GOODWORK

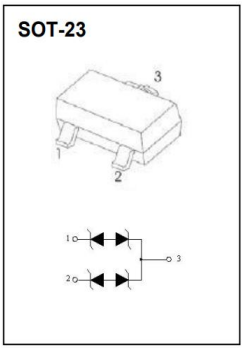
PESD2CAN

Bi-direction ESD Protection Diode

Features

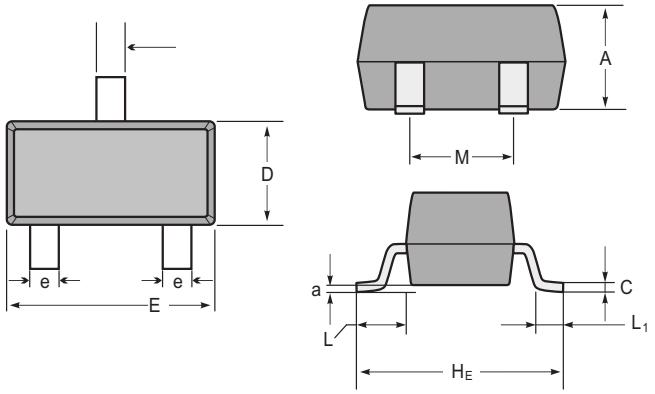
- Bi-directional ESD protection of one line
- Reverse stand−off voltage:24V
- Low reverse clamping voltage
- Low leakage current
- Fast response time
- IEC 61000-4-2 (ESD) immunity test：
- Air discharge: ±30kV
- Contact discharge: ±30kV

SOT-23



Marking Diagram

24M



SOT-23 mechanical data

UNIT		A	C	D	E	HE	e	M	L	L1	a
mm	max	1.1	0.15	1.4	3.0	2.6	0.5	1.95	0.55 (ref)	0.36 (ref)	0.0
	min	0.9	0.08	1.2	2.8	2.2	0.3	1.7			0.15
mil	max	43	6	55	118	102	20	77	22 (ref)	14 (ref)	0.0
	min	35	3	47	110	87	12	67			6

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 multiplayer varistors (MLV) in consumer equipments applications such as mobile phone, notebook, PAD, STB, LCD TV etc.

Applications

- Computers and peripherals
- High speed data lines
- Audio and video equipment
- Cellular handsets and accessories
- Subscriber identity module(SIM) card protection
- Portable electronics
- FireWire
- Other electronics equipments communi- cation systems

PESD2CAN

Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

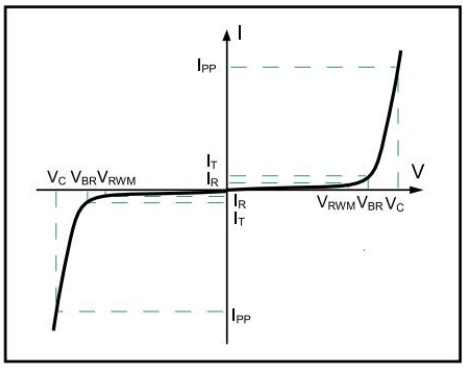
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	350	W
Peak Pulse Current (8/20μs)	IPP	7	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	VESD	±30 ±30	kV
Operating Temperature Range	TJ	−55to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

Electrical Characteristics (T_A=25°C unless otherwise specified)

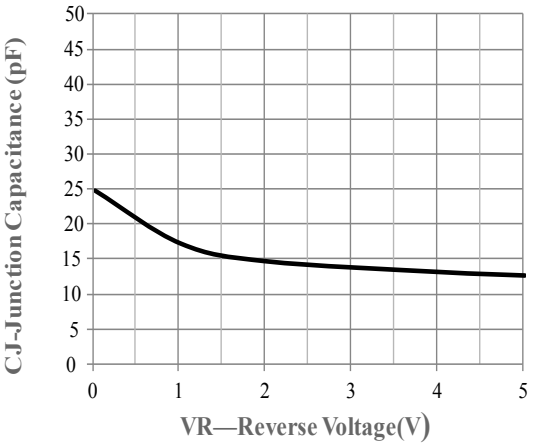
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	VR_{WM}				24	V
Breakdown Voltage	VBR	I_T = 1mA	27.2		30.2	V
Reverse Leakage Current	IR	VR_{WM} = ±24V			0.1	uA
Clamping Voltage	Vc	I_{PP} = 7A (8 x 20μs pulse)			50	V
Junction Capacitance	Cj	VR = 0V, f = 1MHz			25	pF

Electronics Parameter

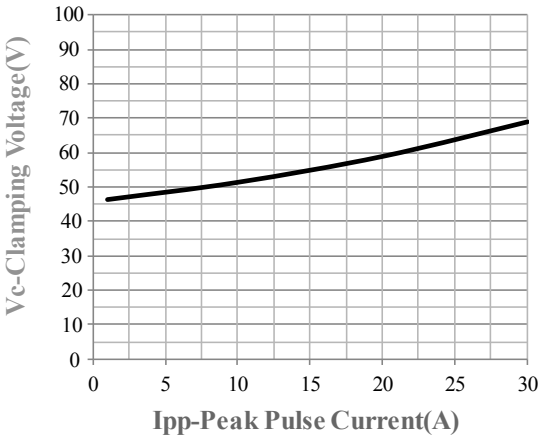
Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @Ic
V_{BR}	Breakdown Voltage @ IT
I_R	Reverse Leakage Current @ VRWM
V_{RWM}	Reverse Standoff Voltage



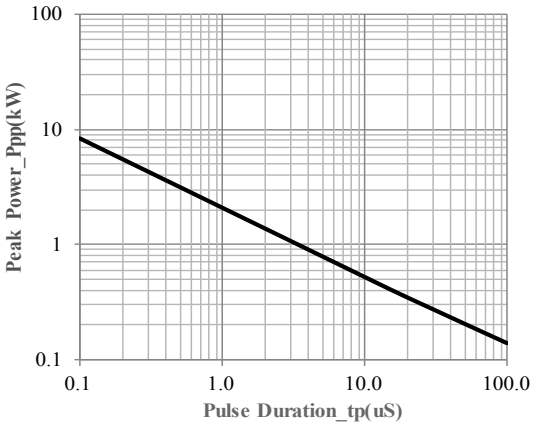
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



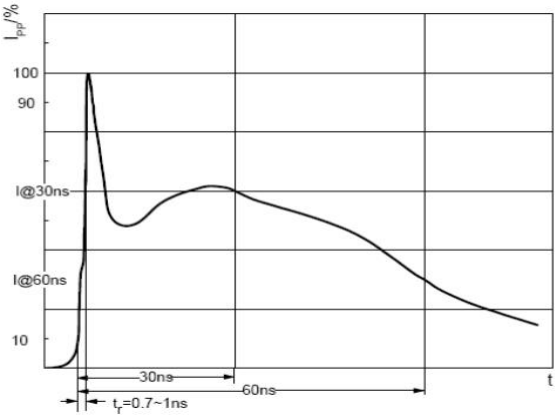
Junction Capacitance vs. Reverse Voltage



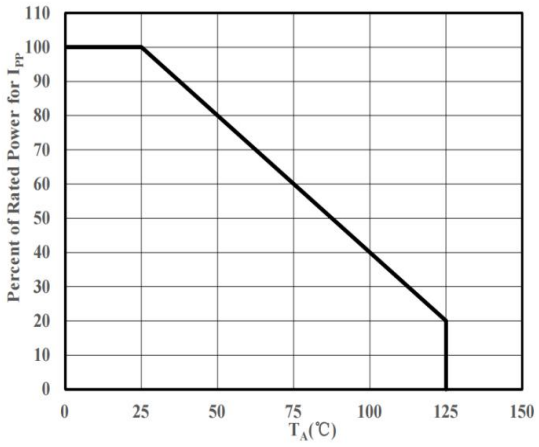
Clamping Voltage vs. Peak Pulse Current



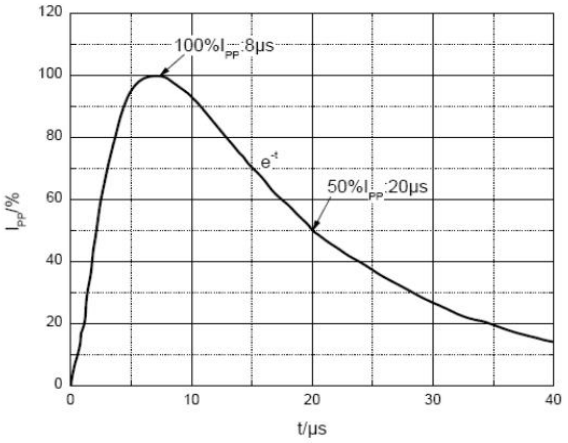
Peak Pulse Power vs. Pulse Time



ESD pulse waveform according to IEC61000-4-2



Power Derating Curve



8/20μs pulse waveform according to IEC 61000-4-5