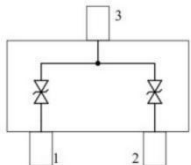


2-Line Bidirectional ESD Protection Diode

SOT23

## schematic & pin configuration

circuit diagraml	pinning
	<p>PIN1 Lines 1            PIN2 Lines 2            PIN3 common pin</p>

## General description

These dual monolithic silicon surge protection diodes are designed for applications requiring transient overvoltage protection capability. They are intended for use in voltage and ESD Sensitive equipment. as computers, printers, business machines, communication systems, medical equipment and other applications. Their bi-directional double ESD design protects two separate lines using only one package. These devices are ideal for situations where board space is at a premium.

## Features and benefits

- Bi-directional ESD Protection of 2 lines
- Reverse stand-off voltage: 3.3v Max
- Low clamping voltage
- Low leakage current: nA Level
- Response time is typically < 1 ns
- ESD Protection: 30kv(air)/30kv(contact) ( IEC61000-4-2)

## Application information

- cellular handsets and accessories
- portable electronics
- computers and peripherals
- communication systems
- Audio and video equipment.

## ordering information

Device	package	packaging	Reel size
SM03CN	SOT23	3000/Tape & Reel	7 inch

## Maximum Ratings (Top = 25 °C ,unless otherwise specified)

parameter	sympo	value	unit
peak pulse power (tp = 8/20 μ S)	PPPM	450	W
peak pulse current(tp = 8/20 μ S)	IPPM	38	A
Maximum lead temperature for soldering during 10s	TL	260	°C
storage Temperature Range	Tstg	-55 to +150	°C
operating Temperature Range	TOP	-40 to +125	°C
Maximum junction temperature	Tj	150	°C
ESD Voltage IEC 61000-4-2 (air discharge)	VESD	30	kv
ESD Voltage IEC 61000-4-2 (contact discharge)	VESD	30	kv

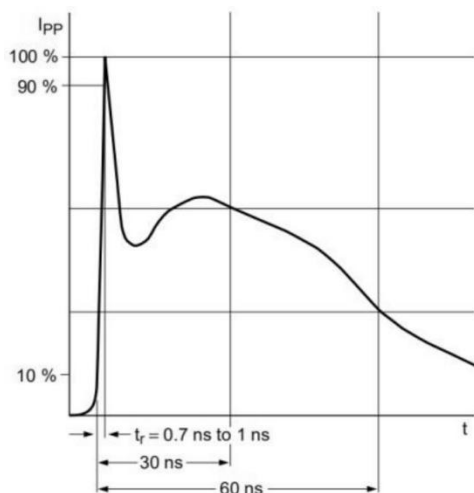
## Electrical characteristics (Top = 25 °C, unless otherwise specified)

parameter	symbol	Min	TYP	Max	unit	condition
Reverse working voltage	VRWM	--	--	3.3	V	
Breakdown voltage	VBR	4.0	--	6.0	V	IT= 1mA
Leakage current Leak	IR	--	--	200	nA	VRWM=3.3V
clamping voltage	Vc	--	--	8.5	V	Ipp=20A, TP=8/20μS
		--	--	12.0		Ipp=38A, TP=8/20μS
Dynamic Resistance	RDYN	--	0.1	--	Ω	TLP=0.2/100ns
Junction capacitance	Cj	--	66	70	PF	VR=OV, f= 1MHz

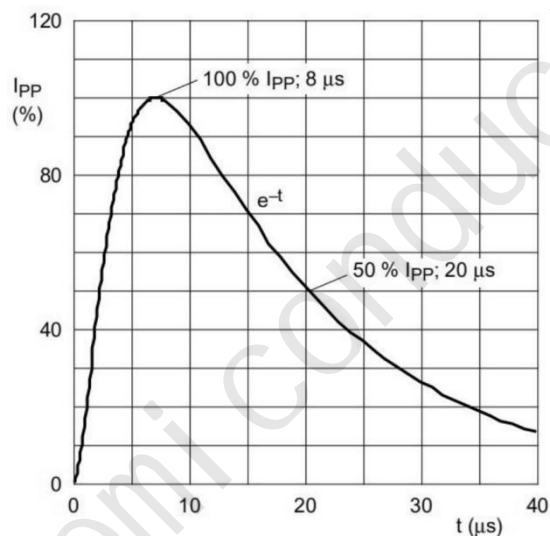
Note:

TLP Setting: tp= 100ns, tr=0.2ns, ITLP and VTLP Sample window:t1=70ns to t2=90ns

Typical characteristics



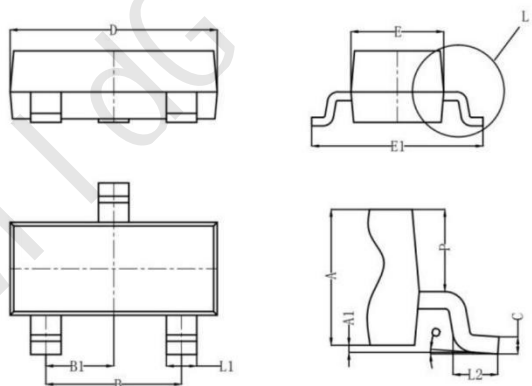
IEC61000 -4-2 waveform



IEC 61000 -4-5 waveform( 8/20μs pulse)

package outline Dimensions

SOT23



symbo	Dimensions (mm)		
	Min	TYP	Max
A	0.900	1.000	1.1100
A1	0.000	0.050	0.100
L1	0.350	0.400	0.500
C	0.100	0.110	0.120
D	2.800	2.900	3.000
E	1.250	1.300	1.350
E1	2.250	2.400	2.550
B	1.800	1.900	2.000
B1	0.950 TYP		
L2	0.200	0.350	0.450
P	0.550	0.575	0.600