

## STEERING DIODE ARRAY

### APPLICATIONS

- ✓ USB Interface Ports
- ✓ Cellular Phones
- ✓ Set Top Box Interface
- ✓ Sensor Interface
- ✓ Video Interface Ports
- ✓ Handheld Electronics
- ✓ Desktop Computers
- ✓ Personal Digital Assistant (PDA)

### IEC COMPATIBILITY (EN61000-4)

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

### FEATURES

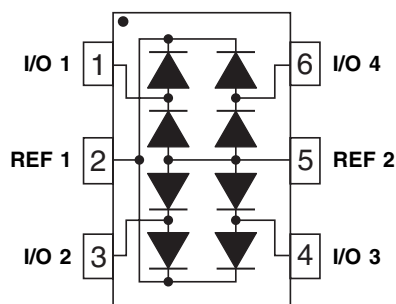
- ✓ ESD Protection > 25 kilovolts
- ✓ 500 Milliwatt Continuous Power Dissipation
- ✓ Provides Four (4) Lines of Protection
- ✓ Low Leakage Current < 1.0 $\mu$ A
- ✓ Ultra Low Capacitance: 5pF per Diode
- ✓ RoHS Compliant

### MECHANICAL CHARACTERISTICS

- ✓ Molded JEDEC SOT-23-6 Package
- ✓ Weight 16 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
- ✓ 8mm Tape and Reel Per EIA Standard 481
- ✓ Marking: Marking Code & Pin One Defined By Dot on Top of Package



### PIN CONFIGURATION



## DEVICE CHARACTERISTICS

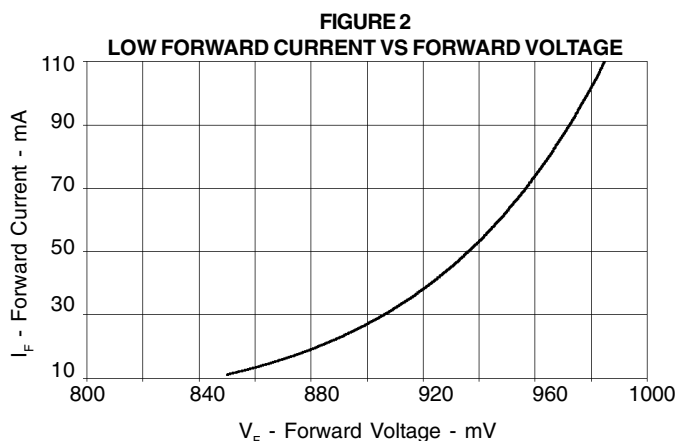
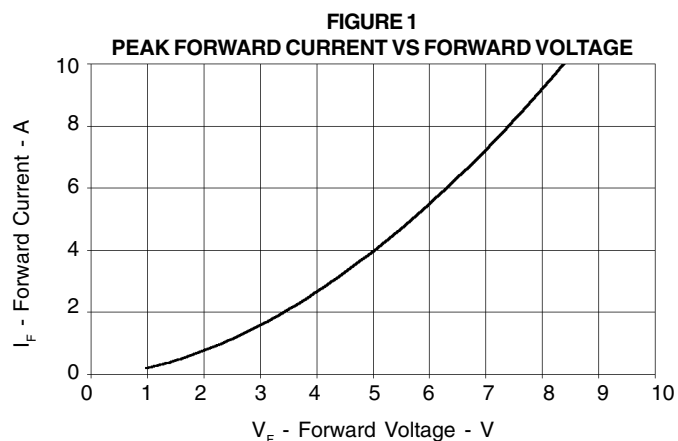
### MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

| PARAMETER  | SYMBOL    | VALUE      | UNITS |
|--|-----------|------------|-------|
| Operating Temperature  | $T_A$     | -55 to 150 | °C    |
| Storage Temperature  | $T_{STG}$ | -55 to 150 | °C    |
| Continuous Power Dissipation   | $P_{PC}$  | 500        | mW    |
| Repetitive Peak Forward Current @ $t_p=5\mu s$ , $F=50kHz$ (Pin 2-3) | $I_{FRM}$ | 700        | mA    |

### ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

| PART NUMBER | DEVICE MARKING CODE | REPETITIVE PEAK REVERSE VOLTAGE<br><br>@ 10 $\mu A$<br>$V_{RRM}$<br>VOLTS | MAXIMUM REVERSE LEAKAGE CURRENT (PER DIODE)<br>$V_{RRM}$ @ 5V<br>$I_R$<br>$\mu A$ | TYPICAL FORWARD VOLTAGE<br><br>@ 50mA<br>$V_F$<br>VOLTS | MAXIMUM CAPACITANCE (See Note 1)<br><br>$C_j$<br>pF |
|-------------|---------------------|---|---|---|---|
| USB208      | PSB                 | 20  | 1   | 1.2   | 5   |

**Note 1:** Apply a 5V bias between pins 2 (REF 1) to pin 5 (REF 2). Measure  $C_j$  between any I/O pins to pin 5 (REF 2) and divide by two.



## SOT-23-6 PACKAGE OUTLINE & DIMENSIONS

### PACKAGE OUTLINE

### SOT-23-6

#### PACKAGE DIMENSIONS

| DIM | MILLIMETERS |          | INCHES    |           |
|-----|-------------|----------|-----------|-----------|
|     | MIN         | MAX      | MIN       | MAX       |
| A   | 2.80        | 3.05     | 0.110     | 0.120     |
| B   | 1.50        | 1.75     | 0.059     | 0.070     |
| C   | 0.90        | 1.30     | 0.036     | 0.051     |
| D   | 0.35        | 0.50     | 0.014     | 0.020     |
| E   | 0.85        | 1.05     | 0.033     | 0.040     |
| F   | 1.70        | 2.10     | 0.067     | 0.083     |
| G   | 0.90        | 1.45     | 0.036     | 0.057     |
| J   | 0.09        | 0.20     | 0.003     | 0.008     |
| K   | 2.60        | 3.00     | 0.102     | 0.118     |
| L   | 0.20 TYP    | 0.20 TYP | 0.007 TYP | 0.007 TYP |
| M   | 0.35        | 0.55     | 0.014     | 0.022     |

### MOUNTING PAD

| TYPICAL |             |        |
|---------|-------------|--------|
| DIM     | Millimeters | Inches |
| 1       | 0.70        | 0.028  |
| 2       | 1.90        | 0.074  |
| 3       | 0.95        | 0.037  |
| 4       | 2.40        | 0.094  |
| 5       | 1.00        | 0.039  |

### NOTES

- Dimensioning and tolerances per ANSI Y14.5M, 1985.
- Controlling Dimension: Inches
- Dimensions are exclusive of mold flash and metal burrs.

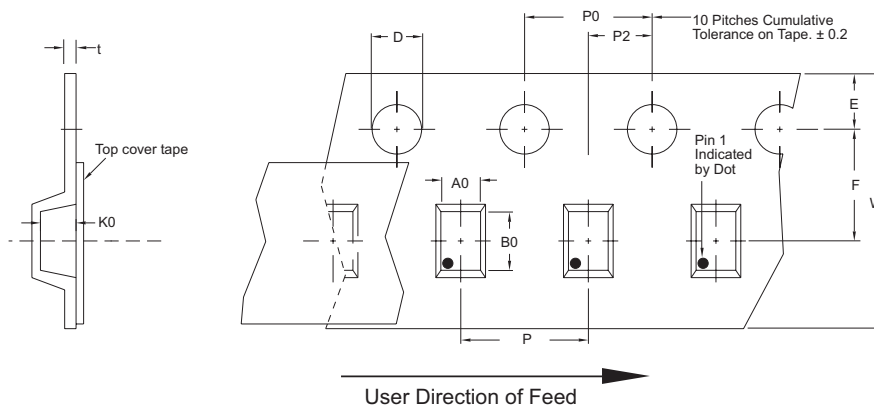
#### TAPE & REEL/BULK ORDERING NOMENCLATURE

- Surface mount product is taped and reeled in accordance with EIA-481.
- Suffix -T7 = 7 Inch Reel - 3,000 pieces per 8mm tape, i.e., *USB208-T7*
- Suffix -LF = Lead-Free, Pure-Tin Plating, i.e., *USB208-LF-T7*.

**Outline & Dimensions: Rev 2 - 10/05, 06013**

### Tape & Reel Specifications (Dimensions in millimeters)

| Reel Dia.  | Tape Width | A0          | B0          | K0          | D           | E           | F           | W           | P0          | P2          | P           | tmax |
|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------|
| 178mm (7") | 8mm        | 3.20 ± 0.10 | 3.20 ± 0.10 | 1.65 ± 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 | 4.00 ± 0.10 | 0.25 |



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**ProTek Devices**  
 2929 South Fair Lane, Tempe, AZ 85282  
 Tel: 602-431-8101 Fax: 602-431-2288  
 E-Mail: [sales@protekdevices.com](mailto:sales@protekdevices.com)  
 Web Site: [www.protekdevices.com](http://www.protekdevices.com)