

ECTHCCA7VU

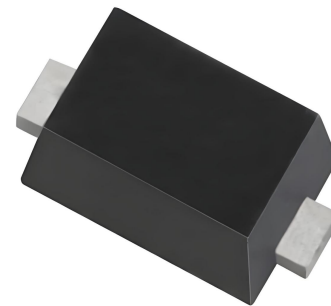
Small Surface Mount TVS Diode for ESD Protection

The ECTHCCA7VU is designed with ECORE technology 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.

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

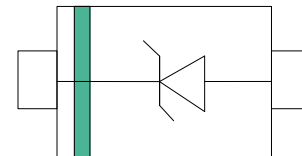
- Peak Power Dissipation – 3000W (8 x 20 us Waveform)
- Stand-off Voltage: 7 V
- Protects I/O Port
- Low Clamping Voltage
- Low Leakage
- Response Time is < 1 ns
- Meets MSL 1 Requirements
- Solid-state silicon avalanche technology
- ESD Rating of above 16 kV per Human Body Model
- Lead Orientation in Tape: Cathode Lead to Sprocket Holes
- ROHS compliant



SOD-123FL

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) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (SURGE) 200A (8/20ns)

Ordering Information

Device	Marking	Qty per Reel	Reel Size
ECTHCCA7VU	KP	3000	7 Inch

Maximum ratings (Tamb=25°C Unless Otherwise Specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	P _{PPP}	3000	Watts
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 ~ 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.

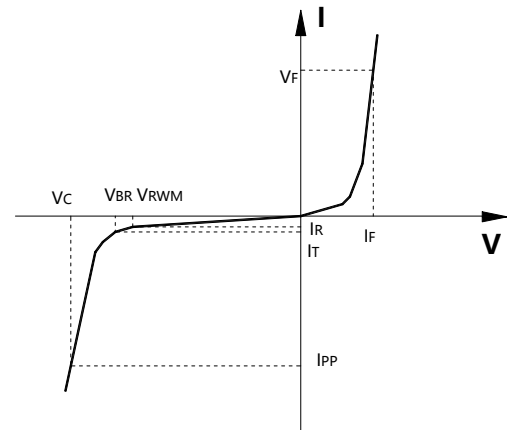
1. Non-repetitive current pulse, per Figure 1.

Electrical characteristics (Tamb=25°C Unless Otherwise Specified)

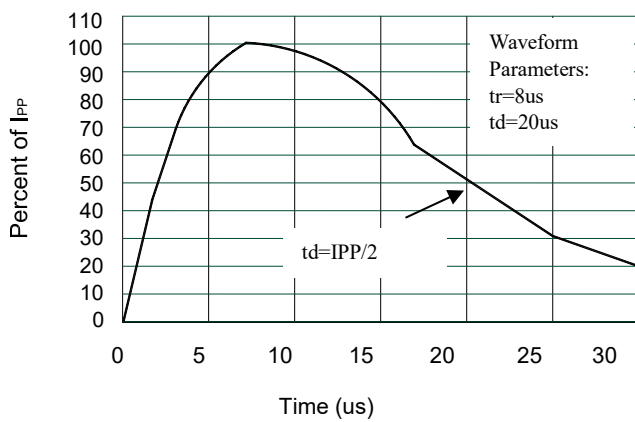
Device*	V _{RWM}	V _{BR} @ I _T (V)			I _T	I _R @ V _{RWM}	V _C @I _{PP}	I _{PP} (Max)	Capacitance (Typ)
	(V)	Min	Nom	Max	(mA)	(uA)	(V)	(A)	(nF)
ECTHCCA7VU	7	8	8.7	9.8	1	1	12.5V@200A	250	1.7

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

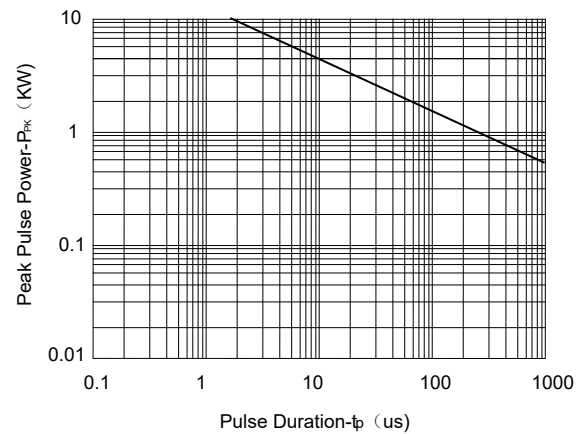
Symbol	Parameter
V _{RWM}	Working Peak Reverse Voltage
V _{BR}	Breakdown Voltage @ I _T
V _C	Clamping Voltage @ I _{PP}
I _T	Test Current
I _{RM}	Leakage current at V _{RWM}
I _{PP}	Peak pulse current
C _O	Off-state Capacitance
C _J	Junction Capacitance



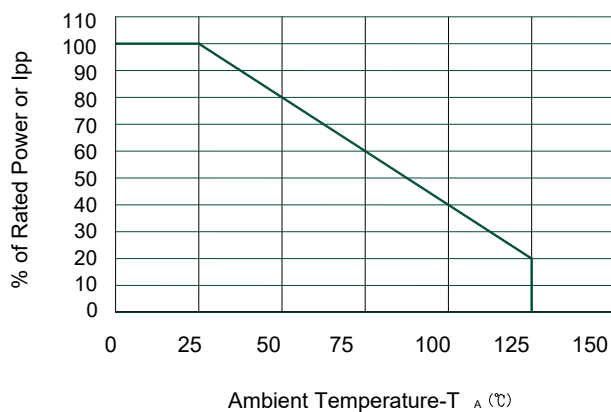
Typical electrical characterist applications



Pulse Waveform



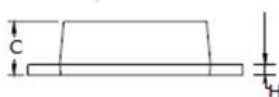
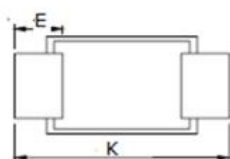
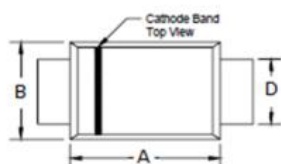
Non-Repetitive Peak Pulse Power vs. Pulse Time



Power Derating Curve

Package Information

SOD-123FL



Dim	Millimeters	
	Min	Max
A	2.70	2.90
B	1.50	1.90
C	1.15	1.45
D	0.80	1.20
E	0.35	0.85
H	0.10	0.30
K	3.50	3.90

Recommended Pad outline

