

1.Features

The SD12C is designed to protect voltage sensitive components from ESD and transient events. Excellent clamping capability, low leakage and fast response time, make this part ideal for ESD protection on designs where board space is at a premium.

3.Features

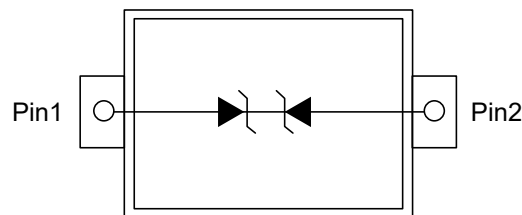
- Peak Power – 350 W (8 x 20 μ s)
- Low Leakage
- Low Clamping Voltage
- Small Package for use in Portable Electronics
- Meets IEC61000-4-2 Level 4

4.Pinning information

2.Mechanical Characteristics

- CASE: Void-free, transfer-molded, thermosetting plastic
- Epoxy Meets UL 94, V-0
- MOUNTING POSITION: Any
- QUALIFIED MAX REFLOW TEMPERATURE: 260°C
- Device Meets MSL 1 Requirements

- Meets IEC6100-4-4 Level 4
- Meets 16 kV Human Body Model ESD Requirements
- These Devices are Pb-Free and are RoHS Compliant



SOD-323



5. Absolute Maximum Ratings

Parameter	Symbol	Value	Units
Peak Power Dissipation @ 20 μ s @ TL \leq 25°C	P_{PK}	350	W
IEC 61000-4-2 (ESD) Air		± 30	kV
Contact		± 30	kV
IEC 61000-4-4 (EFT)		40	A
Total Device Dissipation FR-5 Board,	P_D	200	mW
(Note 1) @ TA = 25°C, Derate above 25°C		1.5	mW/°C
Thermal Resistance from Junction-to-Ambient	$R_{\theta JA}$	635	°C/W
Junction and Storage Temperature Range	T_J, T_{STG}	-65 to 150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	T_L	260	°C

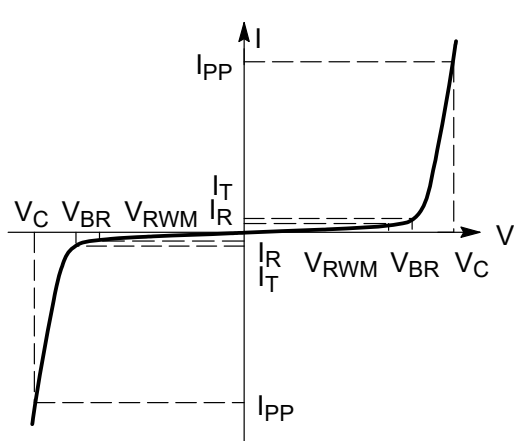
Notes:

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. Minimum Solder Footprint.



6.Electrical Parameters (T_A=25°C unless otherwise noted)



Symbol	Parameter
I _{PP}	Maximum Reverse Peak Pulse Current
V _C	Clamping Voltage @ I _{PP}
V _{RWM}	Working Peak Reverse Voltage
I _R	Maximum Reverse Leakage Current @ V _{RWM}
V _{BR}	Breakdown Voltage @ I _T
I _T	Test Current
V _{BR}	Maximum Temperature Variation of V _{BR}



7. Electrical Characteristic ($T_J=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Working Voltage	V_{RWM}	(Note 2)			12	V
Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$, (Note 3)	13.3			V
Reverse Leakage Current	I_R	$V_{RWM}=12\text{V}$			1	μA
Clamping Voltage	V_C	$I_{PP}=5\text{A}$, (8 x 20 μsec Waveform)			19	V
Additional Clamping Voltage	I_{PP}	$I_{PP}=15\text{A}$, (8 x 20 μsec Waveform)			24	V
Maximum Peak Pulse Current		8 x 20 μsec Waveform			15	A
Capacitance	C_J	$V_R=0\text{V}$, $f=1\text{MHz}$		64		pF
		$V_R=12\text{V}$, $f=1\text{MHz}$		36		pF

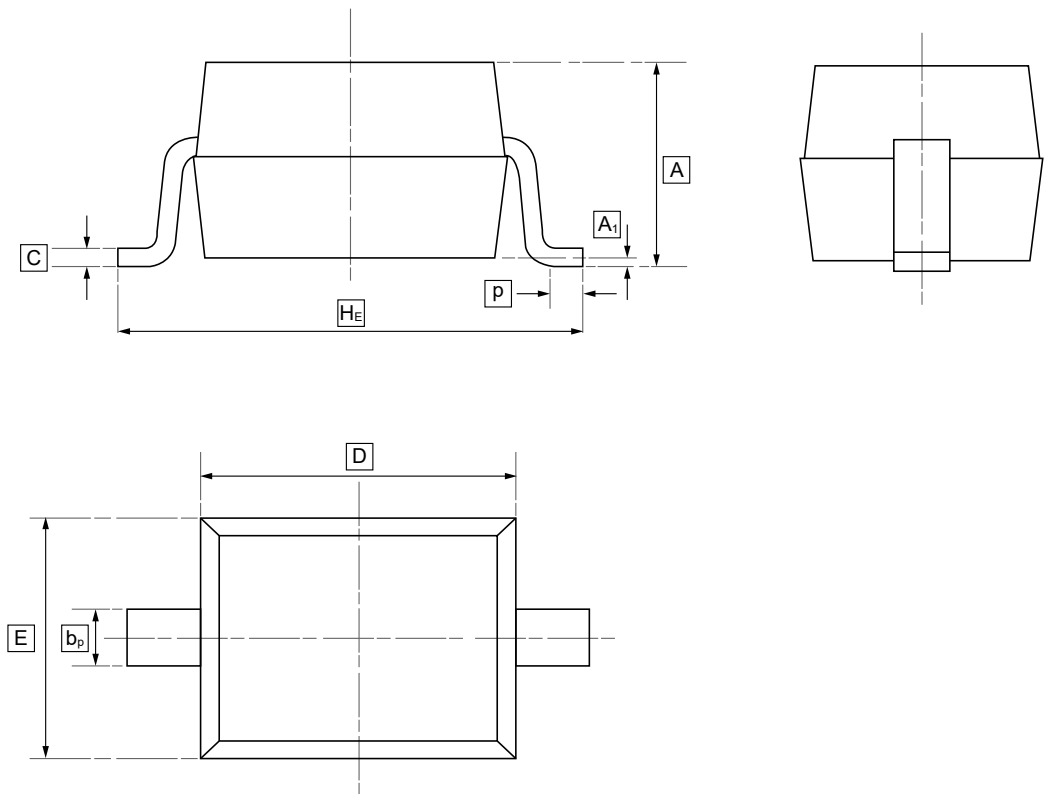
Notes:

2. TVS devices are normally selected according to the working peak reverse voltage (V_{RWM}), which should be equal or greater than the DC or continuous peak operating voltage level.

3. V_{BR} is measured at pulse test current I_T



8.SOD-323 Package Outline Dimensions

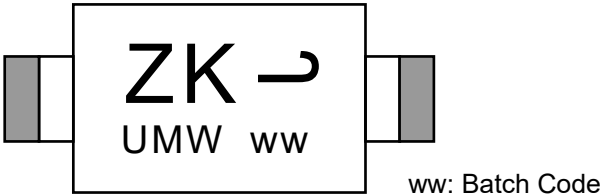


DIMENSIONS (mm are the original dimensions)

Symbol	A	bp	C	D	E	HE	A ₁	p
Min	0.90	0.25	0.10	1.60	1.15	2.30	0.01	0.20
Max	1.20	0.40	0.15	1.80	1.35	2.80	0.10	0.50



9.Ordering information



Order Code	Package	Base QTY	Delivery Mode
UMW SD12CT1G	SOD-323	3000	Tape and reel



10.Disclaimer

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