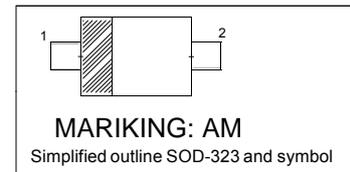


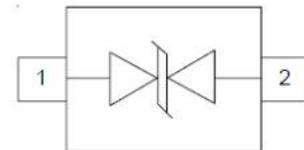
LIN bus ESD protection diode
FEATURES

- 2 5 0 W (8/20 μ s) Peak Pulse Power
- Low Capacitance ESD Protection
- SOD-323 Package
- RoHS Compliant
- Matte Tin Lead finish (Pb-Free)
- Protect One High Speed Data Line
- Meet IEC61000-4-2 Level 4:
 - Contact Discharge > 2 0 kV
 - Air Discharge > 2 0 kV

PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | Cathode |
| 2 | Anode |


Circuit Diagram

PIN Diagram

APPLICATIONS

- Communication System
- Portable Instrumentation
- Audio and Video Equipment
- Computers and Peripherals
- USB 1.1, USB 1.0 Ports

ABSOLUTE RATINGS(Ta = 25° C)

| Symbol | Parameter | Value | Unit |
|----------------|--------------------------------------|-------------|------|
| PPK | Peak Pulse Power | 250 | W |
| IPP | Peak Pulse Current | 5 | A |
| VESD (Contact) | Contact ESD Voltage per IEC61000-4-2 | 20 | kV |
| VESD (Air) | Air ESD Voltage per IEC61000-4-2 | 20 | kV |
| TJ | Junction Temperature | -55 to +150 | °C |
| TSTG | Storage Temperature | -55 to +150 | °C |

ELECTRICAL CHARACTERISTICS (Ta=25°C)

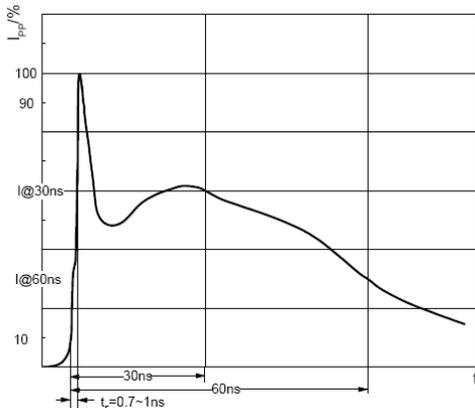
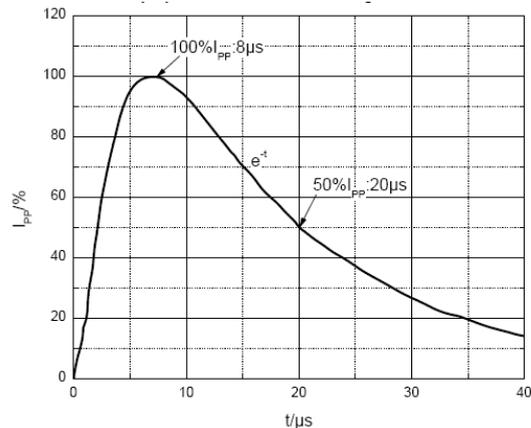
| Symbol | Parameter | Test Condition | Pin 1 to Pin 2 (15V TVS) | | | Pin 2 to Pin 1 (24V TVS) | | | Units |
|-----------|---------------------------|-------------------------------------|--------------------------|-----|-----|--------------------------|-----|-----|---------|
| | | | Min | Typ | Max | Min | Typ | Max | |
| V_{RWM} | Reverse Working Voltage | | | | 15 | | 24 | | V |
| V_{BR} | Reverse Breakdown Voltage | $I_T = 1mA$ | 16 | | 19 | 26.5 | | 31 | V |
| I_R | Reverse Leakage Current | $V_R = V_{RWM}$ | | | 0.2 | | | 0.2 | μA |
| V_{C1} | Clamping Voltage 1 | $I_{PP} = 1A,$ $t_p = 8/20\mu s$ | | | 22 | | | 38 | V |
| V_{C2} | Clamping Voltage 2 | $I_{PP} = 5A,$ $t_p = 8/20\mu s$ | | | 35 | | | 51 | V |
| C_{J1} | Junction Capacitance 1 | $V_R = 0V,$ $f = 1MHz$ | | | 45 | | | 32 | pF |
| C_{J2} | Junction Capacitance 2 | $V_R = V_{RWM},$ $f = 1MHz$ | | 23 | | | 20 | | pF |

ESD standards compliance
IEC61000-4-2 Standard

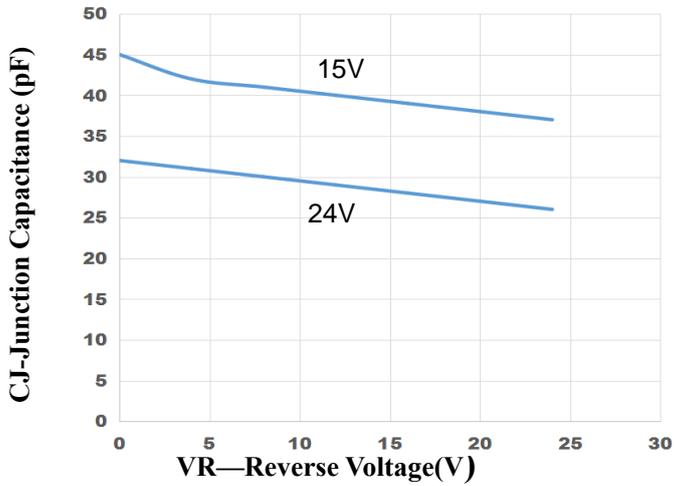
| Contact Discharge | | Air Discharge | |
|-------------------|-----------------|---------------|-----------------|
| Level | Test Voltage kV | Level | Test Voltage kV |
| 1 | 2 | 1 | 2 |
| 2 | 4 | 2 | 4 |
| 3 | 6 | 3 | 8 |
| 4 | 8 | 4 | 15 |

JESD22-A114-B Standard

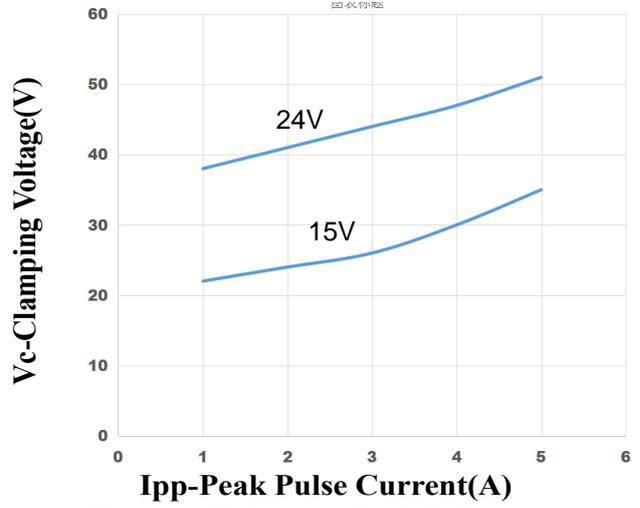
| ESD Class | Human Body Discharge V |
|-----------|------------------------|
| 0 | 0~249 |
| 1A | 250~499 |
| 1B | 500~999 |
| 1C | 1000~1999 |
| 2 | 2000~3999 |
| 3A | 4000~7999 |
| 3B | 8000~15999 |


ESD pulse waveform according to IEC61000-4-2

8/20µs pulse waveform according to IEC 61000-4-5

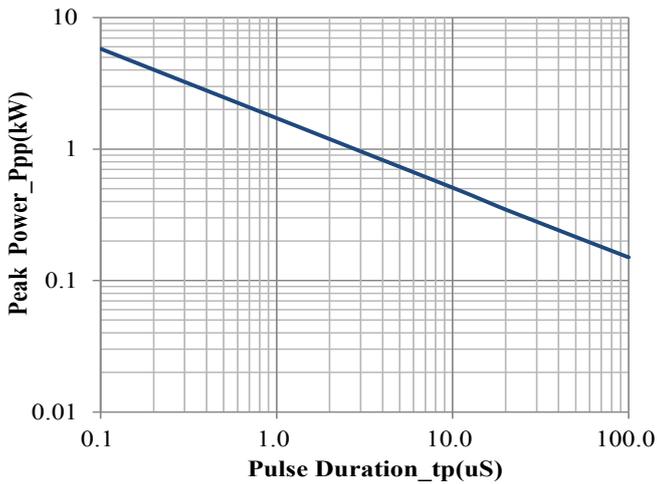
ELECTRICAL CHARACTERISTICS CURVE



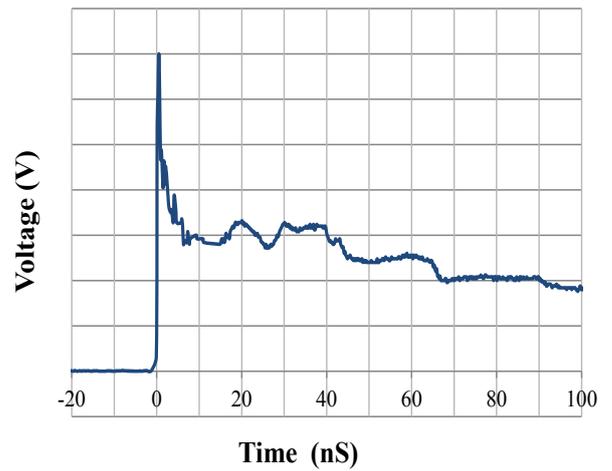
Junction Capacitance vs. Reverse Voltage



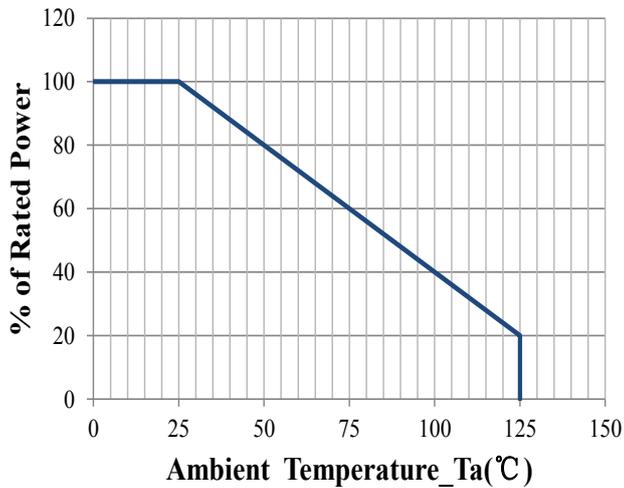
Clamping Voltage vs. Peak Pulse Current



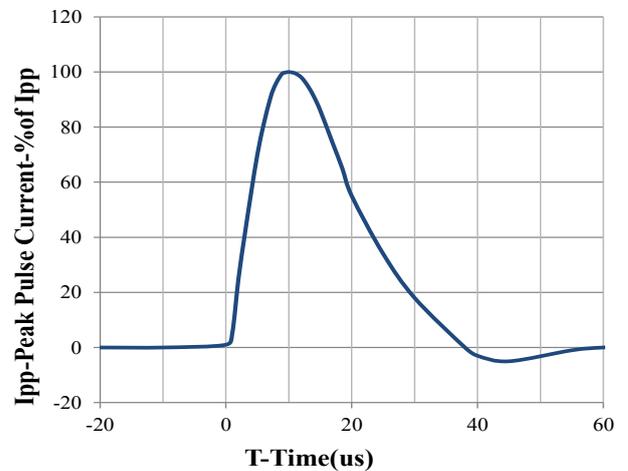
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



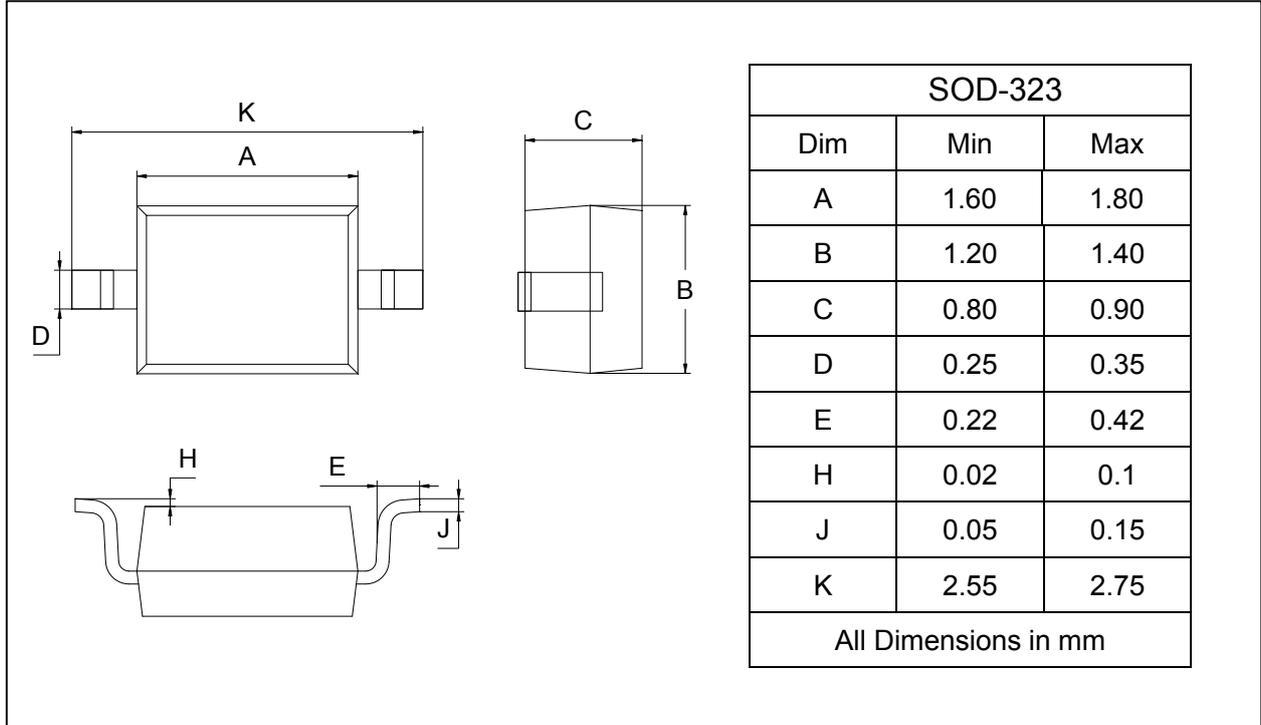
Power Derating Curve



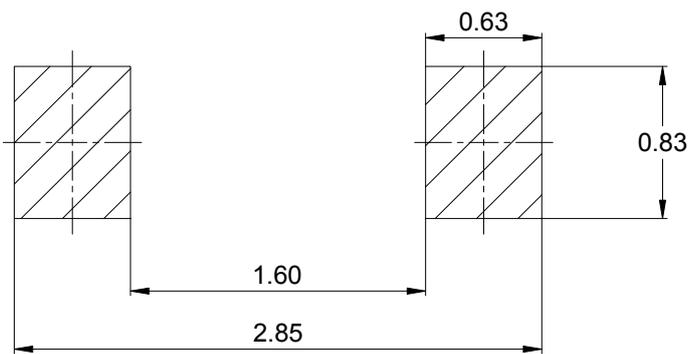
8 X 20us Pulse Waveform

Plastic surface mounted package

SOD-323



SOLDERING FOOTPRINT



Unit : mm