

SINGLE LINE, 15V, 0402 SMD, BI-DIRECTIONAL, TVS DIODE

PRODUCT DESCRIPTION

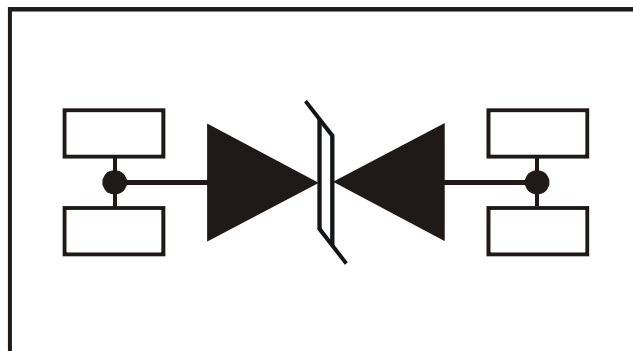
The B02CSP15B/UB02CSP15B is a Bi-directional Transient Voltage Suppressor that is designed to provide a higher level protection for sensitive 15V electronic components from damage or latchup due to electrostatic discharge (ESD) and other voltage induced transient events.

APPLICATIONS

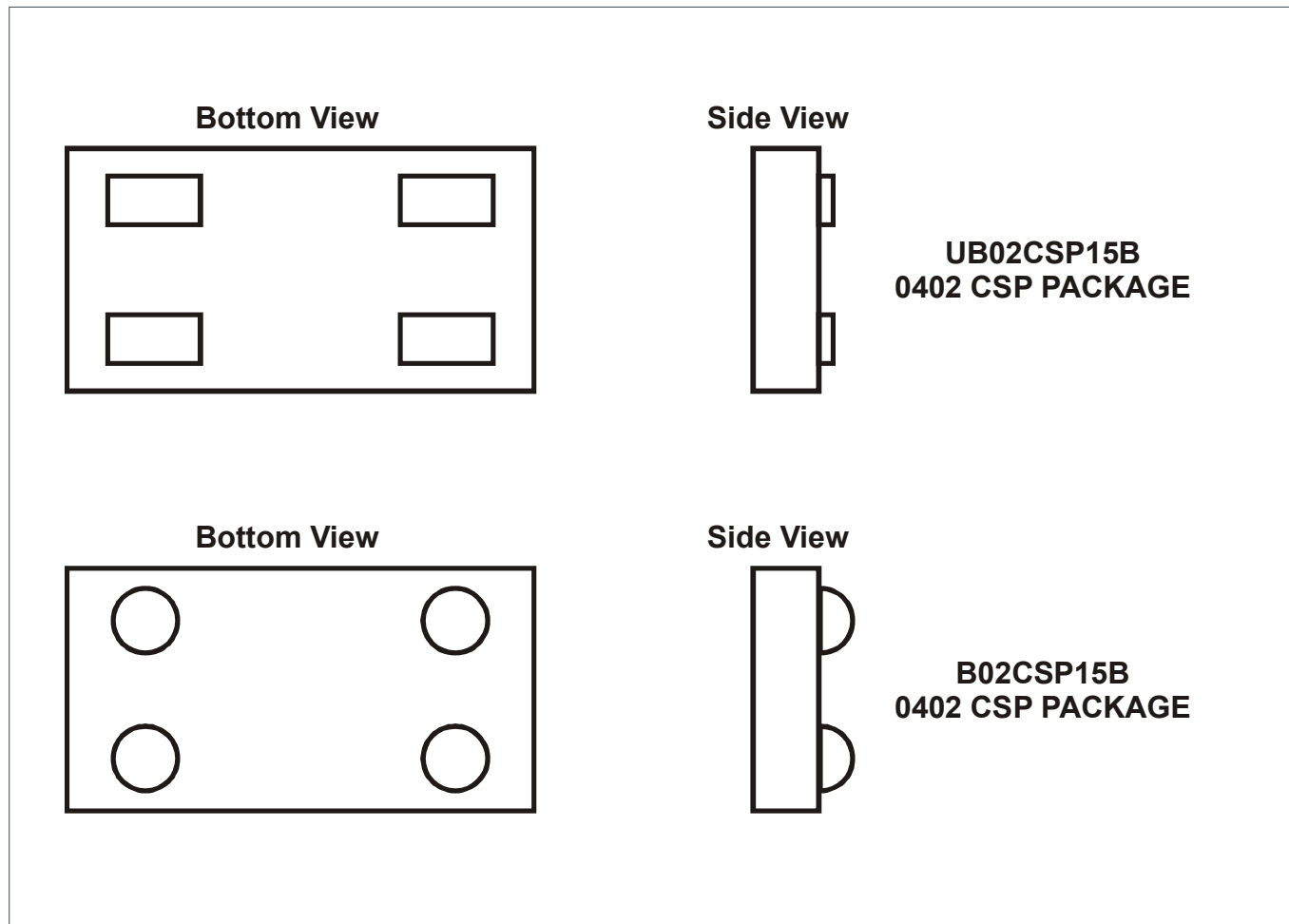
- ※ Cell Phone Handsets and Accessories
- ※ PDAs
- ※ Notebook and Hand Held Computers
- ※ Pagers
- ※ Smart Cards
- ※ MP3 Players
- ※ Wireless Communication Circuits
- ※ PCMCIA Cards

FEATURES

- ※ 250 Watts peak pulse power ($t_p = 8/20\mu s$)
- ※ Transient protection for data lines to IEC 61000-4-2 (ESD) $\pm 15kV$ (air), $\pm 8kV$ (contact)
IEC 61000-4-4 (EFT) 40A (5/50ns)
- ※ Bidirectional protection
- ※ Working voltage: 15V
- ※ 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) (8/20 μs)

ELECTRICAL SCHEMATIC & PIN CONFIGURATION

PACKAGE / PINOUT DIAGRAMS



ORDERING INFORMATION

Ordering Part Number	Package	Bumps	Polarity
B02CSP15B	CSP (EIA 0402 Size Code)	4	Bi-Directional
UB02CSP15B	CSP (EIA 0402 Size Code)	0	Bi-Directional

CSP TAPE & REEL SPECIFICATIONS

Ordering Part Number	Chip Size (in mm)	Qty Per Reel	Reel Size
B02CSP15B	0.99 x 0.483	10,000 pcs/Reel	7 Inch
UB02CSP15B	0.99 x 0.483	10,000 pcs/Reel	7 Inch



ELECTRICAL CHARACTERISTICS

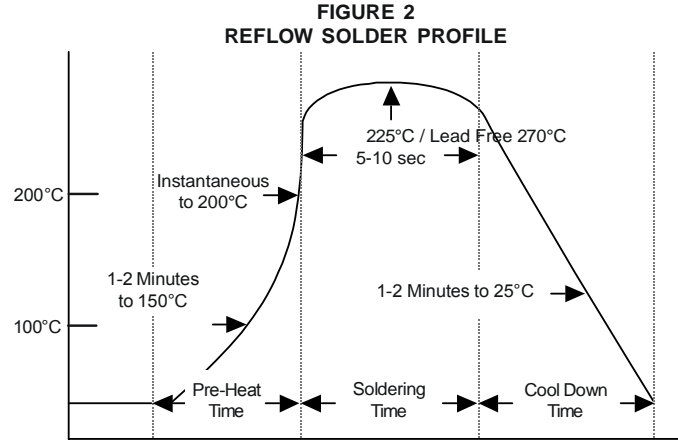
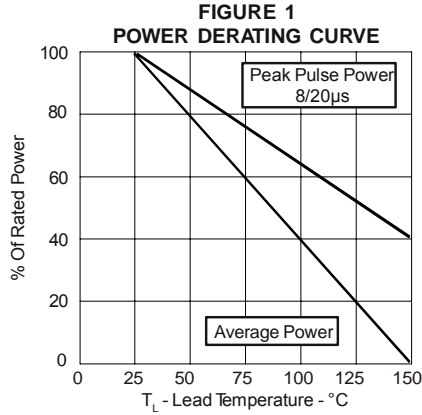
ABSOLUTE MAXIMUM RATING @ 25°C

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

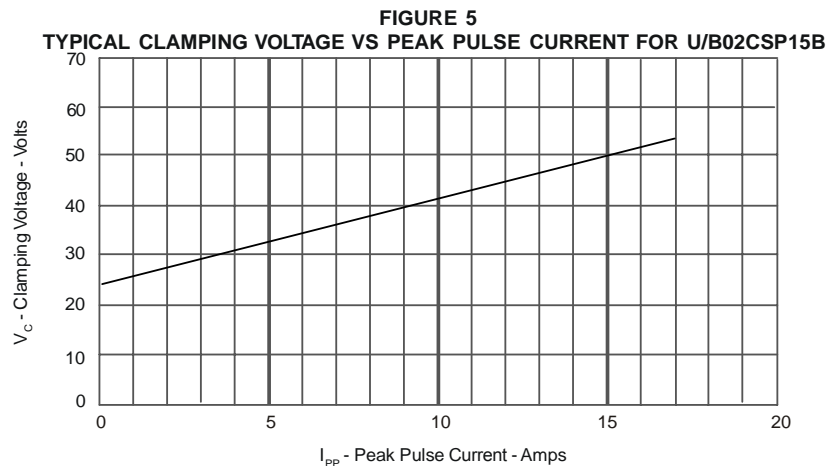
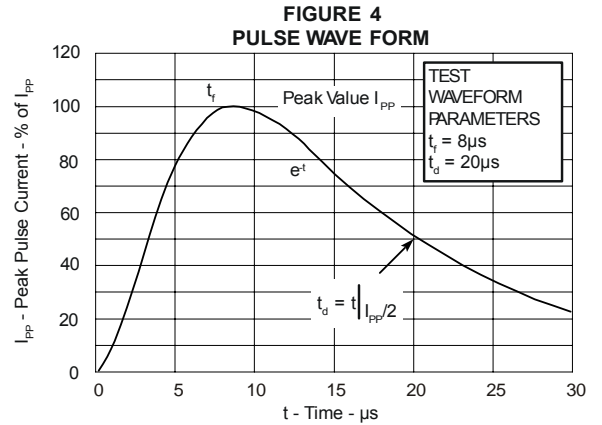
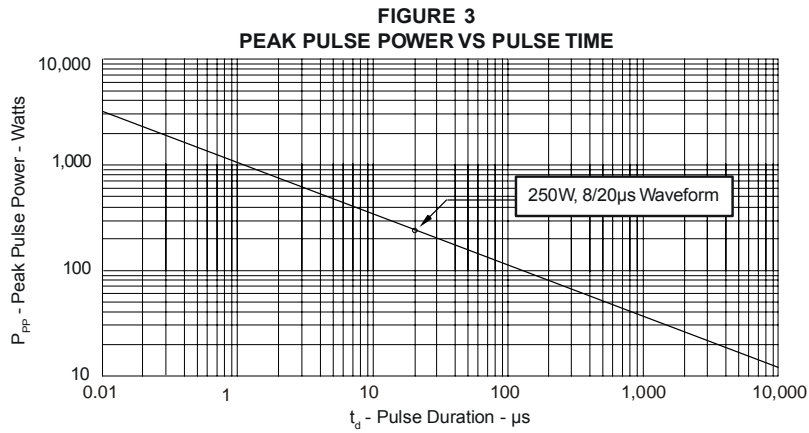
ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				15	V
Reverse Breakdown Voltage	V_{BR}	$I_t = 1mA$	16.7			V
Reverse Leakage Current	I_R	$V_{RWM} = 15V,$ $T = 25^\circ C$			1	μA
Clamping Voltage	V_C	$I_{PP} = 1A,$ $t_p = 8/20\mu s$			24	V
Clamping Voltage	V_C	$I_{PP} = 7A,$ $t_p = 8/20\mu s$			35.7	V
Junction Capacitance	C_j	$V_R = 0V,$ $f = 1MHz$		40		μF

TYPICAL CHARACTERISTICS



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.



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																																									
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																																									
		<table border="1"> <thead> <tr> <th>DIM</th> <th>MILLIMETERS</th> <th colspan="2">INCHES</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>0.23</td> <td colspan="2">0.009</td> </tr> <tr> <td>B</td> <td>0.48</td> <td colspan="2">0.019</td> </tr> <tr> <td>C</td> <td>0.69</td> <td colspan="2">0.027</td> </tr> <tr> <td>D</td> <td>0.46</td> <td colspan="2">0.018</td> </tr> <tr> <td>E</td> <td>0.99</td> <td colspan="2">0.039</td> </tr> <tr> <td>F</td> <td>0.20</td> <td colspan="2">0.008</td> </tr> <tr> <td>G</td> <td>0.20</td> <td colspan="2">0.008</td> </tr> <tr> <td>H</td> <td>0.66</td> <td colspan="2">0.026</td> </tr> <tr> <td>I</td> <td>0.13</td> <td colspan="2">0.005</td> </tr> </tbody> </table>		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	
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.																																											

PACKAGE OUTLINE & DIMENSIONS

