B02CSP08B

SINGLE LINE, 8V, 0402 SMD,BI-DIRECTIONAL, TVS DIODE

PRODUCT DESCRIPTION

The B02CSP08B is a Bi-directional Transient Voltage Suppressor that is designed to provide a higher level protection for sensitive 8V electronic components from damage or latchup due to electrostatic discharge (ESD) and other voltage induced transient events.

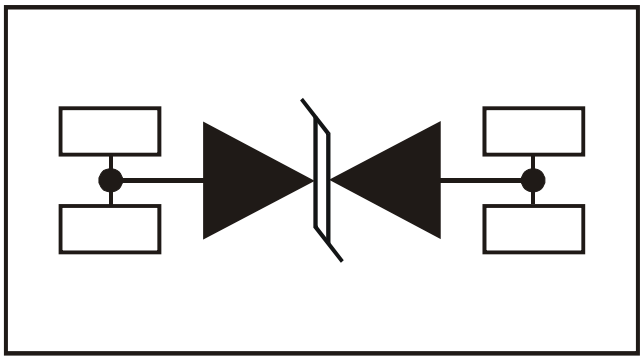
APPLICATIONS

※ Cell Phone Handsets and Accessories
※ PDAs
※ Notebook and Hand Held Computers
※ Pagers
※ Smart Cards
※ MP3 Players
※ Wireless Communication Circuits
※ PCMCIA Cards

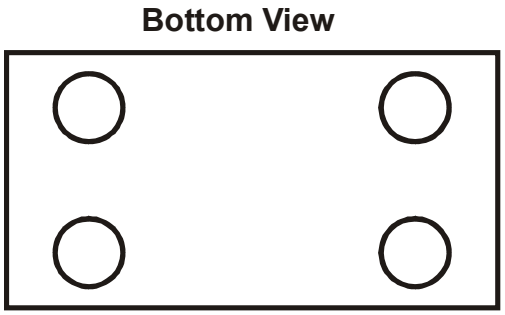
FEATURES

※ 250 Watts peak pulse power (tp = 8/20μs)
※ Transient protection for data lines to
IEC 61000-4-2 (ESD)± 15kV (air), ± 8kV (contact)
IEC 61000-4-4 (EFT) 40A (5/50ns)
※ Bidirectional protection
※ Working voltage: 8V
※ Low clamping voltage
※ ESD Protection > 25 Kilovolts
※ Complies with the following standards:
- IEC 61000-4-2 (ESD) Air-15kv, Contact-8kv
- IEC 61000-4-4 (EFT) (5/50ns)
- IEC 61000-4-5 (Surge) (8/20μs)

ELECTRICAL SCHEMATIC & PIN CONFIGURATION



PACKAGE / PINOUT DIAGRAMS



B02CSP08B
0402 CSP PACKAGE

ORDERING INFORMATION

Ordering Part Number	Package	Bumps	Polarity
B02CSP08B	CSP (EIA 0402 Size Code)	4	Bi-Directional

CSP TAPE & REEL SPECIFICATIONS

Ordering Part Number	Chip Size (in mm)	Qty Per Reel	Reel Size
B02CSP08B	0.99 x 0.483	10,000 pcs/Reel	7 Inch

ELECTRICAL CHARACTERISTICS

ABSOLUTE MAXIMUM RATING @ 25˚C

Rating	Symbol	Value	Units
Peak Pulse Power (t_p = 8/20µs)	P_{pp}	250	Watts
Soldering Temperature	T_L	225	^oC
Lead Free Soldering Temperature		270	^oC
Operating Temperature	T_J	-55 to +150	^oC
Storage Temperature	T_{STG}	-55 to +150	^oC

ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				8	V
Reverse Breakdown Voltage	V_{BR}	I_t = 1mA	8.5			V
Reverse Leakage Current	I_R	V_{RWM} = 8V, T=25^{o}C			10	µA
Clamping Voltage	V_C	I_{PP} = 1A, t_P = 8/20µs			13.4	V
Clamping Voltage	V_C	I_{PP} = 13A, t_P = 8/20µs			19.2	V
Junction Capacitance	C_j	V_R = OV, f = 1MHz		75		$_p$F

TYPICAL CHARACTERISTICS

FIGURE 1
POWER DERATING CURVE

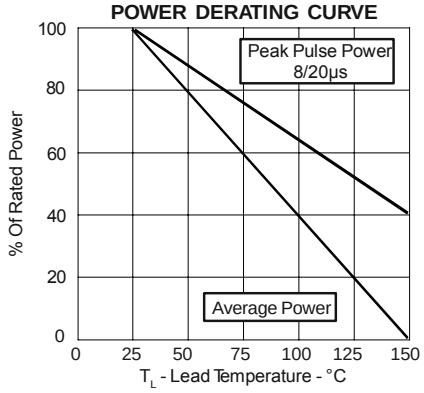
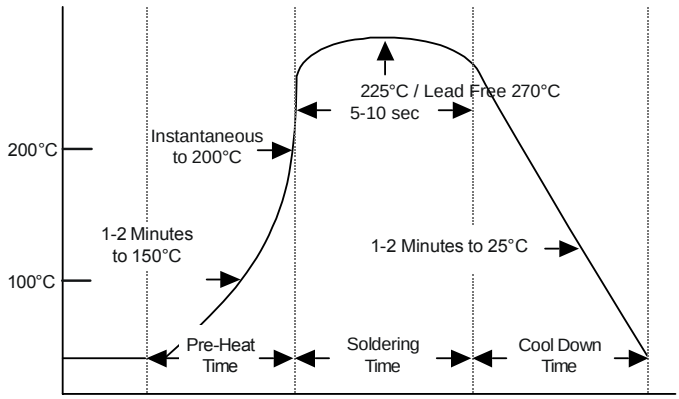


FIGURE 2
REFLOW SOLDER PROFILE



Note: This reflow profile does not take into account the printed circuit board (PCB) material heating time. Additional time may be required for the preheat time and cool down time upon the PCB or board material.

FIGURE 3
PEAK PULSE POWER VS PULSE TIME

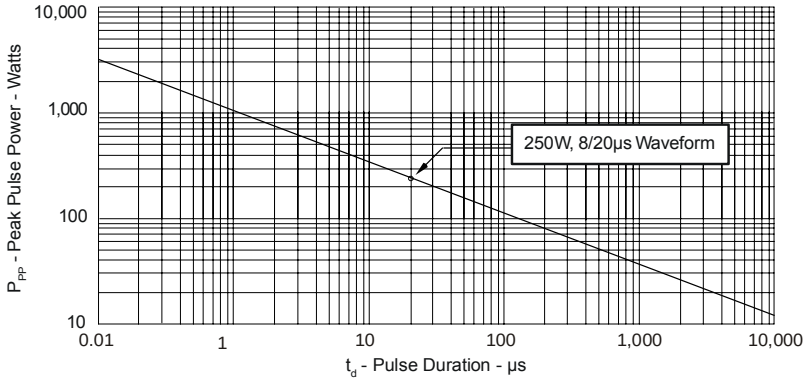


FIGURE 4
PULSE WAVE FORM

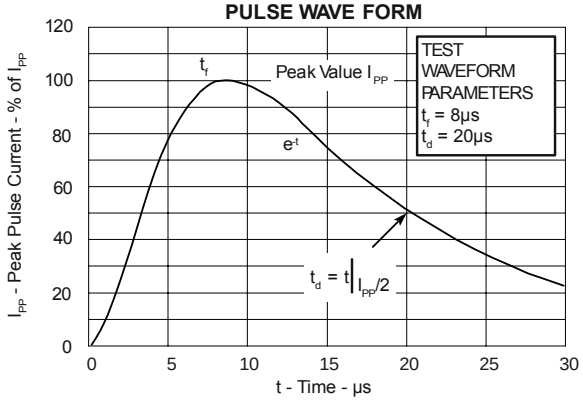
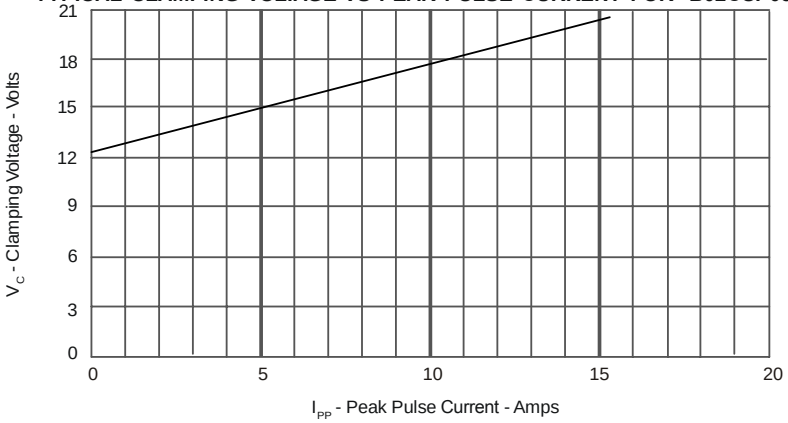
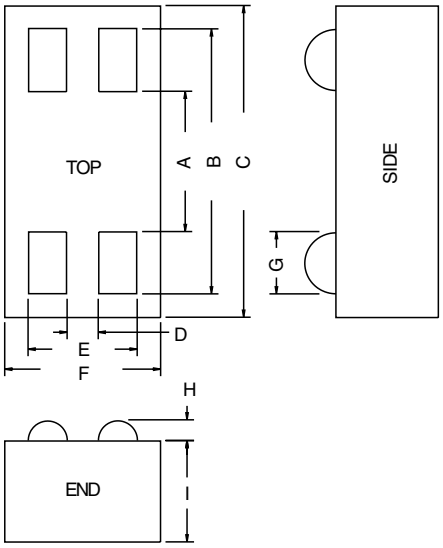


FIGURE 5
TYPICAL CLAMPING VOLTAGE VS PEAK PULSE CURRENT FOR B02CSP08B



PACKAGE OUTLINE & DIMENSIONS

PACKAGE OUTLINE

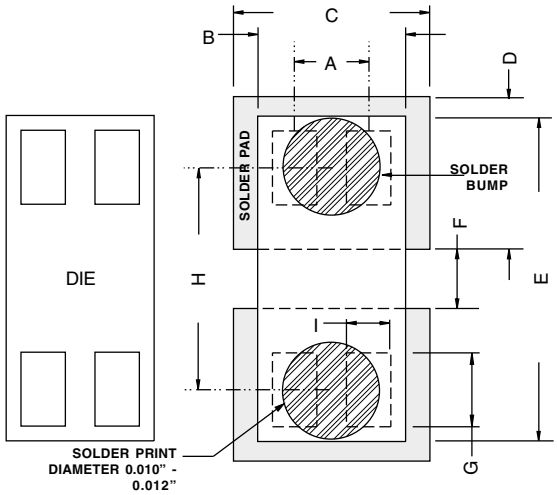


PACKAGE DIMENSIONS

DIM	MILLIMETERS	INCHES
A	0.46 NOM	0.018 NOM
B	0.86 NOM	0.034 NOM
C	0.99 ± 0.0254	0.039 ± 0.001
D	0.10 NOM	0.004 NOM
E	0.35 NOM	0.014 NOM
F	0.483 ± 0.0254	0.019 ± 0.001
G	0.20 NOM	0.008 NOM
H	0.127 MAX	0.005 MAX
	0.076 MIN	0.003 MIN
I	0.406 NOM	0.016 NOM

NOTES:
1. Controlling dimensions in inches.
2. Decimal tolerances for mounting pad and outline:
   .xxx ± 0.05mm (± 0.002").
3. Maximum chip size: 1.02 (0.040") by 0.51(0.020").

MOUNTING PAD

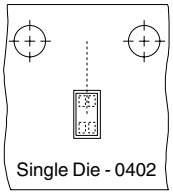


PAD DIMENSIONS

DIM	MILLIMETERS	INCHES
A	0.23	0.009
B	0.48	0.019
C	0.69	0.027
D	0.46	0.018
E	0.99	0.039
F	0.20	0.008
G	0.20	0.008
H	0.66	0.026
I	0.13	0.005

NOTE:
1. Preferred: Using 0.1mm (0.004") stencil.

TAPE & REEL ORIENTATION



NOTE:
1.Top view of tape. Metal contacts are face down in tape package.

