# ESDA05CW

**Bidirectional TVS Diode for Protection of One Line**

## APPLICATIONS

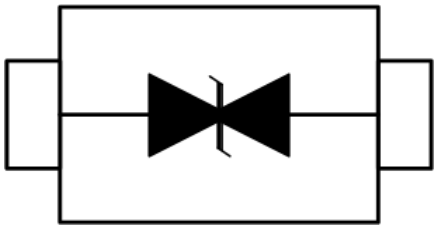
- Cellular Handsets and Accessories
- High Speed I/O Lines
- Notebooks & Handhelds
- Peripherals
- Personal Digital Assistants (PDA)
- Servers, Notebook, and Desktop PC

**SOD-323**

## IEC COMPATIBILITY

- IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50 $\eta$ s)

**PIN CONFIGURATION**



## FEATURES

- 100 Watts Peak Pulse Power per Line (tp=8/20μs)
- Protects One I/O Line (Bidirection)
- Low Clamping Voltage
- Working Voltages : 5.0V
- Low Leakage Current

## MECHANICAL CHARACTERISTICS

- SOD-323 Package
- Molding Compound Flammability Rating : UL 94V-O
- Weight 4.7 Millgrams (Approximate)
- Quantity Per Reel : 3,000pcs
- Reel Size : 7 inch
- Lead Finish : Lead Free

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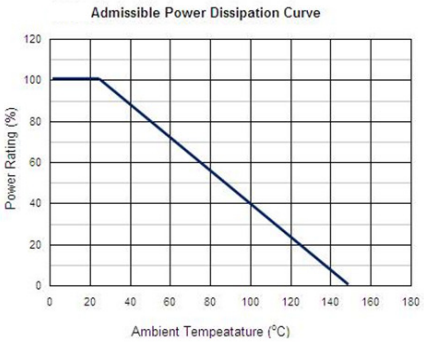
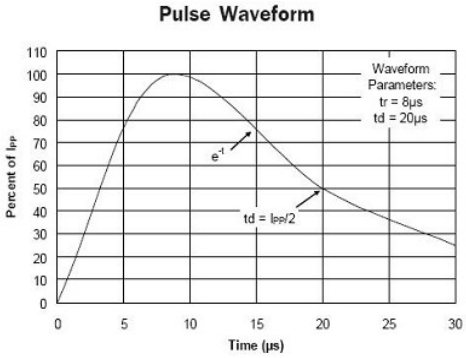
## DEVICE CHARACTERISTICS

| MAXIMUM RATINGS (@ 25℃ Unless Otherwise Specified) | | | |
|---|---|---|---|
| PARAMETER | SYMBOL | VALUE | UNITS |
| Peak Pulse Power (tp=8/20μs waveform) | $P_{PP}$ | 100 | Watts |
| Lead Soldering Temperature | $T_L$ | 260 (10 sec.) | ℃ |
| Operating Temperature Range | $T_J$ | -55 ~ 150 | ℃ |
| Storage Temperature Range | $T_{STG}$ | -55 ~ 150 | ℃ |

| ELECTRICAL CHARACTERISTICS PER LINE (@ 25℃ Unless Otherwise Specified) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| PART NUMBER | DEVICE MARKING | $V_{RWM}$ (V) (max.) | $V_B$ (V) (min.) | $I_T$ (mA) | $V_C$ @1A (max.) | $V_C$ (max.) | $V_C$ (@A) | $I_R$ (μA) (max.) | $C_T$ (pF) (typ.) |
| ESDA05CW | C05 | 5 | 6 | 1 | 12 | 20 | 5 | 1 | 10 |



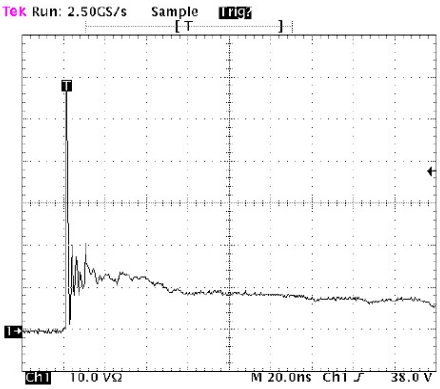




Figure 1. ESD Clamping Voltage Screenshot
Positive 8 kV contact per IEC 61000-4-2

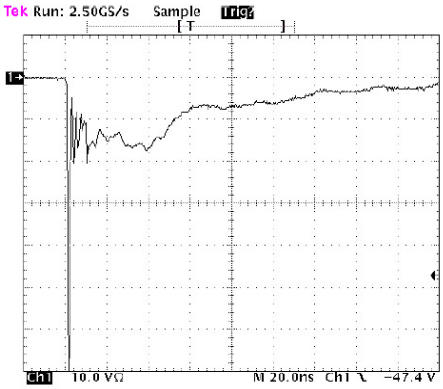
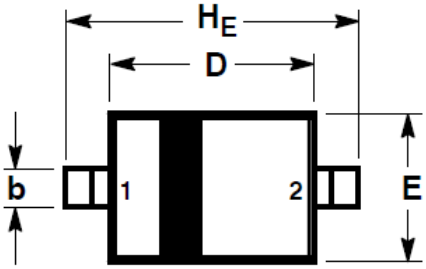
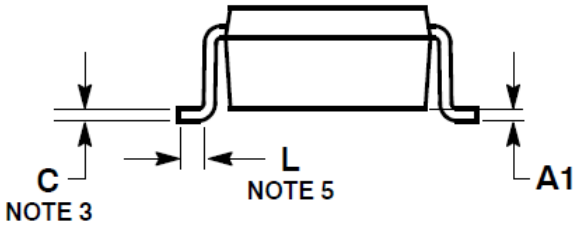


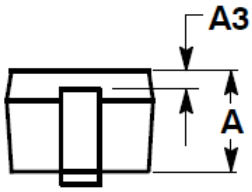

Figure 2. ESD Clamping Voltage Screenshot
Negative 8 kV contact per IEC 61000-4-2

# ESDA05CW

## SOD-323 PACKAGE OUTLINE & DIMENSIONS



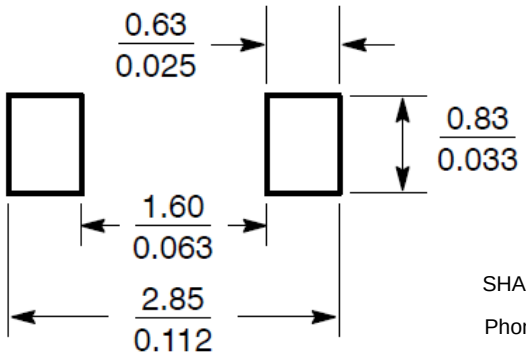




NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.
4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
5. DIMENSION L IS MEASURED FROM END OF RADIUS.

| | MILLIMETERS | | | INCHES | | |
|---|---|---|---|---|---|---|
| DIM | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 0.80 | 0.90 | 1.00 | 0.031 | 0.035 | 0.040 |
| A1 | 0.00 | 0.05 | 0.10 | 0.000 | 0.002 | 0.004 |
| A3 | 0.15 REF | | | 0.006 REF | | |
| b | 0.25 | 0.32 | 0.4 | 0.010 | 0.012 | 0.016 |
| C | 0.089 | 0.12 | 0.177 | 0.003 | 0.005 | 0.007 |
| D | 1.60 | 1.70 | 1.80 | 0.062 | 0.066 | 0.070 |
| E | 1.15 | 1.25 | 1.35 | 0.045 | 0.049 | 0.053 |
| L | 0.08 | | | 0.003 | | |
| $H_E$ | 2.30 | 2.50 | 2.70 | 0.090 | 0.098 | 0.105 |

## * SOLDERING FOOTPRINT





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