

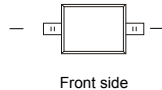
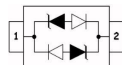
DESCRIPTION

Designed to protect voltage sensitive electronic components from ESD and other transients. Excellent clamping capability, low leakage, low capacitance, and fast response time provide best in class protection on designs that are exposed to ESD.

The combination of small size, low capacitance, and high level of ESD protection makes them a flexible solution for applications such as HDMI, Display Port TM, and MDDI interfaces. It is designed to replace multi-layer varistors (MLV) in consumer equipments applications such as mobile phone, notebook, PAD, STB, LCD TV etc.

FEATURES

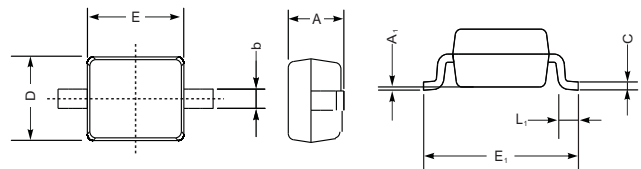
- Bi-directional ESD protection of one line
- Low capacitance: 1pF
- Low reverse stand-off voltage: 3.3V, 5V, 8V, 12V, 15V, 24V
- Low reverse clamping voltage
- Low leakage current
- Excellent package: 1.7mm × 1.3mm × 1.0mm
- Fast response time
- JESD22-A114-B ESD Rating of class 3B per human body model
- IEC 61000-4-2 Level 4 ESD protection



APPLICATIONS

- Cellular phones
- Audio and video equipment
- Handheld-Wireless Systems
- PDA's
- Ethernet – 10/100/1000 Base
- Portable electronics
- USB Interface
- Other electronics equipments communication systems

SOD323



UNIT		A	C	D	E	E ₁	b	L ₁	A ₁
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—
mil	max	43	5.9	55	70	108	16	16	8
	min	32	3.1	47	63	100	9.8	7.9	—

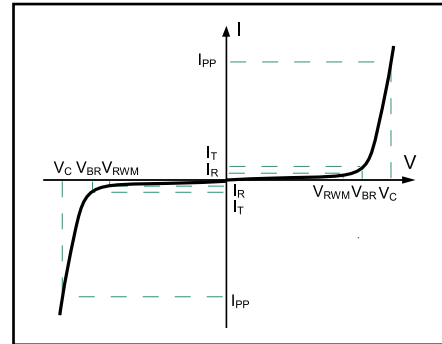
MAXIMUM RATINGS T =25°C unless otherwise noted

Symbol	Parameter	Value	Units
V _{ESD}	ESD per IEC 61000-4-2 (Air)	±20	kV
	ESD per IEC 61000-4-2 (Contact)	±20	
P _{PP}	Peak Pulse Power (8/20μs)	350	W
T _{OPT}	Operating Temperature	-55/+150	°C
T _{STG}	Storage Temperature	-55/+150	°C
T _L	Lead Soldering Temperature	260	°C

BV03C-BV24C

ELECTRICAL PARAMETER

Symbol	Parameter
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Peak Pulse Current
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_R	Reverse Leakage Current @ V_{RWM}
V_{RWM}	Reverse Standoff Voltage



V-I characteristics for a Bi-directional TVS

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

PART	DEVICE MARKING	V_{RWM}	V_B	I_T	$V_C@1A$	V_C		I_R	C
		(V) (max.)	(V) (min.)	(mA)	(V) (max.)	(V) (max.)	(@A)	(μA) (max.)	(pF) (typ.)
BV03C	CC	3.3	4.0	1	7.0	15	20	1	1
BV05C	AC	5.0	6.0	1	9.8	20	20	1	1
BV08C	BC	8.0	8.5	1	13.4	25	15	1	1
BV12C	DC	12.0	13.3	1	19.0	30	12	1	1
BV15C	EC	15.0	16.7	1	24.0	40	10	1	1
BV24C	HC	24.0	26.7	1	43.0	60	6	1	1

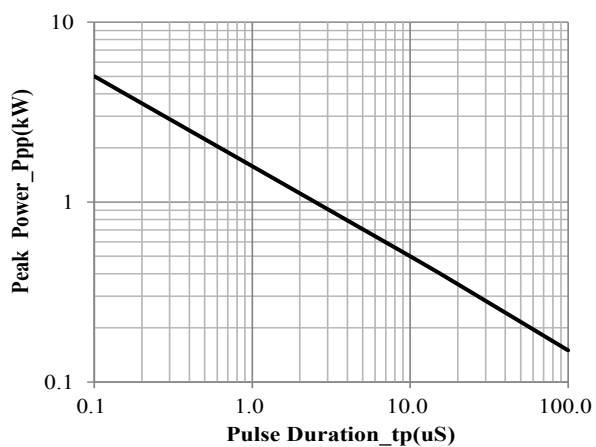
ESD standards compliance IEC61000-4-2 Standard

Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

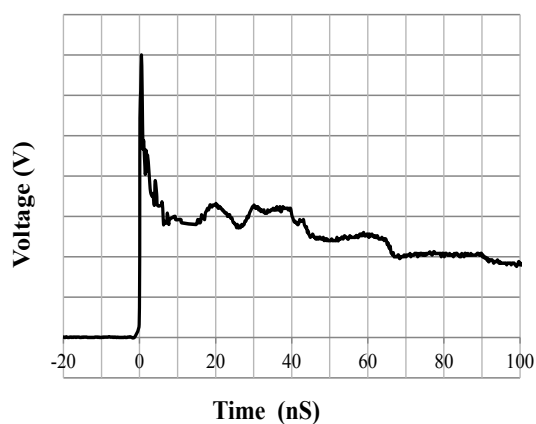
JESD22-A114-B Standard

ESD Class	Human Body Discharge V
0	0~249
1A	250~499
1B	500~999
1C	1000~1999
2	2000~3999
3A	4000~7999
3B	8000~15999

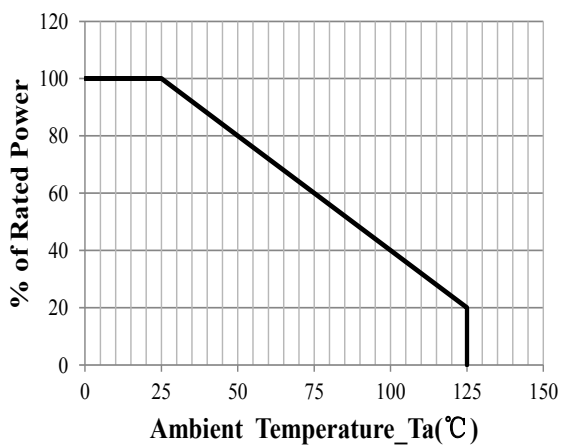
RATING AND CHARACTERISTIC CURVES (BV03C-BV24C)



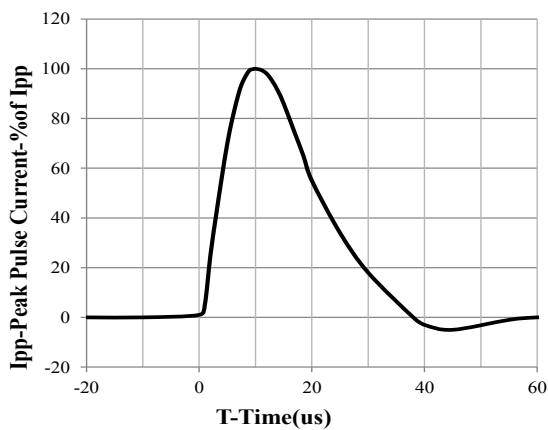
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



Power Derating Curve



8 X 20us Pulse Waveform