

ESD5V0D3 Thru ESD12VD3

Features

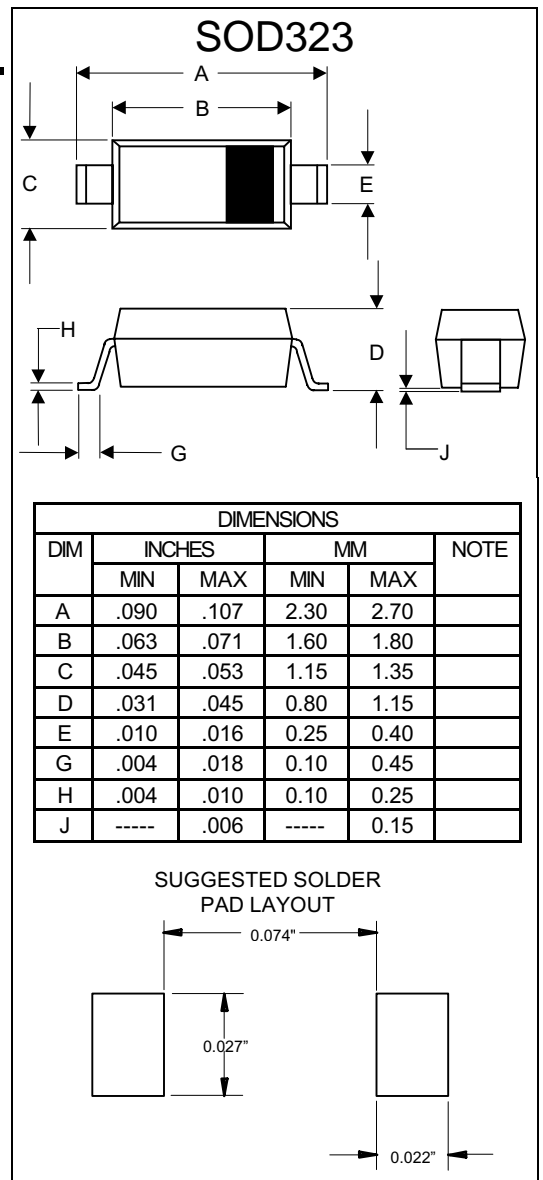
- For sensitive ESD protection
- Excellent clamping capability
- Low leakage
- ESD rating of class 3(>16KV)per Human Body Mode
- For space saving application
- Fast response ,response time less than 1ns.
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL rating 1

Maximum Ratings

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

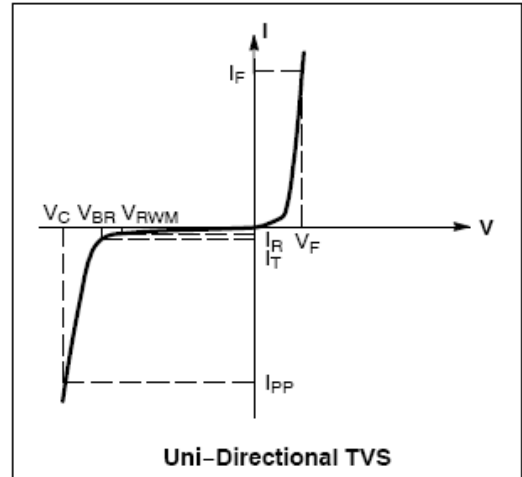
| Parameter | Symbol | Limits | unit |
|---------------------------------|--------|-----------|------|
| IEC61000-4-2(ESD) Air Contact | | ±15 ±8 | KV |
| ESD Voltage per human body mode | | 30 | KV |
| Power Dissipation | Pd | 200 | mw |

5V~12Volts ESD Protection Devices



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} | $I_R (\mu\text{A})$ | $V_{BR} (\text{V})$ | | I_T | V_C | $I_{PP} (\text{A})^+$ | $V_C (\text{V})$ | P_{pk}^+ | C |
|----------|----------------|-----------|---------------------|---------------------|------------------|-------|-------------------------|-----------------------|------------------|------------|-----|
| | | (V) | @ V_{RWM} | @ I_T (Note 2) | @ I_T (Note 2) | | @ $I_{PP} = 5\text{ A}$ | | (V) | | |
| | | Max | Max | Min | Max | mA | V | Max | Max | Max | Typ |
| ESD5V0D3 | ZA | 5.0 | 1.0 | 6.2 | 7.3 | 1.0 | 9.8 | 15 | 15.5 | 350 | 350 |
| ESD12VD3 | ZC | 12 | 1.0 | 13.3 | 15.75 | 1.0 | 22 | 12 | 33 | 350 | 150 |

+Surge current waveform per Figure 6.

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

TYPICAL CHARACTERISTICS

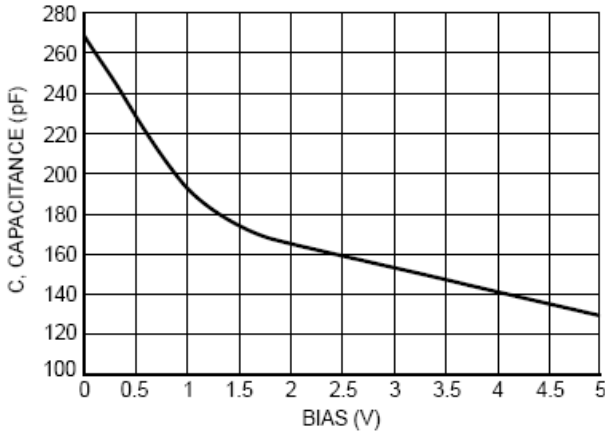


Figure 1. SD05 Typical Capacitance versus Bias Voltage

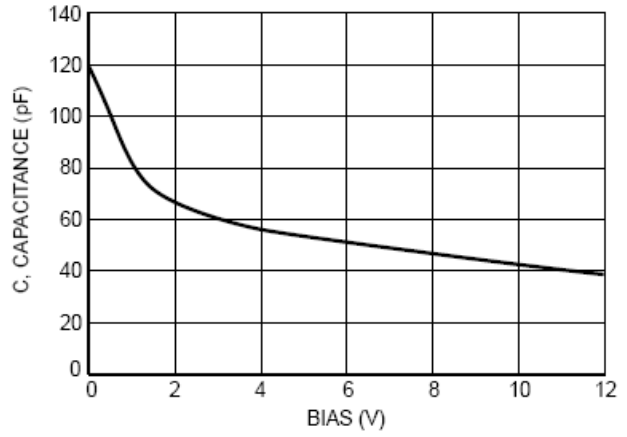


Figure 2. SD12 Typical Capacitance versus Bias Voltage

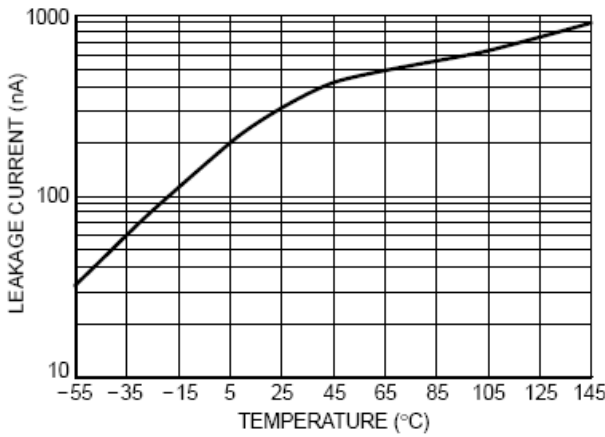


Figure 3. SD05 Typical Leakage Current versus Temperature

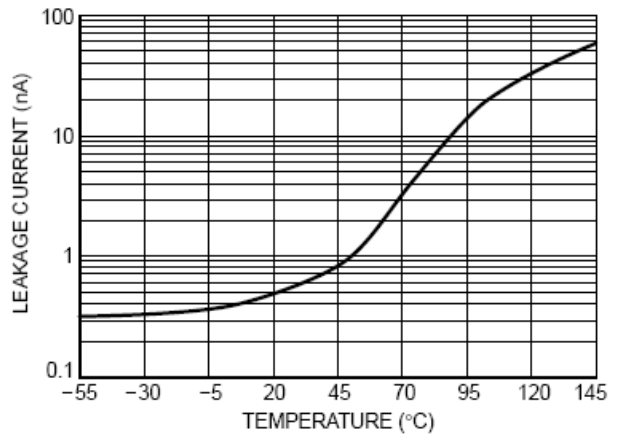


Figure 4. SD12 Typical Leakage Current versus Temperature

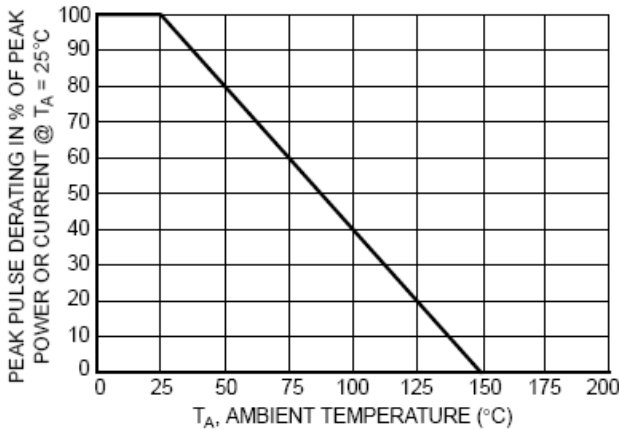


Figure 5. Pulse Derating Curve

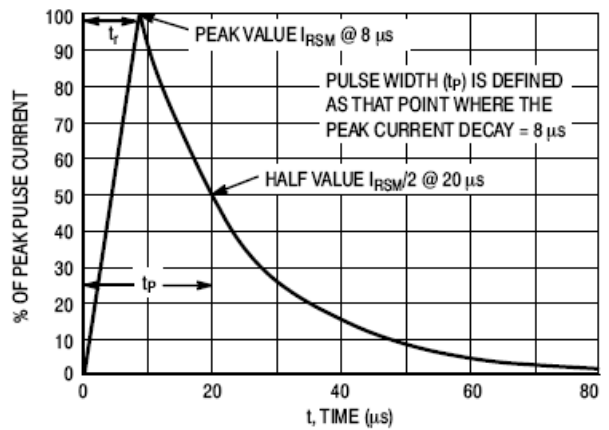


Figure 6. 8 x 20 μs Pulse Waveform

Ordering Information

| Device | Packing |
|------------------|----------------------|
| (Part Number)-TP | Tape&Reel;3Kpcs/Reel |