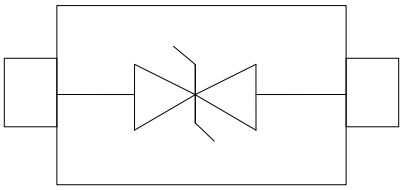
TQEMD3225V0

Ultra-low Capacitance Bidirectional Micro Packaged TVS Diodes for ESD Protection

Description

The TQEMD3225V0 is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.

PIN configuration



SOD-523

Applications

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

Features

- Small Body Outline Dimensions
- Low Body Height
- Peak Power up to100 Watts @8x20_s Pulse
- Low Leakage current
- Response Time is Typically < 1 ns
- IEC61000-4-2(ESD)±30kV(air),±30kV(contact)
- IEC61000-4-2 Level 4 ESD Protection
-

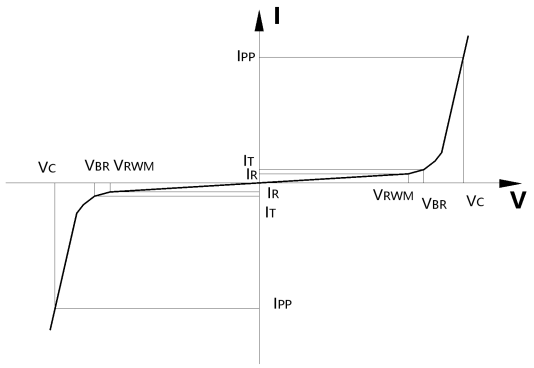
Maximum ratings (Temp=25℃ Unless Otherwise Specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	P_{PPP}	100	Watts
Peak Pulse Current(tp=8/20μs waveform)	I_{PP}	8	A
ESD Rating per IEC61000-4-2： Contact Air		30 30	KV
Lead Soldering Temperature	T_L	260 (10 sec.)	℃
Operating Temperature Range	T_J	-55 ~ 150	℃

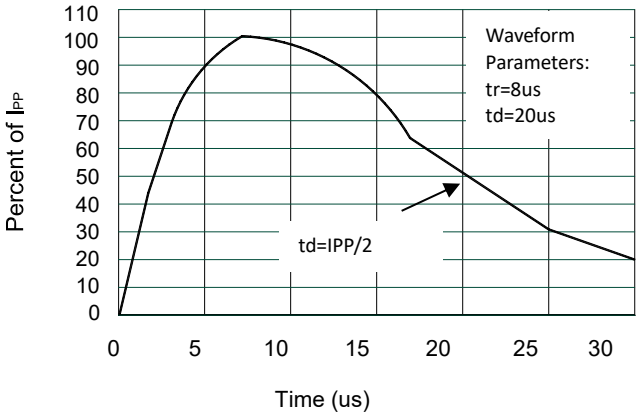
Storage Temperature Range	T_{STG}	-55 ~ 150	℃

	Electrical characteristics (Tamb=25℃ Unless Otherwise Specified)						
Device	V_{RWM}	I_R @ V_{RWM}	V_{BR} @ 1 mA	V_C	Ipp	C	
			Min	@ Ipp=5 A	Max	Typ	Max
	(V)	(uA)	(Volts)	Type(V)	(A)	(pF)	(pF)
TQEMD3225V0	5.0	1.0	6.0	11.6V	8	9	15

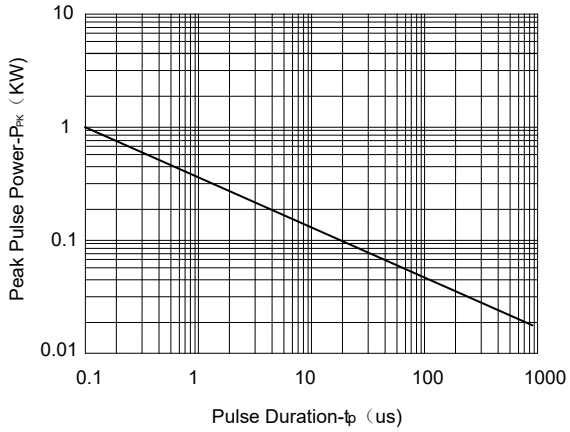
Symbol	Parameter
V_{RWM}	Working Peak Reverse Voltage
V_{BR}	Breakdown Voltage @ I_T
V_C	Clamping Voltage @ I_{PP}
I_T	Test Current
I_{RM}	Leakage current at V_{RWM}
I_{PP}	Peak pulse current
C_O	Off-state Capacitance
C_J	Junction Capacitance



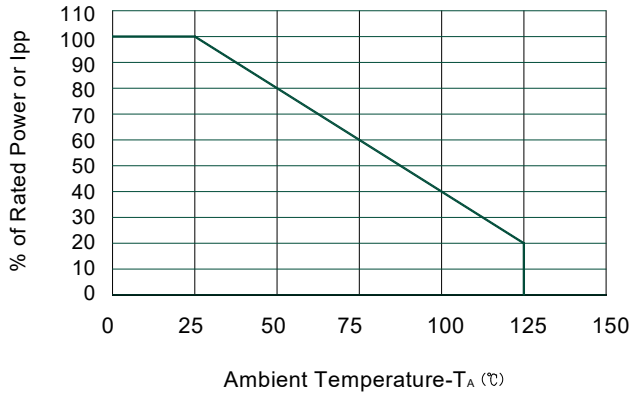
Typical electrical characterist applications



Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time



Power Derating Curve

Application Note

Electrostatic discharge (ESD) is a major cause of failure in electronic systems. Transient Voltage Suppressors (TVS) are an ideal choice for ESD protection. They are capable of clamping the incoming transient to a low enough level such that damage to the protected semiconductor is prevented.

Surface mount TVS offers the best choice for minimal lead inductance. They serve as parallel protection elements, connected between the signal lines to ground. As the transient rises above the operating voltage of the device, the TVS becomes a low impedance path diverting the transient current to ground. The BVSEHD3125V0 is the ideal board evel protection of ESD sensitive semiconductor components.

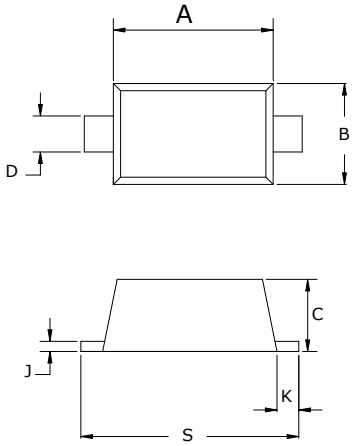
The tiny SOD-523 package allows design flexibility in the design of high density boards where the space saving is at a premium. This enables to shorten the routing and contributes to hardening against ESD.

Mechanical Data

Device	Marking	Qty per Reel	Reel Size
TQEMD3225V0	2B	3000	7Inch

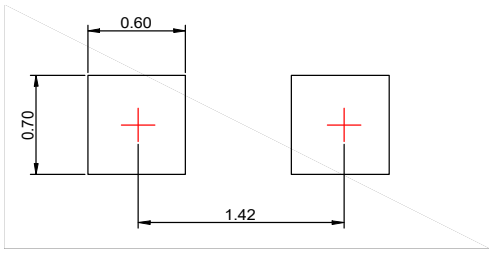
Case:SOD-523

Case Material: Molded Plastic. UL Flammability



Dim	Millimeters	
	Min	Max
A	1.10	1.30
B	0.75	0.85
C	0.50	0.70
D	0.25	0.35
J	0.08	0.15
K	0.15	0.25
S	1.50	1.70

Recommended Pad outline



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