

ECTHCCA24VBL

Small Surface Mount TVS Diode for ESD Protection

The ECTHCCA24VBL 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.

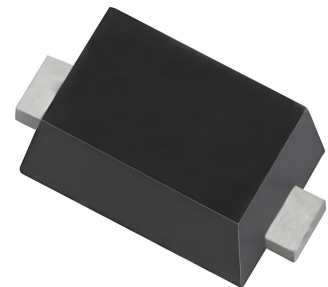
It has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD(electrostatic discharge), and EFT (electrical fast transients).

Features

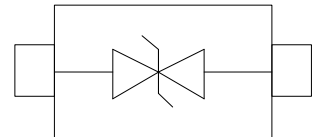
- Working Voltage: 24V
- 400W Peak Pulse Power Dissipation at 10/1000us waveform
- For Small surface mounted applications
- Reliable low cost construction utilizing molded plastic technique
- Response Time is Typically < 1 ns
- Plastic material has UL flammability classification 94V-0
- Typical I_R less than 1uA
- Meets MSL 3 Requirements
- Solid-state silicon avalanche technology
- ROHS compliant

Main applications

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



SOD-123FL



Ordering Information

Device	Qty per Reel	Reel Size
ECTHCCA24VBL	3000	7 Inch

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=10/1000µs waveform)	P _{PPP}	400	Watts
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.

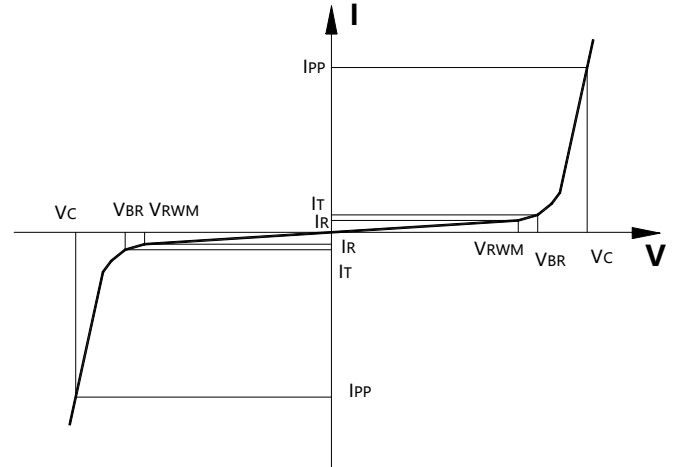
I. Non-repetitive current pulse, per Figure 1.

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}	I _{PP} (Max) @10/1000us	Capacitance (Typ)
	(V)	Min	Max	(mA)	(uA)	(V)	(A)	(nF)
ECTHCCA24VBL	24	26.7	30	1	1	39.5	10.3	0.3

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 Rating Curve

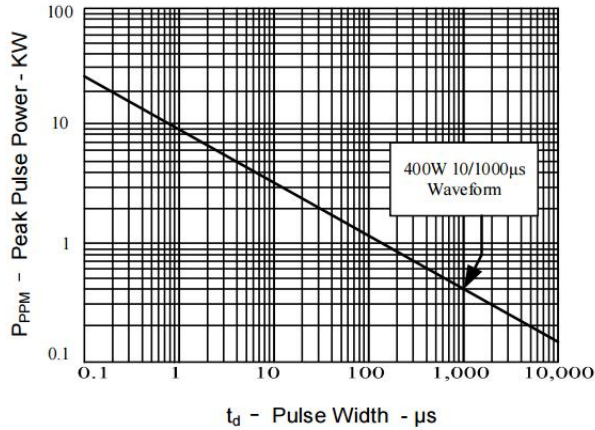


Figure 2: Pulse Derating Curve

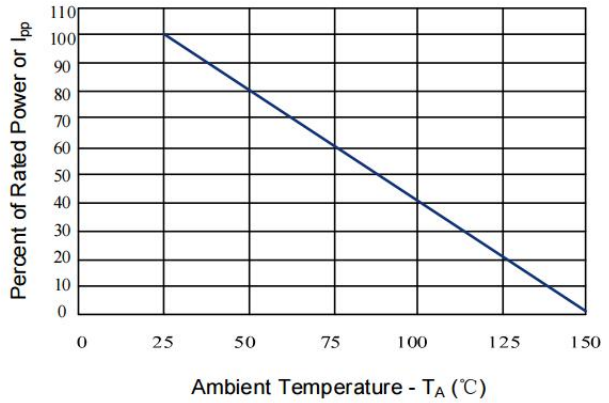


Figure 3: Pulse Waveform

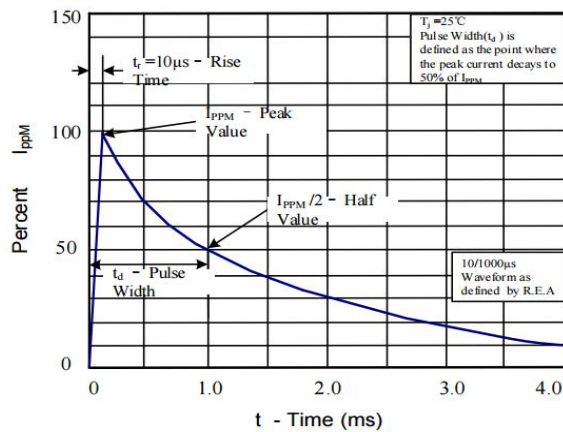


Figure 4: Typical Junction Capacitance

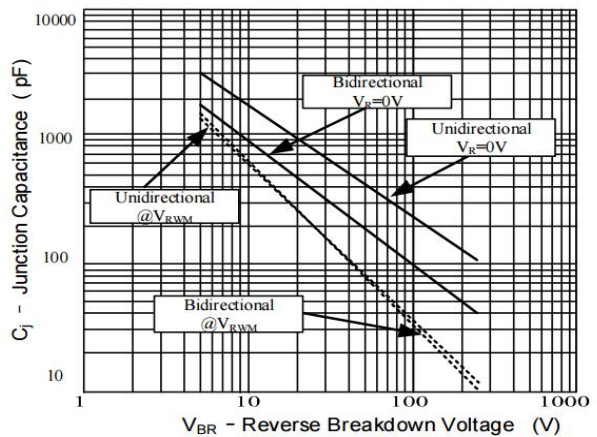


Figure 5: Steady State Power Dissipation Derating Curve

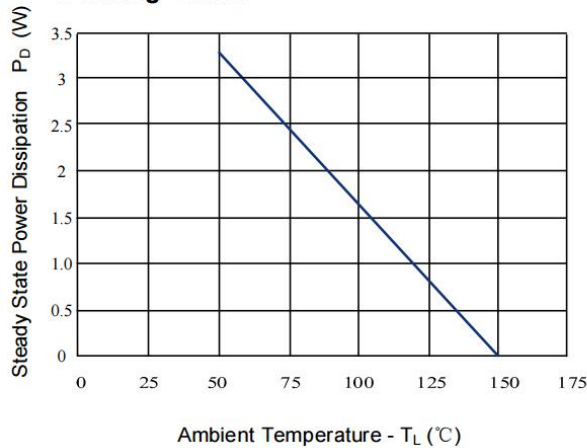
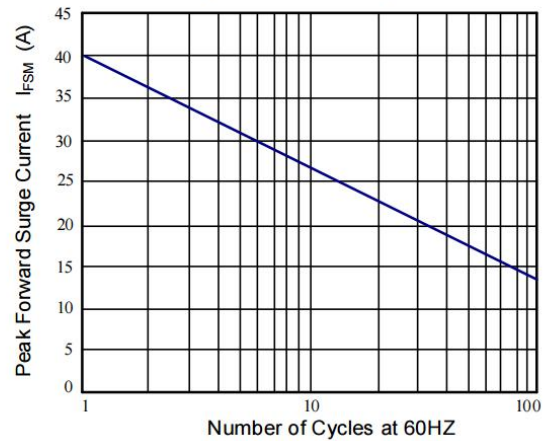


Figure 6: Maximum Non-Repetitive Forward Surge Current Only Unidirectional



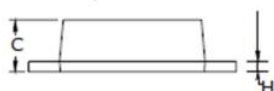
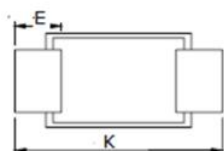
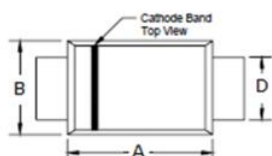
Package Information

SOD-123F

Mechanical Data

Case:SOD-123F

Case Material: Molded Plastic. UL Flammability



Dim	Millimeters	
	Min	Max
A	2.50	2.90
B	1.50	1.90
C	0.095	1.20
D	0.70	1.20
E	0.35	0.85
H	0	0.1
K	3.40	3.90

Recommended Pad outline

