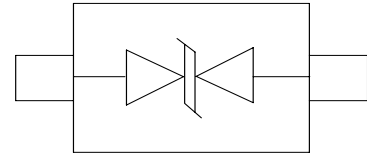


Description

The UMW EK5B0U1S3 is a bi-directional TVS diode, making this device an ideal solution for protecting voltage sensitive data and power line. It is assembled into an ultra-small SOD-323 lead-free package. The small size and high.

ESD surge protection make EK5B0U1S3 an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.



Features

- Ultra low capacitance: 20 pF typical
- Ultra low leakage: nA level
- Low operating voltage: 5V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-5 (Lightning) 10A (8/20 μs)

Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, LCD Displays

Limiting Values($T_A = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

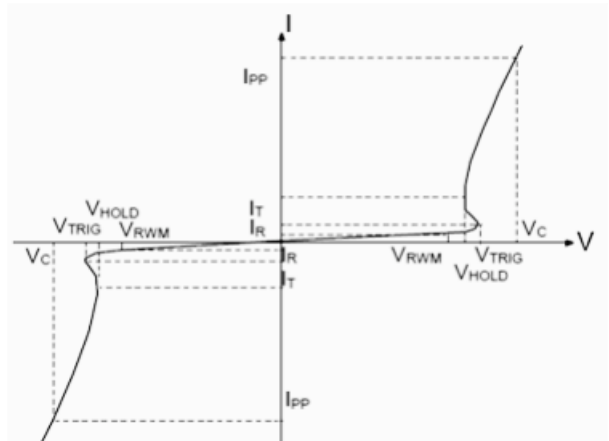
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μ s)	Ppk	150	W
Peak Pulse Current (8/20 μ s)	IPP	10	A
ESD per IEC 61000-4-2 (Air)	VESD	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	TJ	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics($T_A = 25\text{ }^{\circ}\text{C}$)

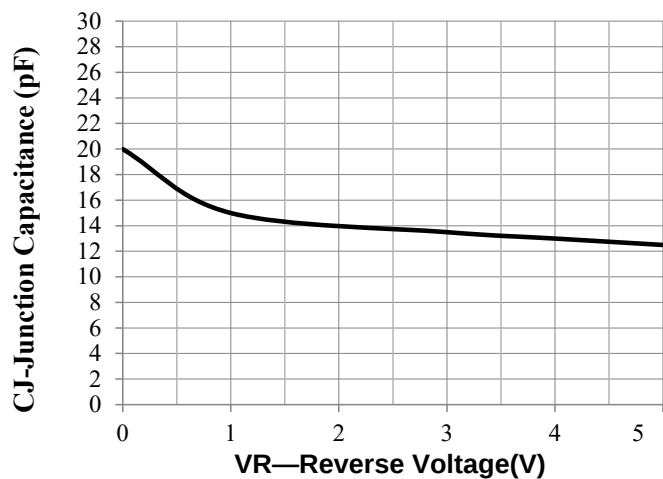
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V _{RWM}				5.0	V
Breakdown Voltage	V _{BR}	I _T = 1mA	6.0	7.0		V
Reverse Leakage Current	I _R	V _{RWM} = 5.0V			0.5	μA
Clamping Voltage	V _C	I _{PP} = 1A (8 x 20 μ s pulse)			7.5	V
Clamping Voltage	V _C	I _{PP} = 10A (8 x 20 μ s pulse)		12	15	V
Junction Capacitance	C _J	V _R = 0V, f = 1MHz		20	25	pF

Portion Electronics Parameter

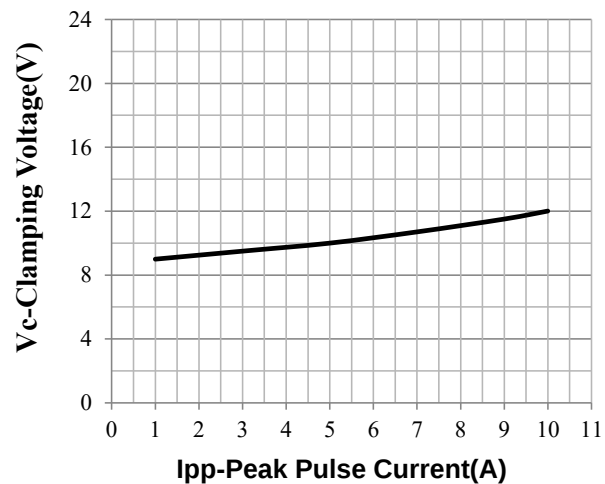
Symbol	Parameter
V _{RWM}	Peak Reverse Working Voltage
I _R	Reverse Leakage Current @ V _{RWM}
V _{BR}	Breakdown Voltage @ I _T
I _T	Test Current
I _{PP}	Maximum Reverse Peak Pulse Current
V _C	Clamping Voltage @ I _{PP}



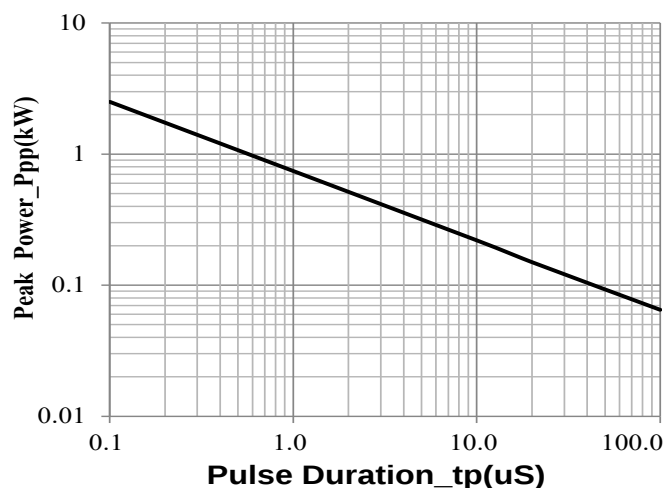
Typical Characteristics



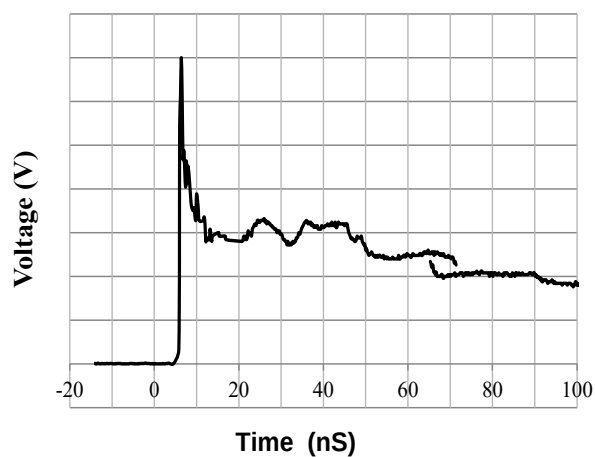
Junction Capacitance vs. Reverse Voltage



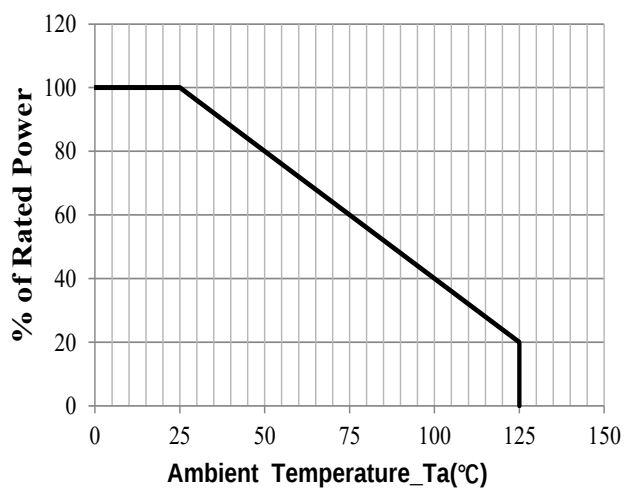
Clamping Voltage vs. Peak Pulse Current



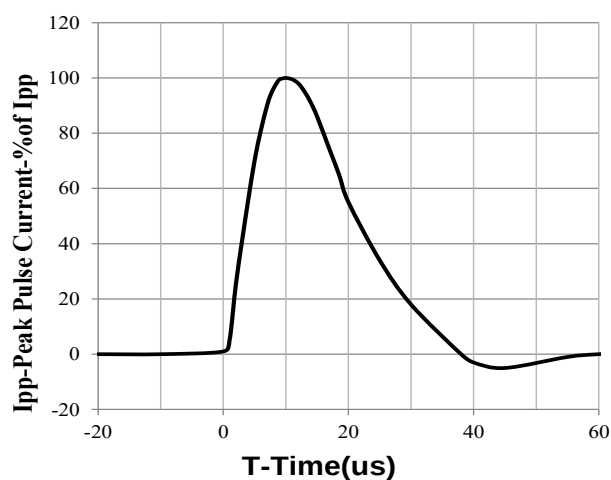
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform

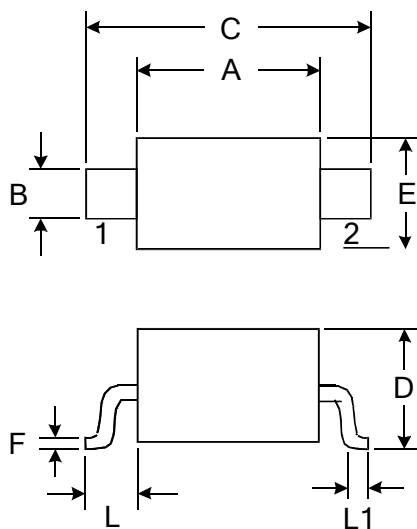


Power Derating Curve



8 X 20us Pulse Waveform

Outline Drawing – SOD-323



DIMENSIONS				
SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	1.600	1.800	0.063	0.071
B	0.250	0.350	0.010	0.014
C	2.500	2.700	0.098	0.106
D		1.000		0.039
E	1.200	1.400	0.047	0.055
F	0.080	0.150	0.003	0.006
L	0.475 REF		0.019REF	
L1	0.250	0.400	0.010	0.016
H	0.000	0.100	0.000	0.004

Marking



Ordering information

Order code	Package	Baseqty	Deliverymode
UMW ESDK5B0U1S3	SOD-323	3000	Tape and reel