

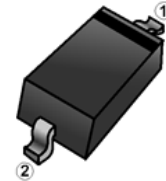
RoHS Compliant Product
A suffix of "-C" specifies halogen and lead-free

DESCRIPTION

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 which are exposed to ESD.

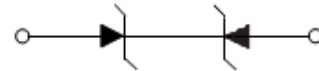
The combination of small size, low capacitance and high level of ESD protection makes the product a flexible solution for applications such as automotive LIN bus Line, CAN bus Line, HDMI, Display Port TM and MDDI interfaces.

SOD-323



FEATURES

- Bi-Directional ESD Protection of One Line
- Reverse Stand-off Voltage: +24V/-15V
- Low Reverse Clamping Voltage
- Low Leakage Current
- Low Capacitance
- Fast Response Time
- JESD22-A114-B ESD Rating of Class 3B Per Human Body Model
- IEC 61000-4-2 Level 4 ESD Protection
- Qualified to AEC-Q101 Standards for High Reliability



MARKING

BNC

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOD-323	3K	7 inch

ORDER INFORMATION

Part Number	Type
SD1524CCR-C	Lead (Pb)-free and Halogen-free

ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise specified)

Parameter		Symbol	Ratings	Unit	
IEC 61000-4-2 ESD Voltage ¹	Air Model	V _{ESD}	±25	kV	
	Contact Model		±25		
	JESD22-A114-B ESD Voltage ¹		Per Human Body Model		±16
	ESD Voltage ¹		Machine Model		±0.4
Peak Pulse Power ²		P _{PP}	320	W	
Peak Pulse Current ²		I _{PP}	7.5	A	
Maximum Lead Solder Temperature @10Second Duration		T _L	260	°C	
Junction and Storage Temperature Range		T _J , T _{STG}	150, -55~150	°C	

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
From Pin 2 to Pin 1						
Reverse Stand-off Voltage ¹	V_{RWM}	-	-	24	V	
Reverse Leakage Current	I_R	-	-	1	μA	$V_{RWM}=24\text{V}$
Breakdown Voltage	$V_{(BR)}$	27.4	-	34	V	$I_T=1\text{mA}$
Clamping Voltage ²	V_C	-	-	39	V	$I_{PP}=1\text{A}$
		-	-	46		$I_{PP}=3\text{A}$
		-	53.5	-		$I_{PP}=7.5\text{A}$
Junction Capacitance	C_J	-	21	-	pF	$V_R=0\text{V}$, $f=1\text{MHz}$
From Pin 1 to Pin 2						
Reverse Stand-off Voltage ¹	V_{RWM}	-	-	15	V	
Reverse Leakage Current	I_R	-	-	1	μA	$V_{RWM}=15\text{V}$
Breakdown Voltage	$V_{(BR)}$	17.4	-	21	V	$I_T=1\text{mA}$
Clamping Voltage ²	V_C	-	-	24	V	$I_{PP}=1\text{A}$
		-	-	29.3		$I_{PP}=5\text{A}$
		-	33.3	-		$I_{PP}=9.5\text{A}$
Junction Capacitance	C_J	-	21	-	pF	$V_R=0\text{V}$, $f=1\text{MHz}$

Notes:

1. Device stressed with ten non-repetitive ESD pulses.
2. Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC61000-4-5.

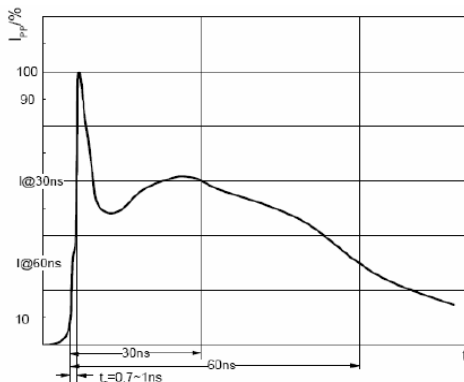
ESD STANDARDS COMPLIANCE

IEC61000-4-2 Standard

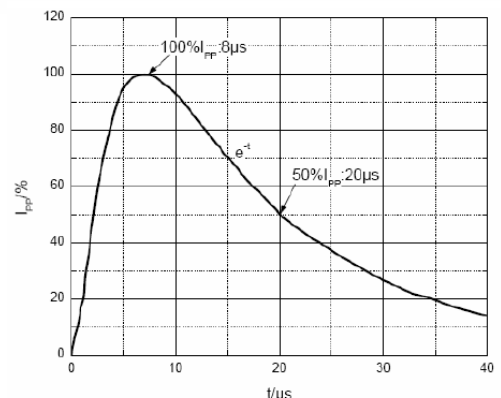
Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

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



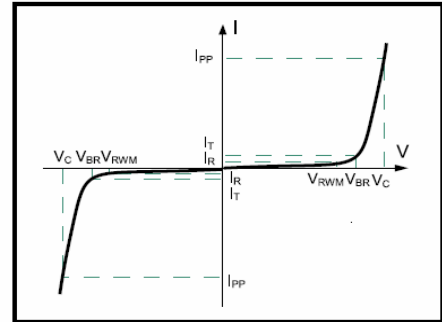
ESD pulse waveform according to IEC61000-4-2



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

ELECTRICAL PARAMETER

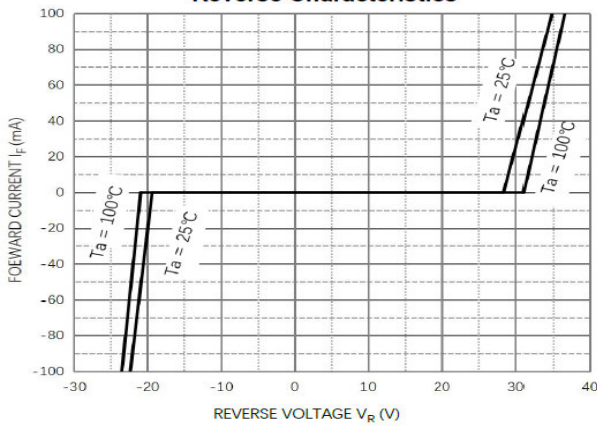
Symbol	Parameter
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Peak Pulse Current
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_R	Reverse Leakage Current @ V_{RWM}
V_{RWM}	Reverse Standoff Voltage



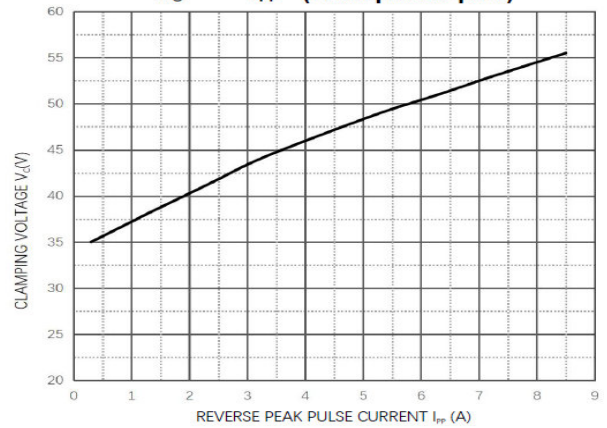
V-I characteristics for a Bi-directional TVS

TYPICAL CHARACTERISTICS

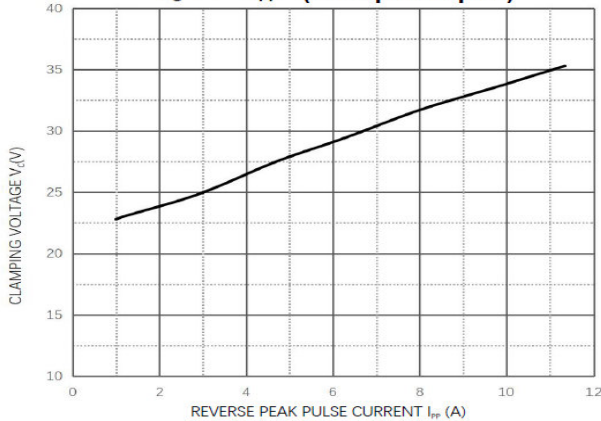
Reverse Characteristics



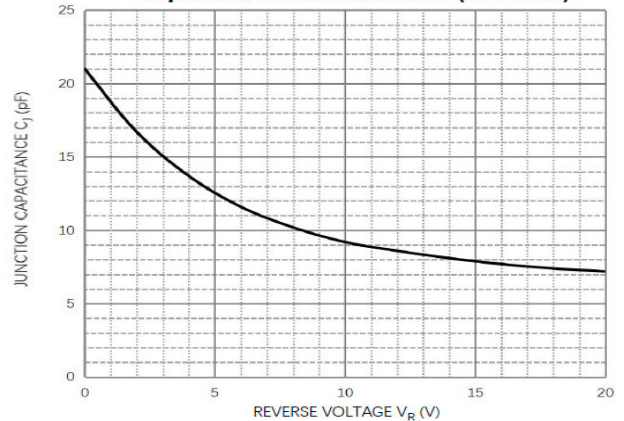
V_C — I_{PP} (From pin2 to pin1)



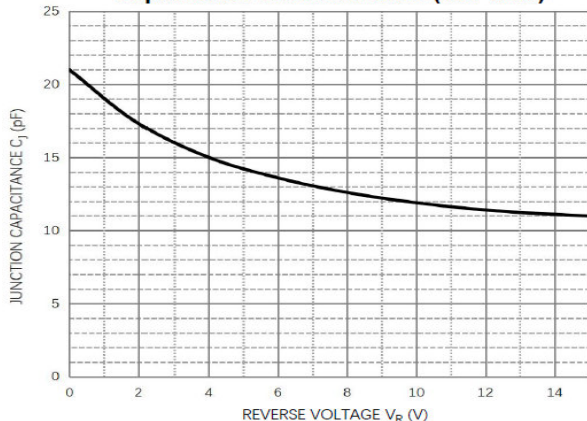
V_C — I_{PP} (From pin1 to pin2)



Capacitance Characteristics (24V Side)

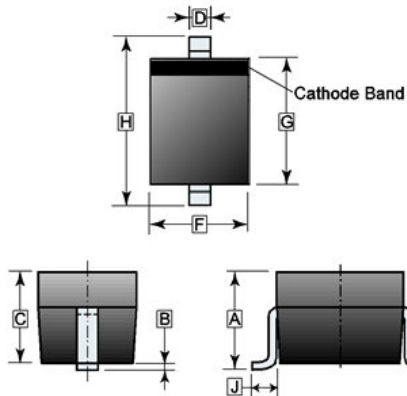


Capacitance Characteristics (15V Side)



PACKAGE OUTLINE DIMENSIONS

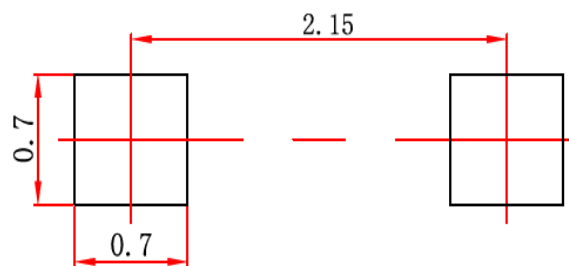
SOD-323



REF.	Millimeter	
	Min.	Max.
A	1.05 REF.	
B	0.07 REF.	
C	0.80	1.10
D	0.25	0.40
E	0.05	0.25
F	1.10	1.50
G	1.50	1.95
H	2.30	2.80
J	0.475 REF.	

MOUNTING PAD LAYOUT

SOD-323



*Dimensions in millimeters