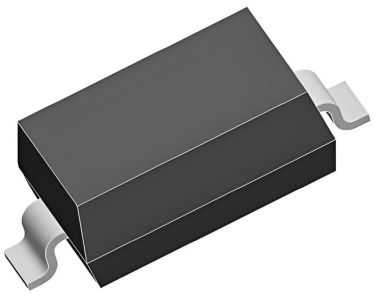
ECTHCCB5VUL

1-Line Uni-directional Capacitance TVS Diode

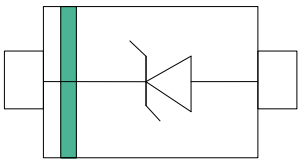
The ECTHCCB5VUL is designed to replace multilayer varistors (MLVs) in portable applications such as cellular phones, digital cameras and PDA’ s, using monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting sensitive semiconductor components from damage. The ECTHCCB5VUL complies with the IEC 61000- 4-2 (ESD) standard with ±30kV air and ±30kV contact discharge. The ECTHCCB5VUL is assembled into a lead-free SOD- 323 package and will protect one unidirectional line.

Features

- Peak Power Dissipation − 350W (8 x 20 us Waveform)
- Protects one data or power line
- Ultra low leakage: nA level
- Stand−off Voltage: 5 V
- Ultra low clamping voltage



SOD-323



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) ±30kV (air), ±30kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)

Ordering Information

Device	Qty per Reel	Reel Size
ECTHCCB5VUL	3000	7 Inch

Maximum ratings (Tamb=25℃ Unless Otherwise Specified)			
Parameter	**Symbol**	**Value**	**Unit**
Peak Pulse Power (tp=8/20μs waveform)	P_{PPP}	350	Watts
Peak Pulse Current (8/20μs)	I_{PP}	17	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 ~ +125	℃
Storage Temperature Range	T_{STG}	-55 ~ +150	℃
Lead Solder Temperature − Maximum (10 Second Duration)	T_L	260	℃

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.

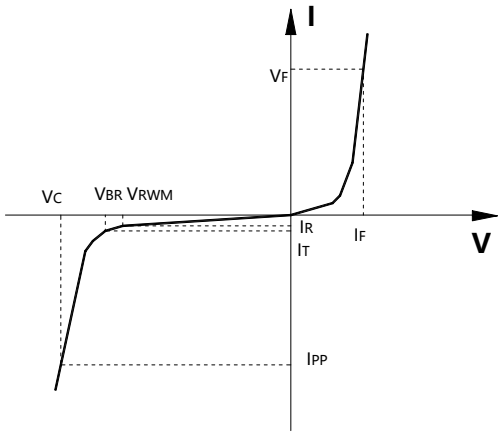
**Other voltages may be available upon request.*

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

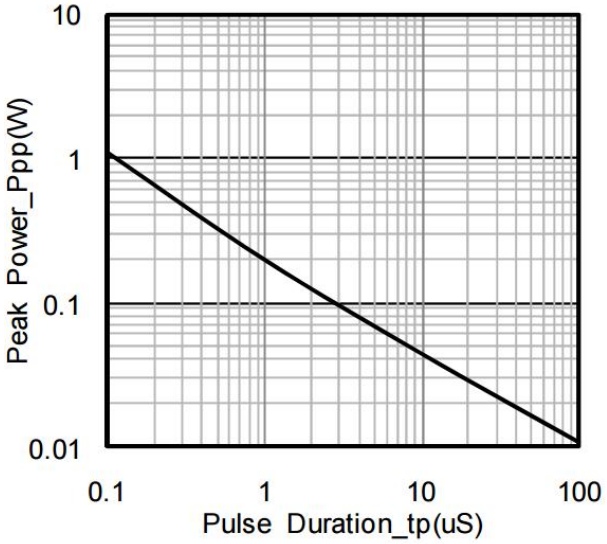
Junction capacitance is measured in V_R=0V,F=1MHz

Electrical characteristics (Temp=25℃ Unless Otherwise Specified)						
Symbol	**Parameter**	**Conditions**	**Min.**	**Typ.**	**Max.**	**Units**
V_{RWM}	Reverse Working Voltage				5	V
V_{BR}	Reverse Breakdown Voltage	IT = 1mA,		6.2		V
I_R	Reverse Leakage Current	V_{RWM} =5V,			10	μA
V_C	Clamping Voltage	I_{PP} = 1A, tp =8/20μs,		9.8		V
		I_{PP} = 17A, tp =8/20μs,			18.6	V
C_J	Junction Capacitance	V_R = 0V, f = 1MHz,		300		pF

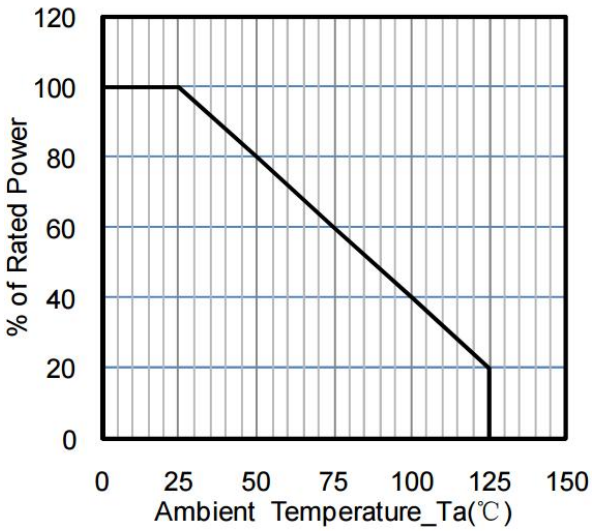
Symbol	Parameter
V_{RWM}	Working Peak Reverse Voltage
V_{BR}	Breakdown Voltage @ I_T
V_C	Clamping Voltage @ I_{PP}
I_T	Test Current
I_{RM}	Leakage current at V_{RWM}
I_{PP}	Peak pulse current
C_O	Off-state Capacitance
C_J	Junction Capacitance



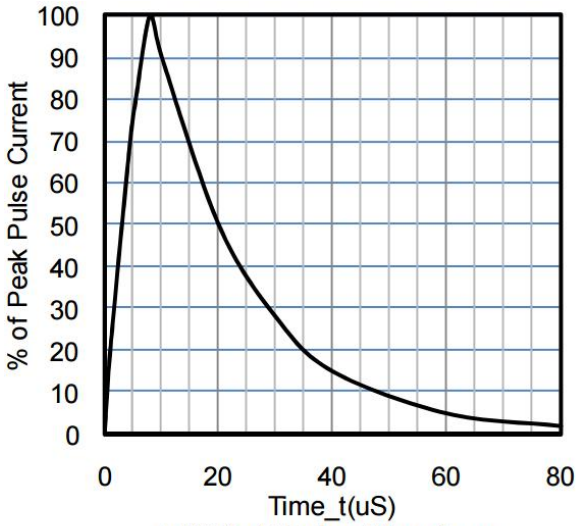
Typical electrical characterist applications



Peak Pulse Power vs. Pulse Time



Power Derating Curve



8 X 20uS Pulse Waveform

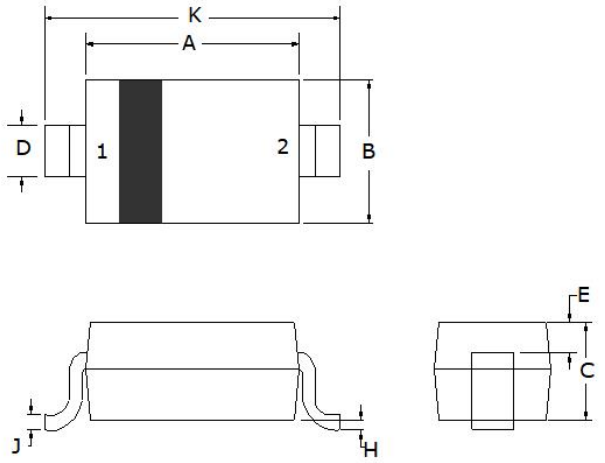
Package Information

SOD-323

Mechanical Data

Case: SOD-323

Case Material: Molded Plastic. UL Flammability



Dim	Millimeters	
	Min	Max
A	1.60	1.80
B	1.2	1.40
C	0.80	0.90
D	0.25	0.35
E	0.15REF	
H	0	0.10
J	0.08	0.15
K	2.50	2.70

Recommended Pad outline