
STANDARD TVS COMPONENTS

APPLICATIONS

- ✓ Noise Suppression for Data Lines
- ✓ Laptop Computers
- ✓ Cellular Phones
- ✓ Digital Cameras
- ✓ Personal Digital Assistants (PDAs)

IEC COMPATIBILITY (EN61000-4)

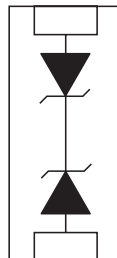
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns

FEATURES

- ✓ 10 Watts Peak Pulse Power per Line (tp = 10/1000µs)
- ✓ ESD Protection > 40 kilovolts
- ✓ Bidirectional Configuration
- ✓ Protects One Data Line
- ✓ Low Clamping Voltage
- ✓ Easy Placement for Manufacturing
- ✓ **LOW CAPACITANCE**
- ✓ RoHS Compliant in Lead-Free Versions

MECHANICAL CHARACTERISTICS

- ✓ DFN-2 Package
- ✓ Weight 0.73 milligrams (Approximate)
- ✓ Available in Tin-Lead or Lead-Free Pure-Tin Plating(Annealed)
- ✓ Solder Reflow Temperature:
 - Tin-Lead - Sn/Pb, 85/15: 240-245°C
 - Pure-Tin - Sn, 100: 260-270°C
- ✓ Flammability Rating UL 94V-0
- ✓ 8mm Tape and Reel Per EIA Standard 481
- ✓ Device Part Number on Reel & Marking Code on Device

PIN CONFIGURATION


DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power ($t_p = 10/1000\mu s$) - See Figure 1	P_{Pk}	10	W
Power Dissipation	P	150	mW
Junction Temperature	T_J	150	°C
Storage Temperature	T_{stg}	-55 to 150	°C
Operation Temperature	T_{opr}	-50 to 150	°C

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified					
PART NUMBER	DEVICE MARKING	RATED STAND-OFF VOLTAGE	MINIMUM BREAKDOWN VOLTAGE	MAXIMUM LEAKAGE CURRENT	TYPICAL CAPACITANCE
		V_{WM} VOLTS	@ 1mA $V_{(BR)}$ VOLTS	@3.5V I_D μA	0V @ 1 MHz C pF
PRSB6.8C	A	4.7	5.7	1.0	15

GRAPHS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

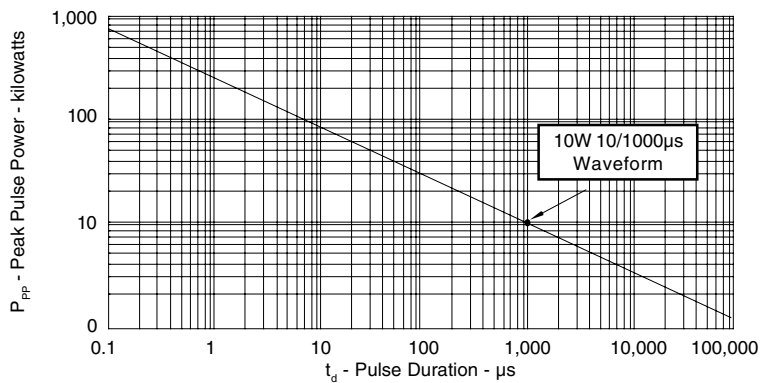


FIGURE 2
PULSE WAVE FORM

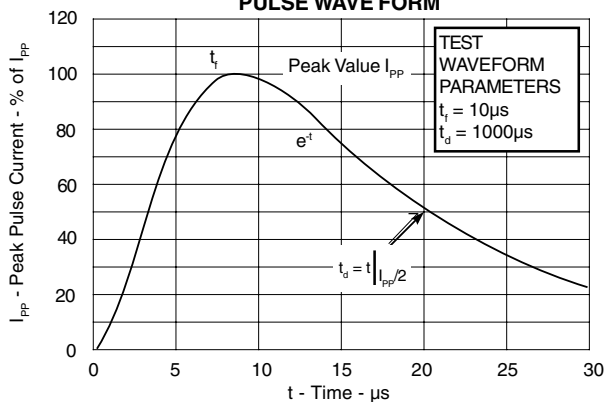
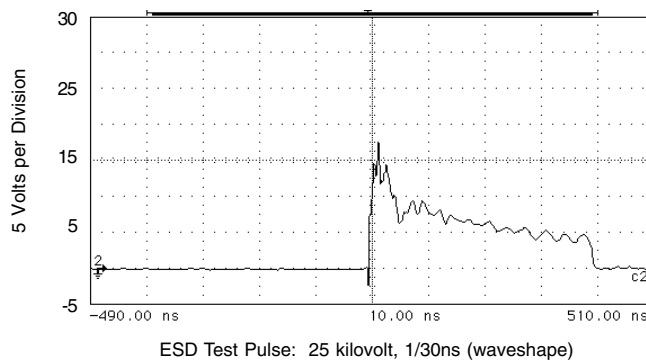


FIGURE 3
OVERSHOOT & CLAMPING VOLTAGE

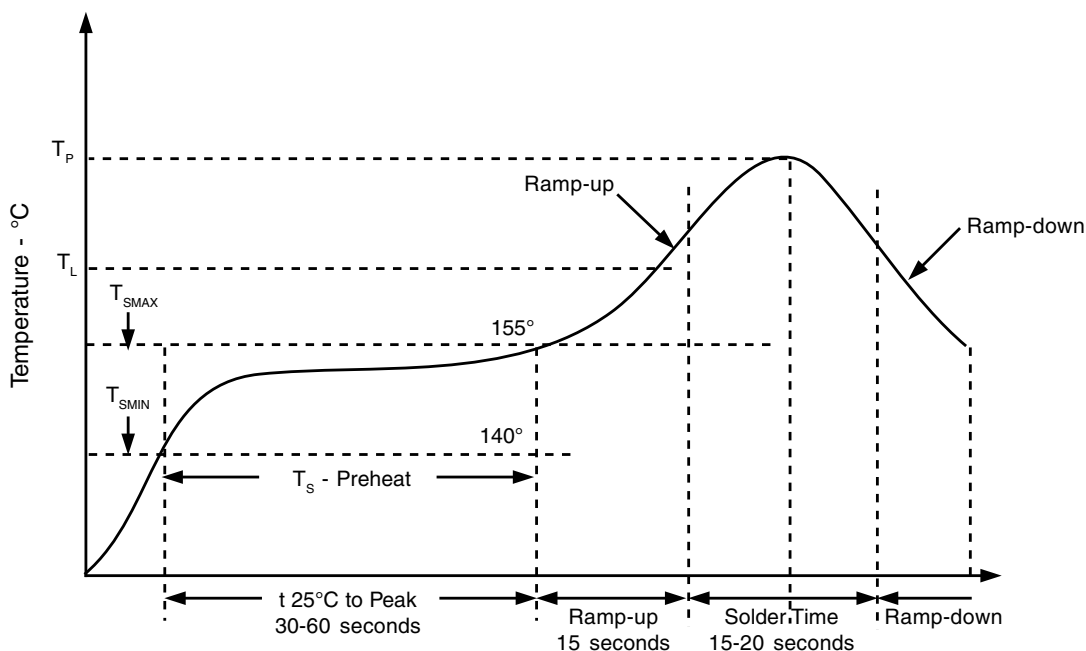
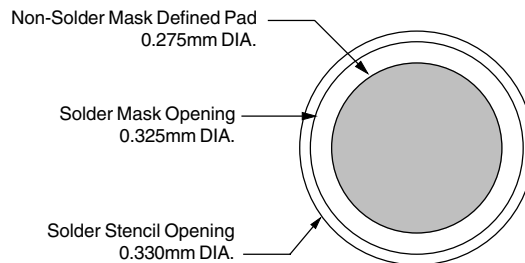


APPLICATION INFORMATION

PRINTED CIRCUIT BOARD RECOMMENDATIONS	
PARAMETER	VALUE
Pad Size on PCB	0.275mm
Pad Shape	Round
Pad Definition	Non-Solder Mask Defined Pads
Solder Mask Opening	0.325mm Round
Solder Stencil Thickness	0.150mm
Solder Stencil Aperture Opening (laser cut, 5% tapered walls)	0.330mm Round
Solder Paste Type	No Clean
Pad Protective Finish	OSP(Entek Cu Plus 106A)
Tolerance - Edge To Corner Ball	±50µm
Solder Ball Side Coplanarity	±20µm
Maximum Dwell Time Above Liquidous (183°C)	60 Seconds
Soldering Maximum Temperature	270°C

REQUIREMENTS
<p>Temperature:</p> <p>T_p for Lead-Free (SnAgCu): 260-265°C</p> <p>T_p for Tin-Lead: 240-245°C</p> <p>Preheat time and temperature depends on solder paste and flux activation temperature, component size, weight, surface area & plating.</p>

RECOMMENDED NON-SOLDER MASK DEFINED PAD ILLUSTRATION



PACKAGE OUTLINE & DIMENSIONS

PACKAGE OUTLINE

PACKAGE DIMENSIONS

DIM	INCHES			MILLIMETERS		
	MIN	NOR	MAX	MIN	NOR	MAX
A	0.023	0.024	0.025	0.58	0.61	0.64
B	0.038	0.040	0.042	0.97	1.02	1.07
C	0.018	0.020	0.022	0.46	0.51	0.56
D	0.010	0.012	0.014	0.25	0.30	0.36
E	0.012	0.014	0.016	0.30	0.36	0.41
F	0.010	0.012	0.014	0.25	0.30	0.36
H	0.011	0.012	0.013	0.28	0.30	0.33

NOTES

- Controlling dimensions in inches.
- Decimal tolerances for mounting pad : $\pm 0.003"$ ($\pm 0.08\text{mm}$).
- Maximum size: $0.052"$ (1.321mm) by $0.036"$ (0.914mm).

MOUNTING PAD

PAD DIMENSIONS

DIM	MILLIMETERS	INCHES
A	0.762 ± 0.025	0.030 ± 0.001
B	0.356 ± 0.025	0.014 ± 0.001
C	0.381 ± 0.025	0.015 ± 0.001
E	1.473 ± 0.050	0.058 ± 0.002
F	0.559 ± 0.025	0.022 ± 0.001

TAPE & REEL ORDERING NOMENCLATURE

- Surface mount product is taped and reeled in accordance with EIA 481.
- 8mm Plastic Tape: 7 Inch Reels - 5,000 pieces per reel. Ordering Suffix: -T75-1 (i.e., PRSB6.8C-T75-1).
- Suffix - LF = Lead Free Pure-Tin Plating; i.e., PRSB6.8C-LF-T75-1.

TAPE & REEL ORIENTATION

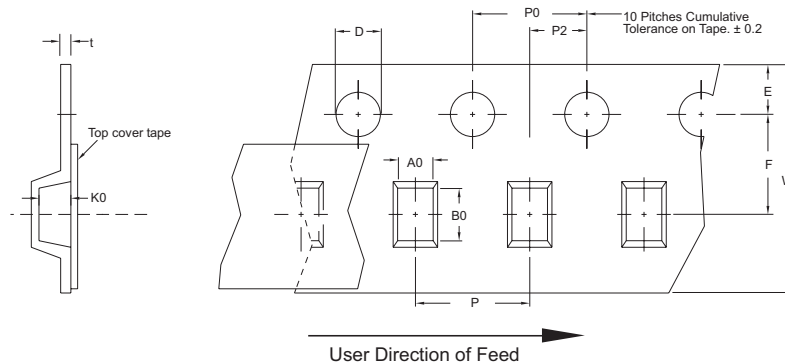
NOTE

- Top view of tape. Solder PADS face down in tape package.

Outline & Dimensions: Rev 0 - 4/05, 06059

Tape & Reel Specifications (Dimensions in millimeters)

Reel Dia.	Tape Width	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
178mm (7")/330mm(13")	8mm	0.80 ± 0.10	1.20 ± 0.10	0.70 ± 0.10	1.50 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.30	4.00 ± 0.10	2.00 ± 0.05	2.00 ± 0.10	0.25



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