

ECTHCCB12VUH

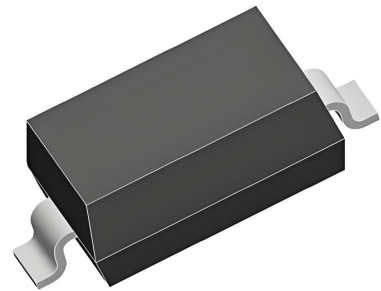
Mount TVS Diode for ESD Protection

The ECTHCCB12VUH Series is designed with ECORE technology to protect voltage sensitive components from Surge. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to surge.

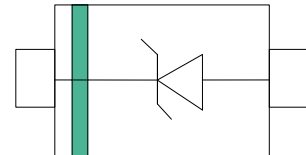
It has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD(electrostatic discharge), and EFT (electrical fast transients).

Features

- Peak Power Dissipation – 1750W (8 x 20 us Waveform)
- Protects I/O Port
- Low Clamping Voltage
- Low Leakage
- Response Time is < 1 ns
- Meets MSL 1 Requirements
- Solid-state silicon avalanche technology
- Lead Orientation in Tape: Cathode Lead to Sprocket Holes
- ROHS compliant



SOD-323



Main applications

- Power Line
- Serial and Parallel Ports
- Notebooks, Desktops, Servers
- Projection TV
- Cellular handsets and accessories
- Portable instrumentation
- Peripherals

Protection solution to meet

- IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)

Ordering Information

| Device | Qty per Reel | Reel Size |
|--------------|--------------|-----------|
| ECTHCCB12VUH | 3000 | 7 Inch |

| Maximum ratings (Tamb=25°C Unless Otherwise Specified) | | | |
|--|------------------|---------------|-------|
| Parameter | Symbol | Value | Unit |
| Peak Pulse Power (tp=8/20µs waveform) | PPPP | 1750 | Watts |
| Peak Pulse Current (tp=8/20µs waveform) | I _{PP} | 70 | A |
| ESD Rating per IEC61000-4-2: | Contact | 30 | KV |
| | Air | 30 | |
| Lead Soldering Temperature | T _L | 260 (10 sec.) | °C |
| Operating Temperature Range | T _J | -55 ~ 125 | °C |
| Storage Temperature Range | T _{STG} | -55 ~ 150 | °C |
| Lead Solder Temperature – Maximum (10 Second Duration) | T _L | 260 | °C |

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

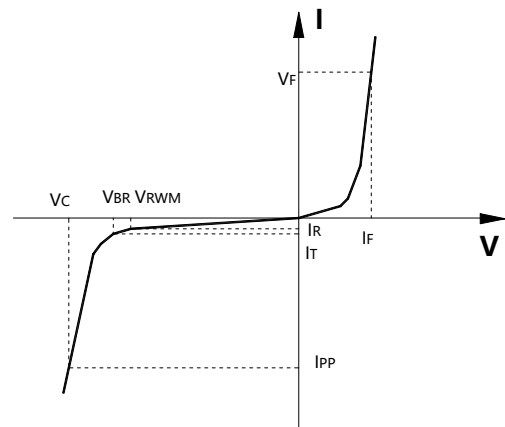
*Other voltages may be available upon request.

1. Non-repetitive current pulse, per Figure 1.

| Parameter | Symbol | Min | Typ | Max | Unit | Test Condition |
|-------------------------|------------------|-----|-----|-----|------|---------------------------------------|
| Reverse Working Voltage | V _{RWM} | | | 12 | V | |
| Breakdown Voltage | V _{BR} | 13 | | 17 | V | I _T =1mA |
| Reverse Leakage Current | I _R | | | 0.5 | µA | V _{RWM} =12V |
| Clamping Voltage | V _C | | 23 | 25 | V | I _{PP} =70A (8 x 20µs pulse) |
| Junction Capacitance | C _J | | 420 | | pF | V _R =0V, f=1MHz |

Junction capacitance is measured in V_R=0V, F=1MHz

| Symbol | Parameter |
|------------------|-------------------------------------|
| V _{RWM} | Working Peak Reverse Voltage |
| V _{BR} | Breakdown Voltage @ I _T |
| V _C | Clamping Voltage @ I _{PP} |
| I _T | Test Current |
| I _{RM} | Leakage current at V _{RWM} |
| I _{PP} | Peak pulse current |
| C _O | Off-state Capacitance |
| C _J | Junction Capacitance |



Typical electrical characterist applications

Figure 1: Peak Pulse Power vs. Pulse Time

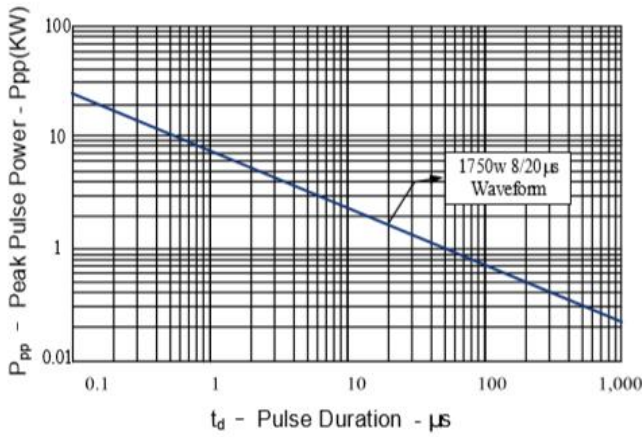


Figure 2: Power Derating Curve

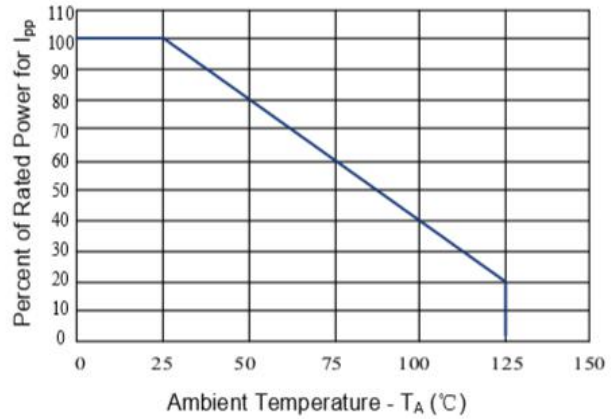


Figure 3: Clamping Voltage vs. Peak Pulse Current

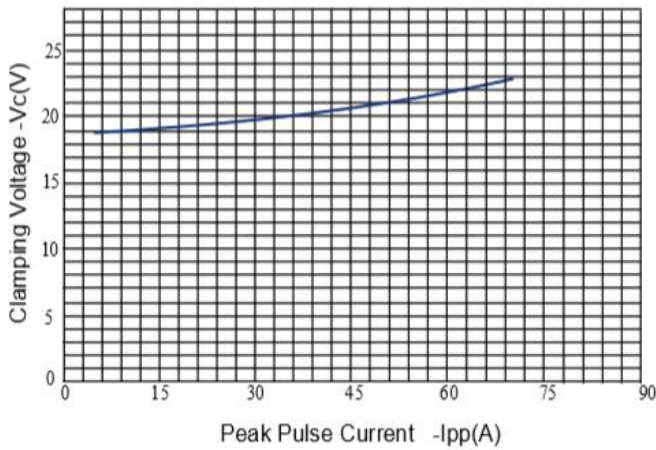


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

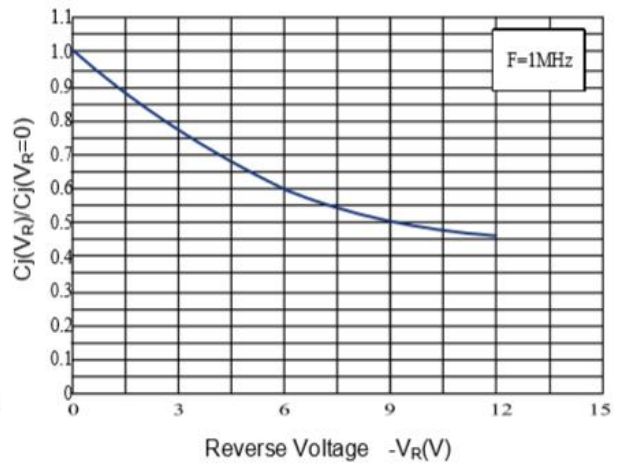


Figure 5: Pulse Waveform

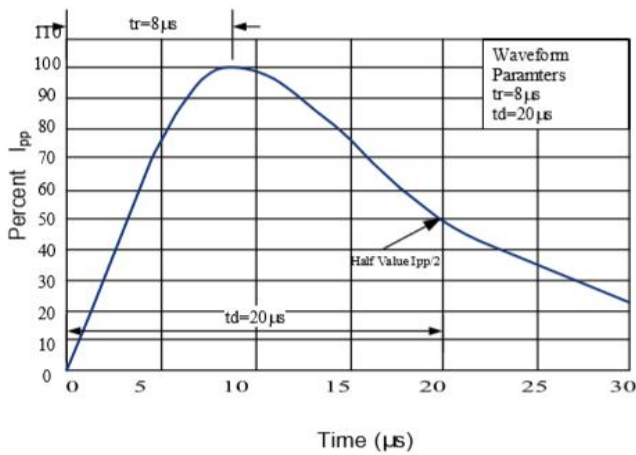
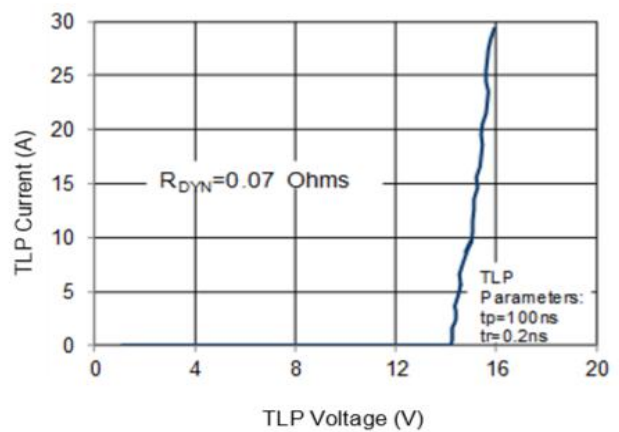


Figure 6: TLP I-V Curve



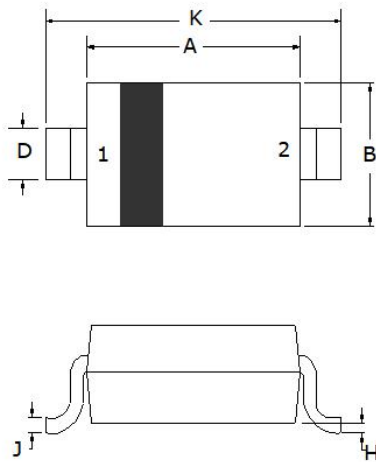
Package Information

SOD-323

Mechanical Data

Case: SOD-323

Case Material: Molded Plastic. UL Flammability



| Dim | Millimeters | |
|-----|-------------|------|
| | Min | Max |
| A | 1.60 | 1.80 |
| B | 1.2 | 1.40 |
| C | 0.80 | 0.90 |
| D | 0.25 | 0.35 |
| E | 0.15REF | |
| H | 0 | 0.10 |
| J | 0.08 | 0.15 |
| K | 2.50 | 2.70 |

Recommended Pad outline

