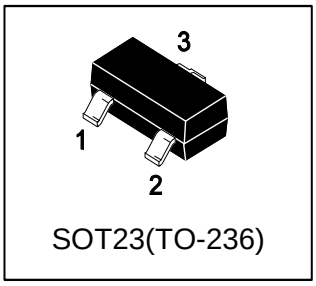
# S-LESD23D24CLT1G

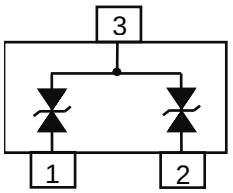
ESD Protection Diodes



SOT23(TO-236)

## 1. FEATURES

- Low Leakage
- ESD protection
- Complies with IEC 61000-4-2 standards:Air discharge:± 24kV
  Contact discharge:± 20kV
- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S-prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.




## 2. DEVICE MARKING AND ORDERING INFORMATION

| Device | Marking | Shipping |
|---|---|---|
| S-LESD23D24CLT1G | XV | 3000/Tape&Reel |

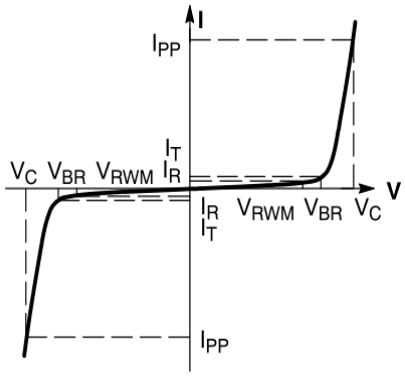
## 3. MAXIMUM RATINGS(Ta = 25ºC)

| Parameter | | Symbol | Limits | Unit |
|---|---|---|---|---|
| IEC 61000−4−2 (ESD) | Contact<br>Air | | ± 20<br>± 24 | kV |
| peak pulse power@8/20 μs(Note 1) | | PPP | 120 | W |
| peak pulse current @8/20 μs(Note 1) | | IPP | 3 | A |
| Storage Temperature Range | | Tstg | −55～+150 | ºC |
| Operating Temperature Range | | TJ | −55～+150 | ºC |

Note 1.Surge current waveform per Figure 1 according to IEC 61000-4-5.

## 4. ELECTRICAL CHARACTERISTICS (Ta= 25ºC)

| Symbol | Parameter |
|---|---|
| IPP | Maximum Reverse Peak Pulse Current |
| VC | Clamping Voltage @ IPP |
| VRWM | Working Peak Reverse Voltage |
| IR | Maximum Reverse Leakage Current @ VRWM |
| VBR | Breakdown Voltage @ IT |
| IT | Test Current |
| Ppk | Peak Power Dissipation |
| C | Capacitance @ VR = 0 and f = 1.0 MHz |




## 5. ELECTRICAL CHARACTERISTICS (Ta= 25ºC)

| Characteristic | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Reverse stand-off voltage | VRWM | | | | 24 | V |
| Breakdown Voltage | VBR | IT = 1mA | 26 | | 31 | V |
| Reverse leakage current | IR | VR = 24V | | | 0.05 | µA |
| Clamping Voltage(Note 1) | VC | IPP = 1A, tp=8/20µs<br>IPP = 3A, tp=8/20µs | | | 35<br>40 | V |
| Junction Capacitance | Cj | VR = 0V, f = 1MHz | | | 15 | pF |

Note 1.Surge current waveform per Figure 1 according to IEC 61000-4-5.

## 6. ELECTRICAL CHARACTERISTICS CURVES

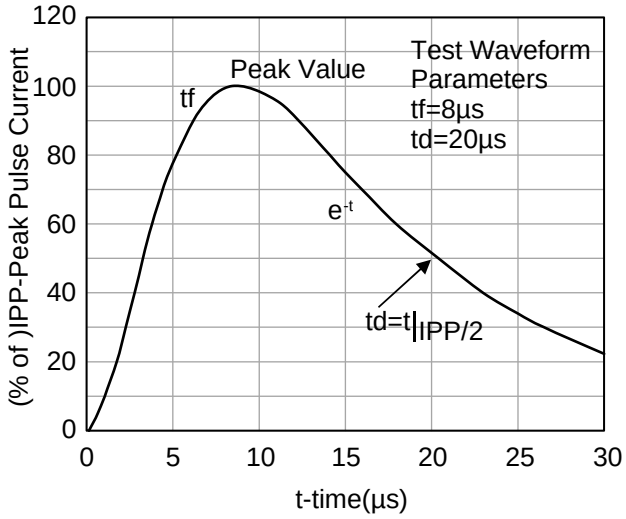



Figure 1. Pulse Waveform
according to IEC 61000-4-5

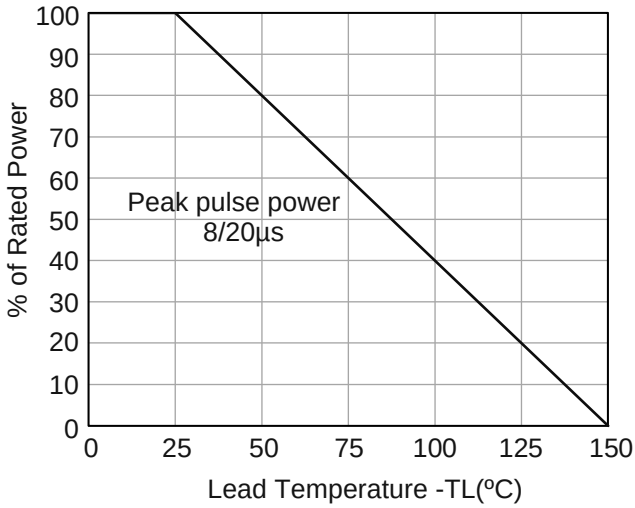



Figure 2. Power Derating Curve

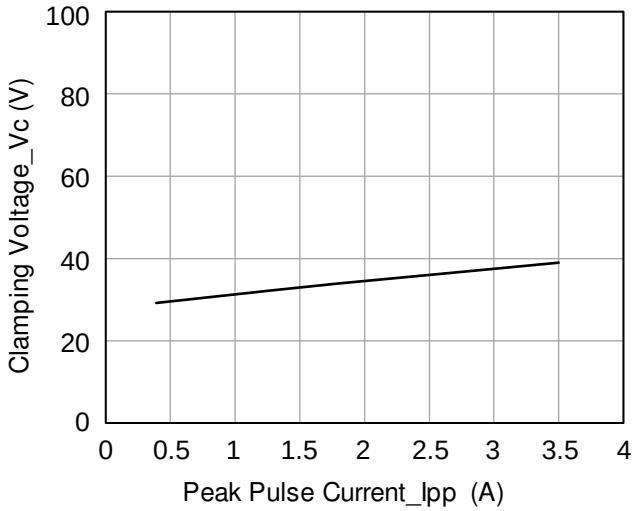



Figure 3.Clamping Voltage vs.Peak Pulse Current
according to IEC 61000-4-5.

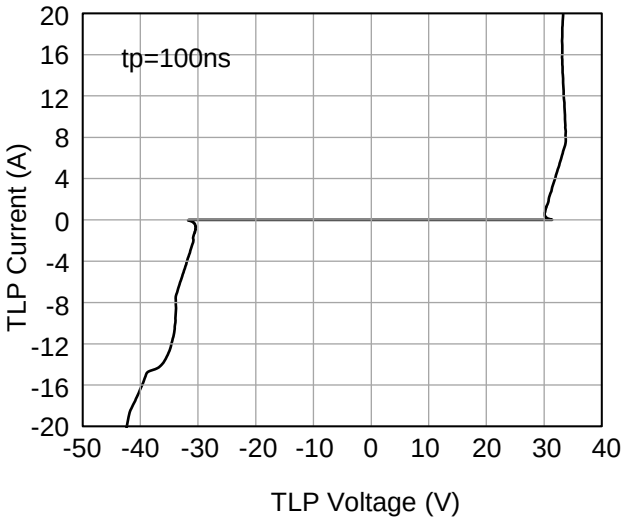



Figure 4. TLP Measurement

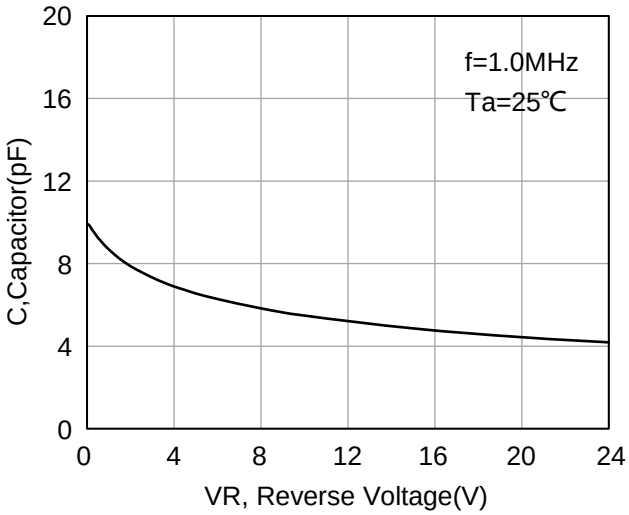
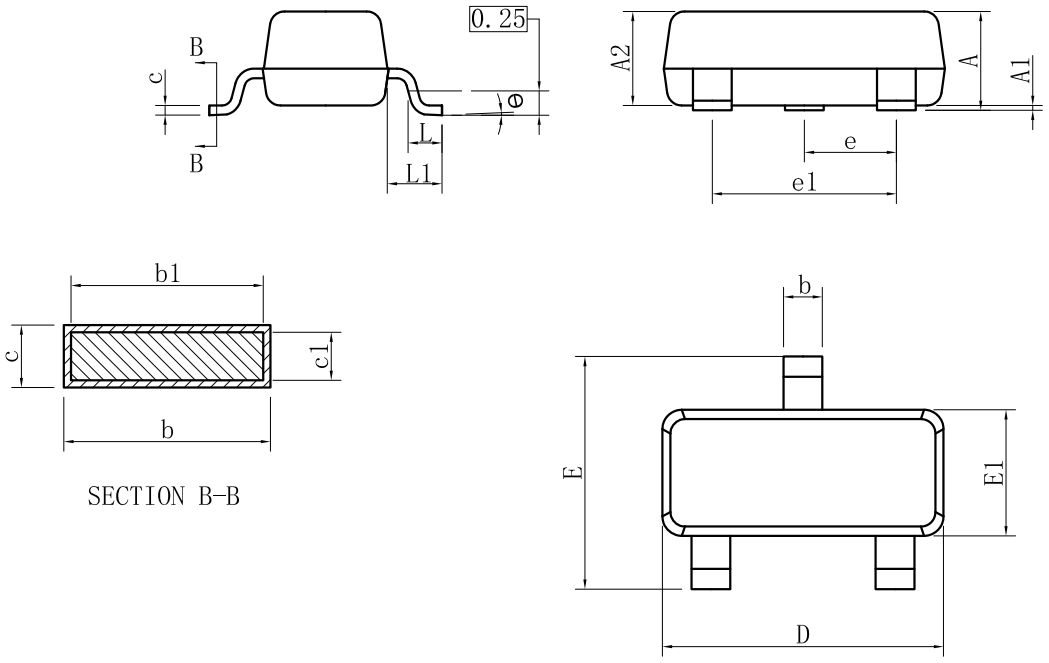



Figure 5. Capacitor Characteristics

## 7.OUTLINE AND DIMENSIONS

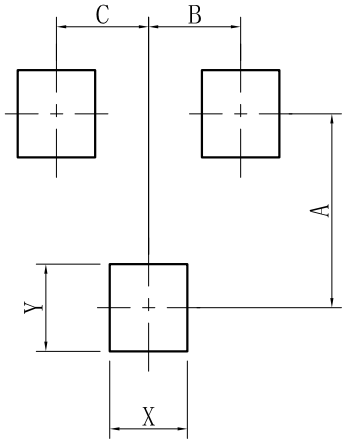



| SOT23 | | | |
|---|---|---|---|
| DIM | MIN | NOR | MAX |
| A | 0.89 | - | 1.12 |
| A1 | 0.01 | - | 0.10 |
| A2 | 0.88 | 0.95 | 1.02 |
| b | 0.30 | - | 0.50 |
| b1 | 0.30 | 0.40 | 0.45 |
| c | 0.08 | - | 0.20 |
| c1 | 0.08 | 0.10 | 0.16 |
| D | 2.80 | 2.90 | 3.04 |
| E | 2.10 | - | 2.64 |
| E1 | 1.20 | 1.30 | 1.40 |
| e | 0.95BSC | | |
| e1 | 1.90BSC | | |
| L | 0.40 | 0.46 | 0.60 |
| L1 | 0.54REF | | |
| θ | 0° | - | 8° |
| All Dimensions in mm | | | |

GENERAL NOTES

1. Top package surface finish Ra0.4±0.2um
2. Bottom package surface finish Ra0.7±0.2um
3. Side package surface finish Ra0.4±0.2um

## 8.SOLDERING FOOTPRINT




| SOT-23 | |
|---|---|
| DIM | (mm) |
| X | 0.80 |
| Y | 0.90 |
| A | 2.00 |
| B | 0.95 |
| C | 0.95 |

## DISCLAIMER

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.

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