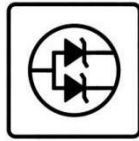
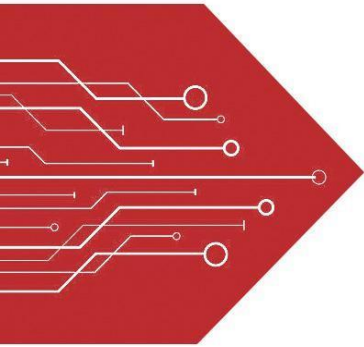
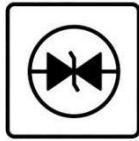


MSKSEMI

SEMICONDUCTOR



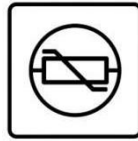
ESD



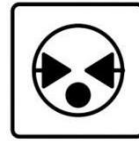
TVS



TSS



MOV



GDT



PLED

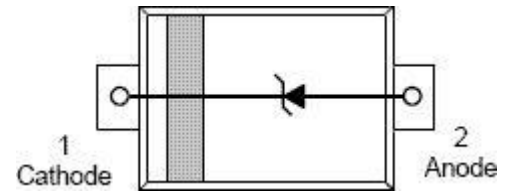
Product data sheet

Applications

- Cellular phones
- Portable devices
- Digital cameras
- Power supplies

Features

- Small Body Outline Dimensions
- Low Body Height
- Peak Power up to 200 Watts @ 8 x 20 μ s Pulse
- Low Leakage
- Response Time is Typically < 1 ns
- ESD Rating of Class 3 (> 16 kV) per Human Body Model
- IEC61000-4-2 Level 4 ESD Protection
- IEC61000-4-4 Level 4 EFT Protection
- We declare that the material of product compliance with RoHS requirements.



SOD-523

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified. VF = 0.9V at IF = 10mA

| Device | V _{RWM} (V) | I _R (uA) @ V _{RWM} | V _{BR} (V) @ I _T (Note 1) | I _T | V _c (V) @ I _{PP} =5 A* | V _c (V) @ Max I _{PP} * | I _{PP} (A)* | P _{PK} (W)* | C (pF) |
|-------------|----------------------|--|---|----------------|--|--|----------------------|----------------------|--------|
| | Max | Max | Min | mA | Typ | Max | Max | Max | Typ |
| ESD3V3D5-MS | 3.3 | 1.0 | 5.0 | 1.0 | 8.4 | 14.1 | 11.2 | 158 | 105 |
| ESD5V0D5-MS | 5.0 | 1.0 | 6.2 | 1.0 | 11.6 | 18.6 | 9.4 | 174 | 80 |
| ESD7V0D5-MS | 7.0 | 1.0 | 7.5 | 1.0 | 13.5 | 22.7 | 8.8 | 200 | 65 |
| ESD12VD5-MS | 12 | 1.0 | 13.5 | 1.0 | 25.5 | 30 | 5 | 150 | 55 |

Absolute Ratings (T_{amb}=25°C)

| Symbol | Parameter | Value | Units | |
|------------------|---|------------------------------------|---------------------|----|
| P _{PP} | Peak Pulse Power (t _p = 8/20 μ s) | 200 | W | |
| T _L | Maximum lead temperature for soldering during 10s | 260 | °C | |
| T _{stg} | Storage Temperature Range | -55 to +150 | °C | |
| T _{op} | Operating Temperature Range | -40 to +125 | °C | |
| T _j | Maximum junction temperature | 150 | °C | |
| | IEC61000-4-2 (ESD) | air discharge contact discharge | \pm 15 \pm 8 | KV |
| | IEC61000-4-4 (EFT) | | 40 | A |
| | ESD Voltage | Per Human Body Model | 16 | KV |

Electrical Parameter

| Symbol | Parameter |
|-----------|---|
| I_{PP} | Maximum Reverse Peak Pulse Current |
| V_C | Clamping Voltage @ I_{PP} |
| V_{RWM} | Working Peak Reverse Voltage |
| I_R | Maximum Reverse Leakage Current @ V_{RWM} |
| I_T | Test Current |
| V_{BR} | Breakdown Voltage @ I_T |

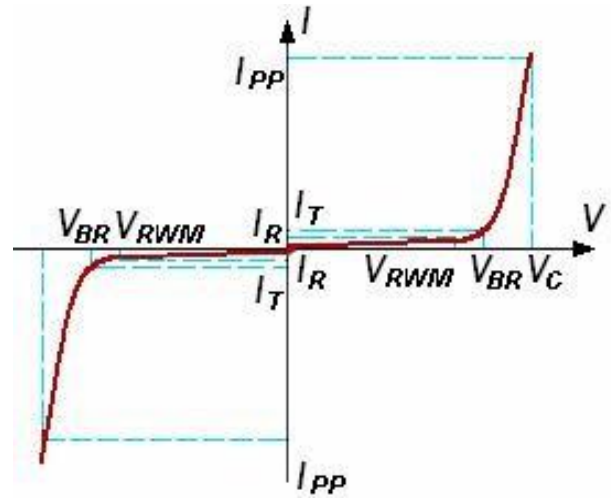


FIG1: Pulse Waveform

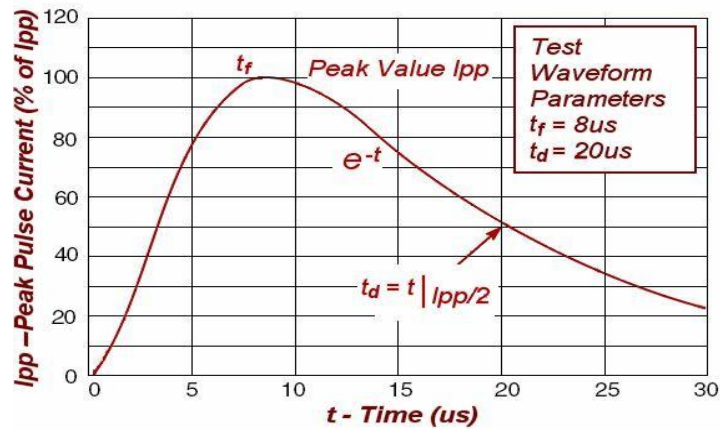
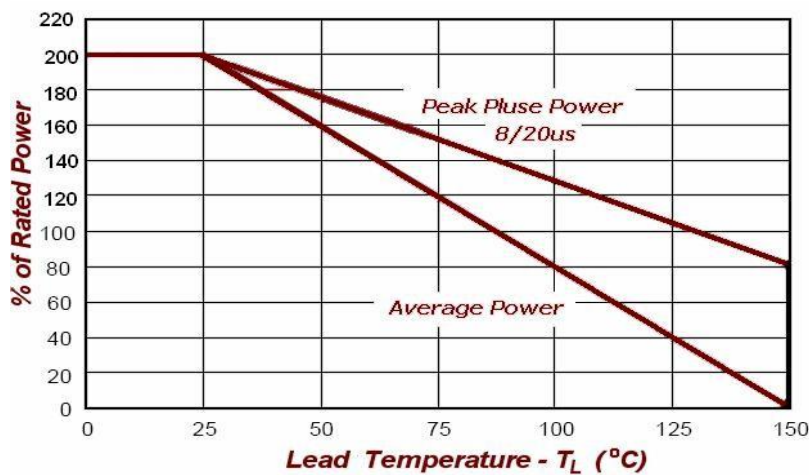
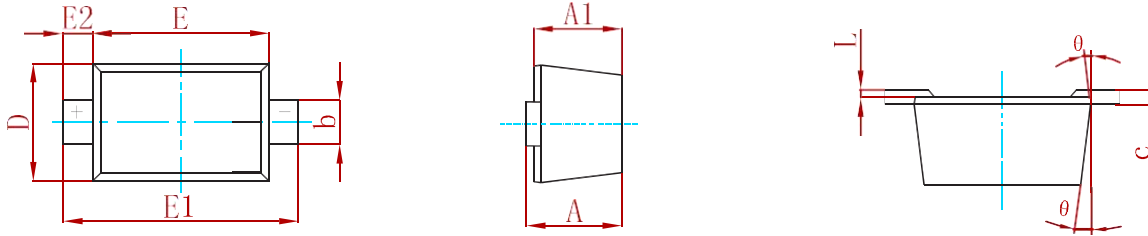


FIG2: Power Derating

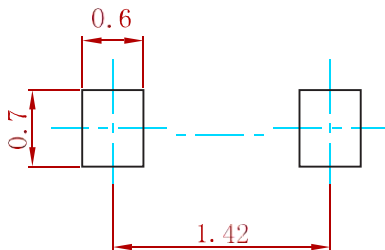


PACKAGE MECHANICAL DATA



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 0.510 | 0.770 | 0.020 | 0.031 |
| A1 | 0.500 | 0.700 | 0.020 | 0.028 |
| b | 0.250 | 0.350 | 0.010 | 0.014 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 0.750 | 0.850 | 0.030 | 0.033 |
| E | 1.100 | 1.300 | 0.043 | 0.051 |
| E1 | 1.500 | 1.700 | 0.059 | 0.067 |
| E2 | 0.200 REF | | 0.008 REF | |
| L | 0.010 | 0.070 | 0.001 | 0.003 |
| θ | 7° REF | | 7° REF | |

Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05mm.
 3. The pad layout is for reference purposes only.

REEL SPECIFICATION

| P/N | PKG | QTY |
|-------------|---------|------|
| ESDXXXD5-MS | SOD-523 | 3000 |

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