

ECTHCCA12VB

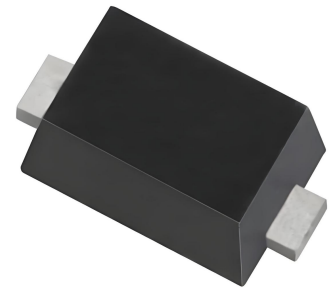
Small Surface Mount TVS Diode for ESD Protection

The ECTHCCA12VB 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.

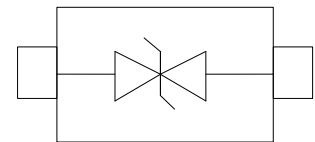
It has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD(electrostatic discharge), and EFT (electrical fast transients).

Features

- Working Voltage: 12V
- 4500W Peak Pulse Power Dissipation
- For Small surface mounted applications
- Reliable low cost construction utilizing molded plastic technique
- Response Time is Typically < 1 ns
- ESD Rating of above 16 kV per Human Body Model
- ESD Rating of above 30 kV (Contact Discharge) per IEC61000-4-2
- EFT (Electrical Fast Transients) Rating of 40 A per IEC61000-4-4
- Plastic material has UL flammability classification 94V-0
- Typical I_R less than 5uA
- Meets MSL 1 Requirements
- Solid-state silicon avalanche technology
- ROHS compliant



SOD-123FL



Main applications

- High Speed Line :USB1.0/2.0,
- Serial and Parallel Ports
- Notebooks, Desktops, Servers
- Projection TV
- Cellular handsets and accessories
- Portable instrumentation
- Peripherals

Protection solution to meet

- IEC61000-4-2 (ESD) ± 30 kV (air), ± 30 kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5(Surge) ± 400 V

Ordering Information

Device	Qty per Reel	Reel Size
ECTHCCA12VB	3000	7 Inch

Maximum ratings (Tamb=25°C Unless Otherwise Specified)			
Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20µs waveform)	PPPP	4500	Watts
ESD Rating per IEC61000-4-2:	Contact	30	KV
	Air	30	
Lead Soldering Temperature	TL	260 (10 sec.)	°C
Operating Temperature Range	TJ	-55 ~ 150	°C
Storage Temperature Range	TSTG	-55 ~ 150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	TL	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.

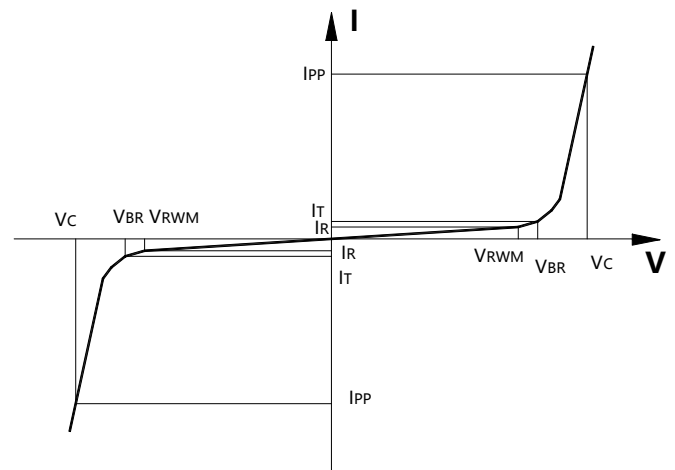
*Other voltages may be available upon request.

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

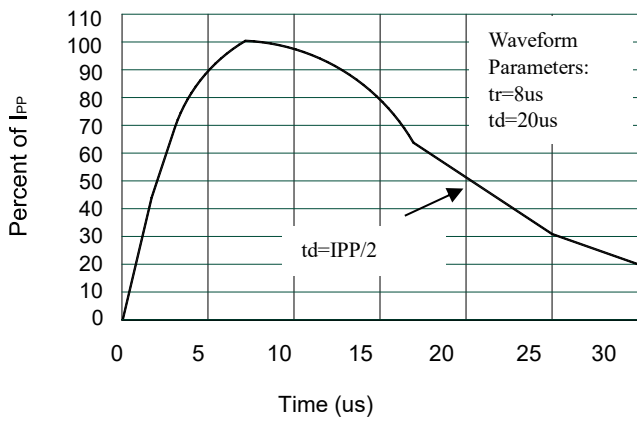
Electrical characteristics (Tamb=25°C Unless Otherwise Specified)									
Device*	V _{RWM}	V _{BR} @ I _T (V)			I _T	I _R @ V _{RWM}	V _C (Max)	I _{PP} (Max)	Capacitance (Typ)
	(V)	Min	Nom	Max	(mA)	(µA)	(V)	(A)	(nF)
ECTHCCA12VB	12	13.3	14.3	15	1	5	30	200	0.7

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

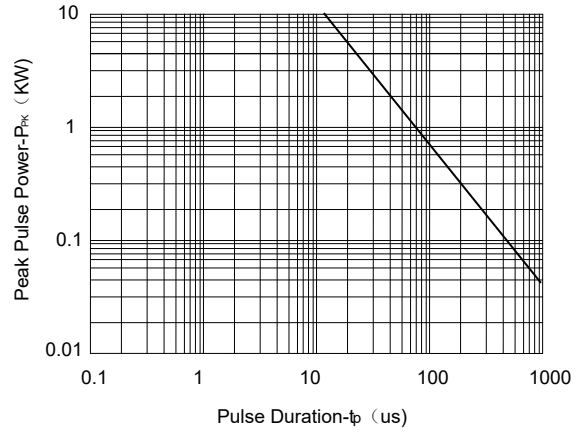
Symbol	Parameter
V _{RWM}	Working Peak Reverse Voltage
V _{BR}	Breakdown Voltage @ I _T
V _C	Clamping Voltage @ I _{PP}
I _T	Test Current
I _{RM}	Leakage current at V _{RWM}
I _{PP}	Peak pulse current
C _O	Off-state Capacitance
C _J	Junction Capacitance



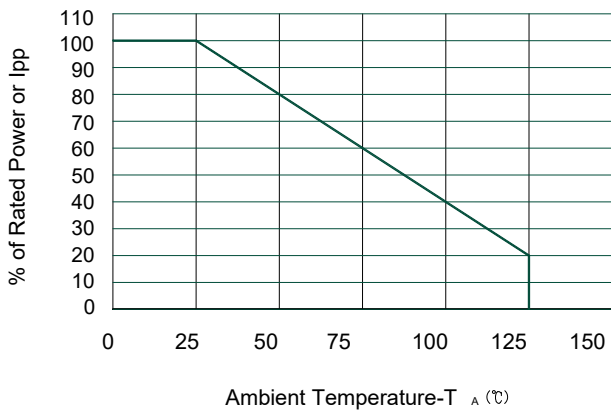
Typical electrical characterist applications



Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time



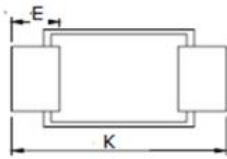
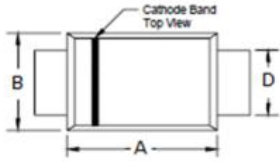
Power Derating Curve



Typical Clampvoltage@220A 8/20us(440V)

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

