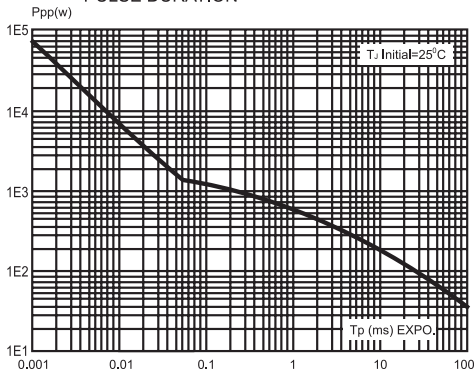


FIG.2- PEAK PULSE POWER DISSIPATION VERSUS INITIAL JUNCTION TEMPERATURE (PRINTED CIRCUIT BOARD)

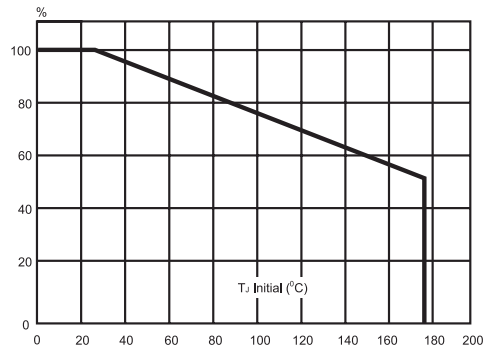


FIG.3- PULSE WAVEFORM

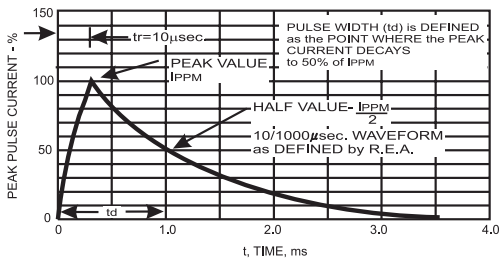


FIG.4- CLAMPING VOLTAGE VERSUS PEAK PULSE CURRENT, EXPONENTIAL WAVEFORM

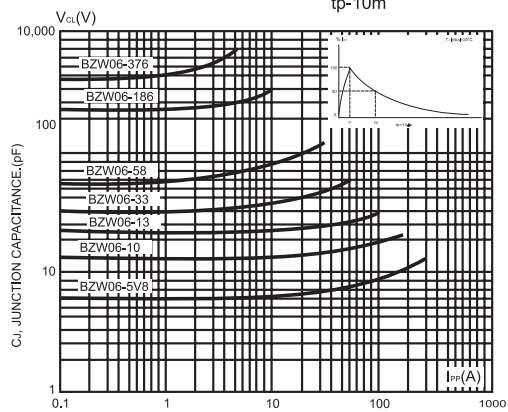
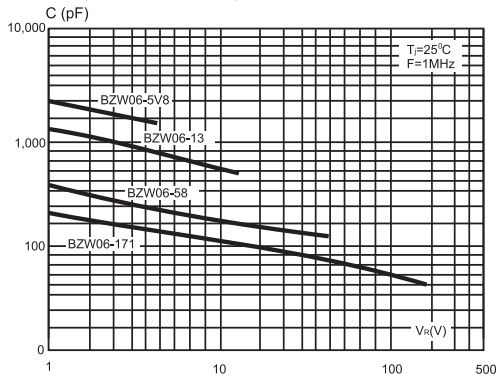


FIG.5- CHARACTERISTICS VERSUS REVERSE APPLIED VOLTAGE FOR UNIDIRECTIONAL TYPES (TYPICAL VALUES)



RATINGS AND CHARACTERISTIC CURVES (BZW06 SERIES)

FIG.6- CHARACTERISTICS VERSUS REVERSE APPLIED VOLTAGE FOR UNIDIRECTIONAL TYPES (TYPICAL VALUES)

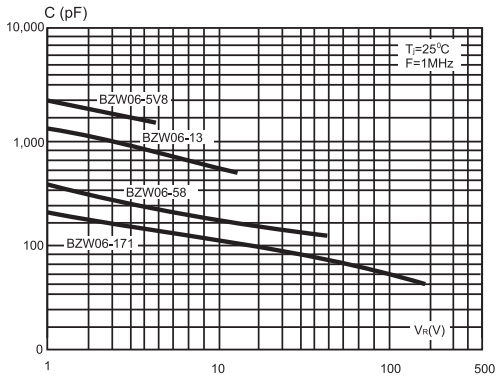


FIG.7- PEAK FORWARD VOLTAGE DROP VERSUS PEAK FORWARD CURRENT (TYPICAL VALUES FOR UNIDIRECTIONAL TYPES)

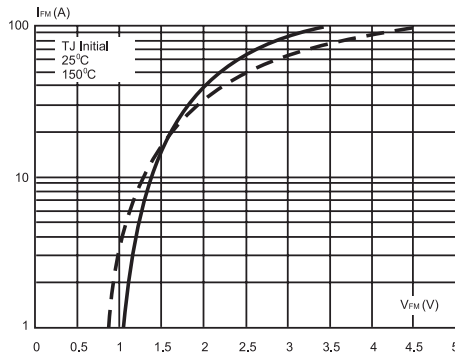


FIG.8- TRANSIENT THERMAL IMPEDANCE JUNCTION AMBIENT VERSUS PULSE DURATION (FOR FR4 PC BOARD WITH L LEAD=10mm)

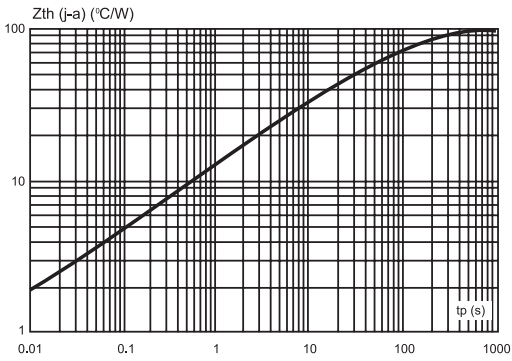
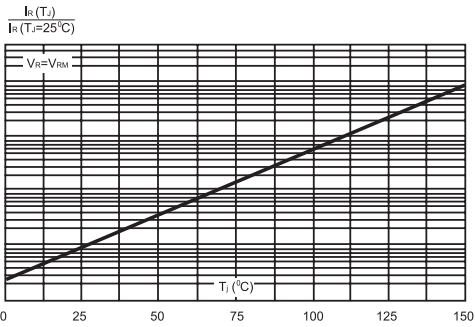


FIG.9- RELATIVE VARIATION OF LEAKAGE CURRENT VERSUS JUNCTION TEMPERATURE



ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

Device		Leakage		Breakdown				Clamping Voltage		Clamping Voltage		T Max	Junction
		Current		Voltage				$V_{CL}@I_{PP}$		$V_{CL}@I_{PP}$		αT	Capacitance
		$I_{RM}@V_{RM}$		$V_{BR}@I_R$				10/1000us		8/20us			C
				(Note 1)								(Note 2)	(Note 3)
Unidirectional	Bidirectional	Max		Min	Nom.	Max		Max		Max			
		uA	V	V	V	V	mA	V	A	V	A	$10^{-4}/^{\circ}C$	pF
BZW06-5V8	BZW06-5V8B	1000	5.8	6.45	6.8	7.14	10	10.5	57	13.4	298	5.7	4000

Notes:

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

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