

ECENCCExxVU

Micro Packaged TVS Diodes for ESD Protection

The ECENCCExxVU Series is designed to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space comes at a premium.

This series 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

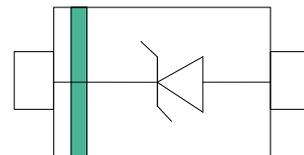
- Peak Power Dissipation – 200W (8 x 20 us Waveform)
- Replacement for MLV (0603)
- Protects power & I/O Port
- Low Clamping Voltage
- Low Leakage
- Response Time is < 1 ns
- Available in Multiple Voltages Ranging From 3V to 36V
- Device Meets MSL 1 Requirements
- Low Body Height: 1.68mm
- **Solid-state silicon avalanche technology**
- ROHS compliant



SOD-523

Main applications

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



Protection solution to meet

- IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)

Ordering Information

Device	Qty per Reel	Reel Size
ECENCCExxVU	3000	7 Inch

“x” =Working Peak Reverse Voltage

Maximum ratings (Tamb=25°C Unless Otherwise Specified)			
Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20µs waveform)	P _{PPP}	200	Watts
ESD Rating per IEC61000-4-2:	Contact	8	KV
	Air	15	
Lead Soldering Temperature	T _L	260 (10 sec.)	°C
Operating Temperature Range	T _J	-55 ~ 150	°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.

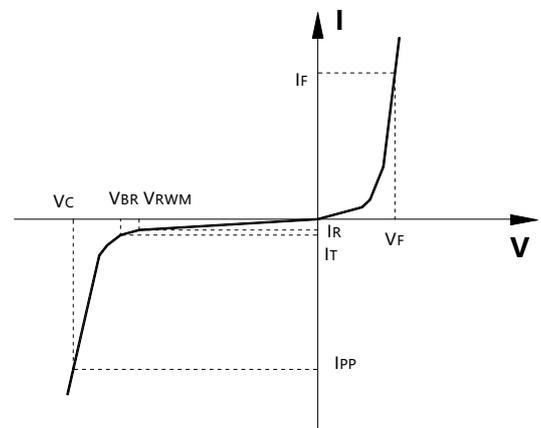
*Other voltages may be available upon request.

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

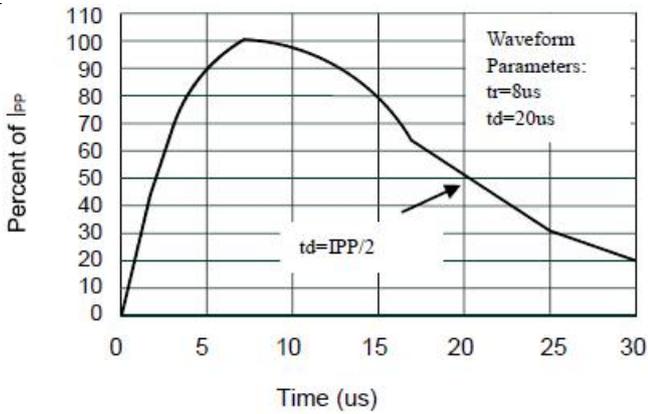
Electrical characteristics (Tamb=25°C Unless Otherwise Specified)							
Device	Marking Code	V _{RWM} (V)	I _R @ V _{RWM} (µA)	V _{BR} @ 1 mA	V _C	Capacitance	
				(Volts)	@ 1 A	@ V _R = 0 V, 1 MHz (pF)	
				Min	(V)	Typ	Max
ECENCCE3VU	ZE	3.00	20	4.00	7.50	40	55
ECENCCE5VU	ZF	5.00	2	6.00	9.80	36	45
ECENCCE7VU	ZH	7.00	2	9.00	9.20	70	85
ECENCCE12VU	MA	12.0	2	13.1	17.8	35	45
ECENCCE15VU	ZN	15.0	2	16.7	24.0	35	45
ECENCCE24VU	ZQ	24.0	2	26.7	43.0	30	45
ECENCCE36VU	ZL	36.0	2	40.0	69.5	28	40

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

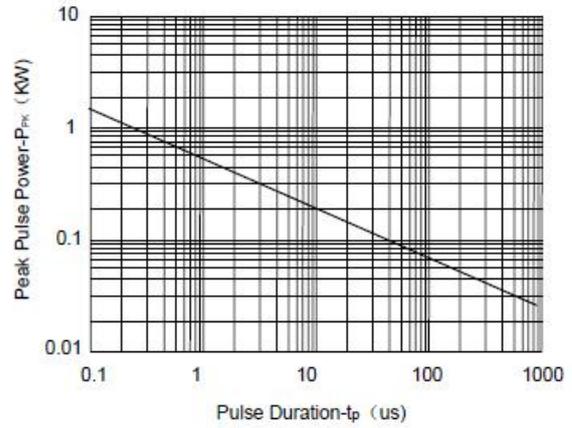
Symbol	Parameter
V _{RWM}	Working Peak Reverse Voltage
V _{BR}	Breakdown Voltage @ I _T
V _C	Clamping Voltage @ I _{PP}
I _T	Test Current
I _{RM}	Leakage current at V _{RWM}
I _{PP}	Peak pulse current
C _O	Off-state Capacitance
C _J	Junction Capacitance



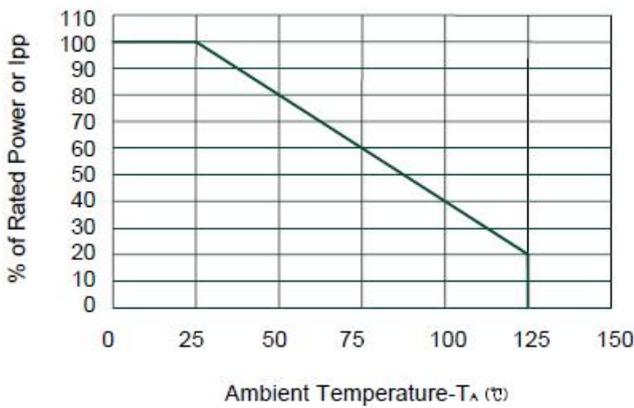
Typical electrical characterist applications



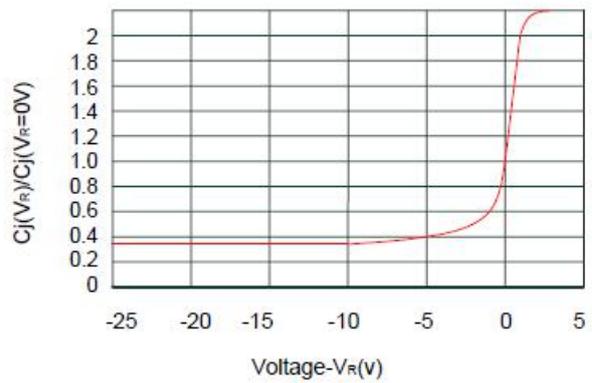
Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time



Power Derating Curve



Junction Capacitance vs. Reverse Voltage

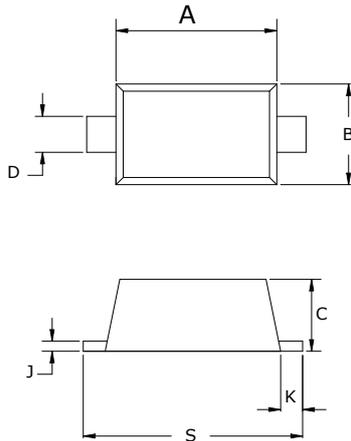
Package Information

SOD-523

Mechanical Data

Case: SOD-523

Case Material: Molded Plastic. UL Flammability



Dim	Millimeters	
	Min	Max
A	1.10	1.30
B	0.75	0.85
C	0.51	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

