



Micro Commercial Components

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20736 Marilla Street Chatsworth
CA 91311
Phone: (818) 701-4933
Fax: (818) 701-4939

ESD3V3D5 Thru ESD12VD5

Features

- Halogen free available upon request by adding suffix "-HF"
- For sensitive ESD protection
- Excellent clamping capability
- Low leakage
- ESD rating of class 3(>16KV)per Human Body Mode
- For space saving application
- Fast response ,response time less than 1ns.
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

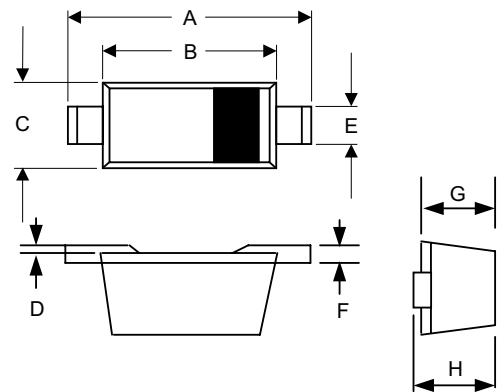
Maximum Ratings

- Operating Junction &StorageTemperature: -55°C to +150°C
- Maximum Thermal Resistance: 625°C/W Junction To Ambient

| Parameter | Symbol | Limits | unit |
|--------------------------------------------------|--------|------------|---------|
| IEC61000-4-2(ESD) Air Contact | | ±30 ±30 | KV |
| ESD Voltage per human body mode per machine mode | | 16 400 | KV V |
| Power Dissipation | Pd | 200 | mw |

3.3V~12Volts ESD Protection Devices

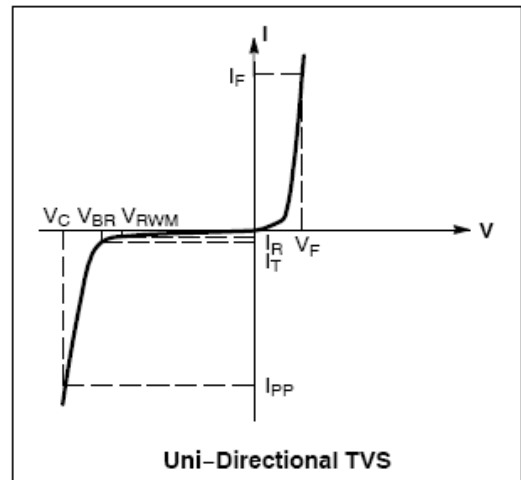
SOD523



| DIM | INCHES | | MM | | NOTE |
|-----|--------|------|------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | .059 | .067 | 1.50 | 1.70 | |
| B | .043 | .051 | 1.10 | 1.30 | |
| C | .030 | .033 | 0.75 | 0.85 | |
| D | .001 | .003 | 0.01 | 0.07 | |
| E | .010 | .014 | 0.25 | 0.35 | |
| F | .003 | .006 | 0.08 | 0.15 | |
| G | .020 | .028 | 0.50 | 0.70 | |
| H | .020 | .031 | 0.51 | 0.77 | |

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| 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} |
| V_{BR} | Breakdown Voltage @ I_T |
| I_T | Test Current |
| I_F | Forward Current |
| V_F | Forward Voltage @ I_F |
| P_{pk} | Peak Power Dissipation |
| C | Max. Capacitance @ $V_R=0$ and $f=1\text{MHz}$ |



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted, $V_F = 0.9\text{ V Max.}$ @ $I_F = 10\text{mA}$ for all types)

| Device* | Device Marking | V_{RWM} (V) | I_R (μA) @ V_{RWM} | V_{BR} (V) @ I_T (Note 2) | I_T | V_C @ $I_{PP}^* = 5\text{ A}$ | I_{PP}^* (A) | V_C (V) @ I_{PP}^* | P_{pk}^* (W) | C (pF) |
|----------|----------------|---------------|-------------------------------------|-------------------------------|-------|---------------------------------|----------------|------------------------|----------------|--------|
| | | Max | Max | Min | mA | V | Max | Max | Max | Typ |
| ESD3V3D5 | ZE | 3.3 | 0.08 | 5.0 | 1.0 | 9.4 | 11.2 | 14.1 | 158 | 105 |
| ESD5V0D5 | ZF | 5.0 | 0.08 | 6.2 | 1.0 | 11.6 | 9.4 | 18.6 | 174 | 80 |
| ESD7V0D5 | ZH | 7.0 | 0.03 | 7.5 | 1.0 | 13.5 | 8.8 | 22.7 | 200 | 65 |
| ESD12VD5 | ZM | 12 | 0.02 | 14.1 | 1.0 | 23 | 9.6 | 29 | 240 | 55 |

+Surge current waveform per Figure 1.

2. V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C .

TYPICAL CHARACTERISTICS

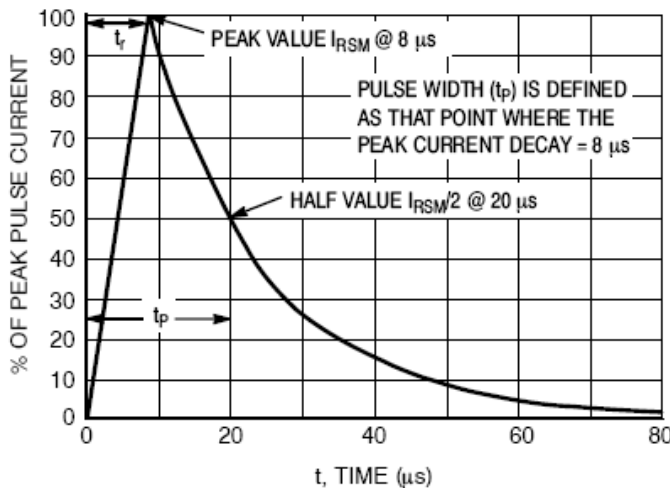


Figure 1. 8 x 20 μs Pulse Waveform



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Ordering Information :

| Device | Packing |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 8Kpcs/Reel |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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