PROTEK DEVICES

PUSB3B thru PUSB6B

STEERING DIODE/ TVS ARRAY COMBO



APPLICATIONS

✔ USB Power & Data Line Protection
✔ RS-422 & RS-485 Network Protection
✔ Computer I/O Ports
✔ Audio/Video Inputs
✔ Microcontroller Interface Protection

IEC COMPATIBILITY (EN61000-4)

✔ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
✔ 61000-4-4 (EFT): 40A - 5/50ns
✔ 61000-4-5 (Surge): 24A, 8/20µs - Level 2(Line-Gnd) & Level 3(Line-Line)

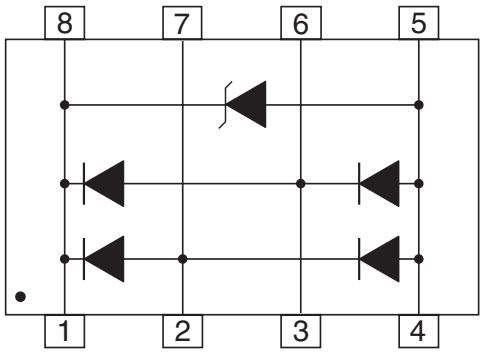
FEATURES

✔ 500 Watts Peak Pulse Power per Line (tp=8/20µs)
✔ ESD Protection > 40 kilovolts
✔ Protects Two (2) I/O Ports and Bus Lines
✔ Available in 2 Voltage Types 3.3V & 5V
✔ Low Capacitance: 15pF
✔ RoHS Compliant

MECHANICAL CHARACTERISTICS

✔ Molded JEDEC SO-8
✔ Weight 70 milligrams (Approximate)
✔ Available in Lead-Free Pure-Tin Plating(Annealed)
✔ Solder Reflow Temperature:
Pure-Tin - Sn, 100: 260-270°C
✔ Consult Factory for Leaded Device Availability
✔ Flammability Rating UL 94V-0
✔ 12mm Tape and Reel Per EIA Standard 481
✔ Marking: Marking Code, Logo, Date Code & Pin One Defined By Dot on Top of Package

PIN CONFIGURATION



DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (t_p = 8/20µs) - See Figure 1	P_{PP}	500	Watts
Operating Temperature	T_L	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified							
PART NUMBER (See Note 1)	DEVICE MARKING CODE	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ I_P = 1A V_C VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @8/20µs V_C @ I_{PP}	MAXIMUM LEAKAGE CURRENT @V_{WM} I_D µA	MAXIMUM CAPACITANCE @0V, 1 MHz $C_{j(SD)}$ pF
PUSB3B	PRQ	3.3	4.0	6.0	12.9V @ 37A	125	15
PUSB6B	PRR	5.25	6.0	7.0	13.2V @ 35A	10	15

Note 1: Electrical specifications refer to pins 1 to pin 4 or pin 5 to pin 8.

GRAPHS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

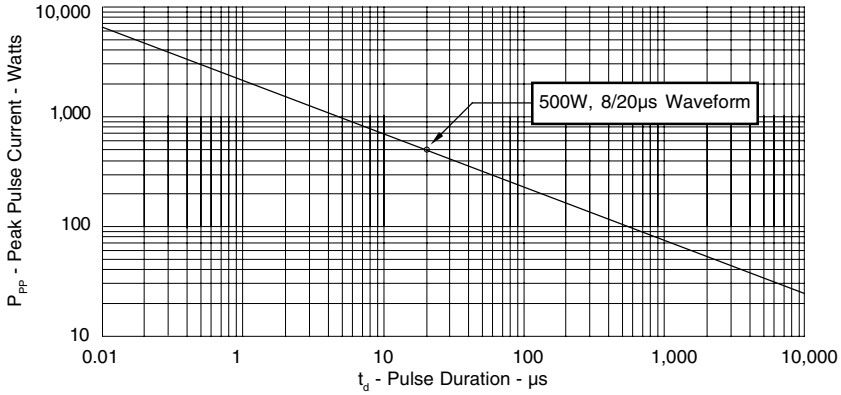


FIGURE 2
PULSE WAVE FORM

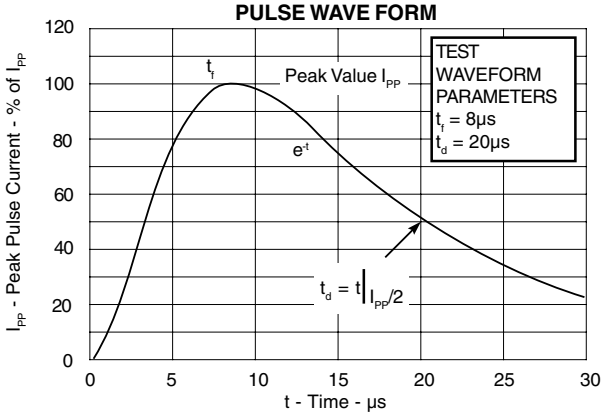
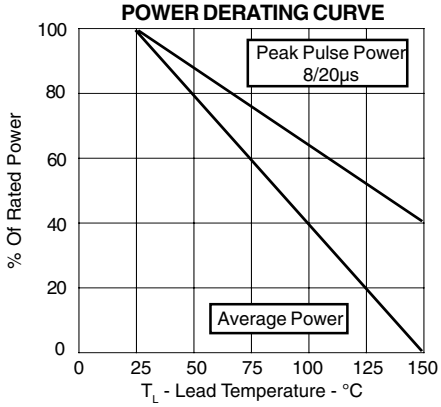
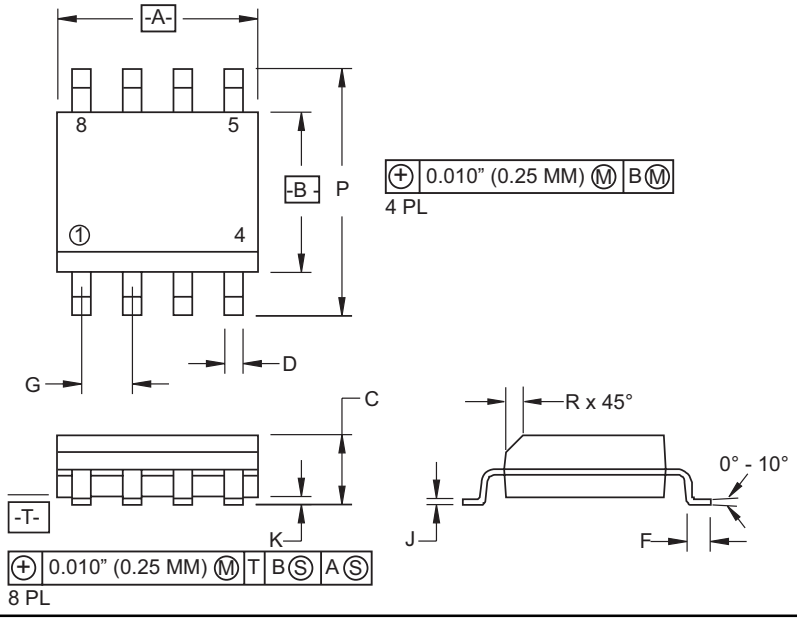


FIGURE 3
POWER DERATING CURVE

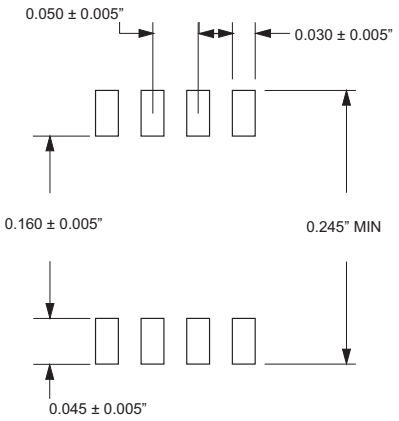


SO-8 PACKAGE OUTLINE & DIMENSIONS

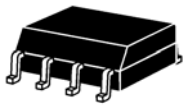
PACKAGE OUTLINE



MOUNTING PAD



SO-8



PACKAGE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.80	5.00	0.189	0.196
B	3.80	4.00	0.150	0.157
C	1.35	1.75	0.054	0.068
D	0.35	0.49	0.014	0.019
F	0.40	1.250	0.016	0.049
G	1.27 BSC	1.27 BSC	0.05 BSC	0.05 BSC
J	0.18	0.25	0.007	0.009
K	0.10	0.25	0.004	0.008
P	5.80	6.20	0.229	0.244
R	0.25	0.50	0.010	0.019

NOTES

1. - T - = Seating Plane and Datum Surface.
2. Dimensions "A" and "B" are Datum.
3. Dimensions "A" and "B" do not include mold protrusion.
4. Maximum mold protrusion is 0.015" (0.380 mm) per side.
5. Dimensioning and tolerances per ANSI Y14.5M, 1982.
6. Dimensions are exclusive of mold flash and metal burrs.

TAPE & REEL/BULK ORDERING NOMENCLATURE

1. Surface mount product is taped and reeled in accordance with EIA-481.
2. Suffix-T7 = 7 Inch Reel - 1,000 pieces per 12mm tape, i.e. PUSB3B-T7.
3. Suffix-T13 = 13 Inch Reel - 2,500 pieces per 12mm tape, i.e., PUSB3B-T13.
4. Suffix - LF = Lead-Free, Pure-Tin Plating, i.e., PUSB3B-LF-T7.
5. No Suffix = Product Shipped in Tubes of 98 pcs per Tube.

Outline & Dimensions: Rev 1 - 11/01, 06009

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