

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

## DESCRIPTION

This series are ultra-low capacitance transient voltage suppressor arrays, designed to protect applications such as portable electronics and SMART phones. This series is available in bidirectional configurations and is rated at 350 Watts for an 8/20 $\mu$ s wave shape.

This series meets IEC 61000-4-2 (ESD) and IEC 61000-4-4 (EFT) requirements. At higher operating frequencies or faster edge rates, insertion loss and signal integrity are a major concern. This series offers ultra-low capacitance and low leakage current in a miniature SOD-323 package.

## FEATURES

- Transient protection for high-speed data lines
- IEC61000-4-2 (ESD)  $\pm 30$ kV (air),  $\pm 30$ kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- Protects one I/O line (bidirectional)
- Low clamping voltage
- Low leakage current
- Response time < 1ns

## MECHANICAL DATA

- Case: SOD-323
- Flammability Rating: UL 94V-0
- High Temperature Soldering Guaranteed: 260°C/10s
- MSL1

## MARKING

<b>Part Number</b>	SD03CL-C	SD05CL-C	SD08CL-C
<b>Marking</b>	CC	AC	BC
<b>Part Number</b>	SD12CL-C	SD15CL-C	SD24CL-C
<b>Marking</b>	DC	EC	HC

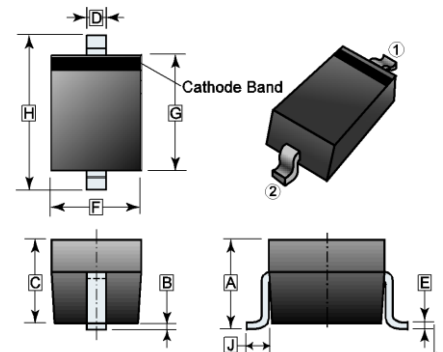
## PACKAGE INFORMATION

<b>Package</b>	<b>MPQ</b>	<b>Leader Size</b>
SOD-323	3K	7 inch

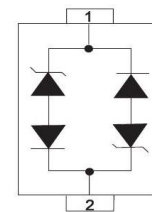
## MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
ESD per IEC 61000-4-2	Air	$\pm 30$	kV
	Contact	$\pm 30$	
Peak Pulse Power (tp=8/20 $\mu$ s)	P <sub>PP</sub>	350	W
Lead Soldering Temperature	T <sub>L</sub>	260	°C
Operating Temperature Range	T <sub>OPT</sub>	-55~150	
Storage Temperature Range	T <sub>STG</sub>	-55~150	

## SOD-323



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



Top View

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

Part Number	Rated- Stand-off Voltage	Reverse Breakdown Voltage		Maximum Clamping Voltage @8/20 $\mu\text{s}$ P <sub>PP</sub>				Leakage Current	Capacitance	
	V <sub>RWM</sub>	V <sub>BR</sub> @I <sub>T</sub>		V <sub>C</sub> @1A	V <sub>C</sub> @I <sub>PP</sub>				I <sub>R</sub> @V <sub>RWM</sub>	C <sub>T</sub>
	Max.	Min.	I <sub>T</sub>		Max.	I <sub>PP</sub>	Max.	I <sub>PP</sub>	Max.	Typ.
	V	V	mA	V	V	A	V	A	$\mu\text{A}$	pF
SD03CL-C	3	4	1	7	13.9	8	20	20	5	0.8
SD05CL-C	5	6	1	9.8	18.3	8	20	18	1	0.8
SD08CL-C	8	8.5	1	13.4	18.5	8	24	18	1	0.8
SD12CL-C	12	13.3	1	19	24	6	28.6	12	1	0.8
SD15CL-C	15	16.7	1	24	29	5	31.8	10	1	0.8
SD24CL-C	24	26.7	1	43	45	3	56	6	1	0.8

**CHARACTERISTICS CURVES**

Fig 1 8/20 $\mu\text{s}$  Waveform per IEC61000-4-5

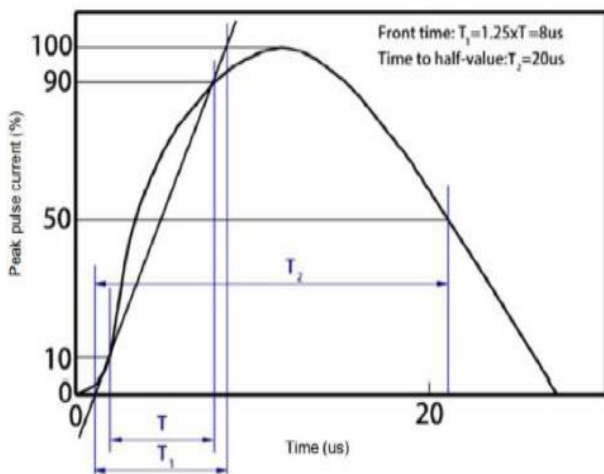


Fig 2 Contact Discharge Current Waveform per IEC61000-4-2

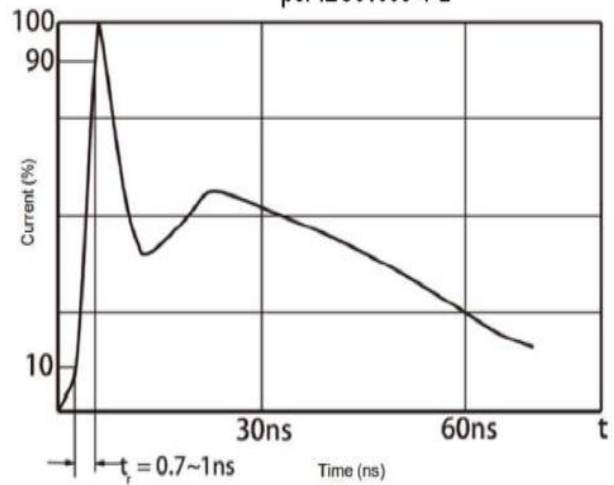


Fig 3 Voltage vs Capacitance

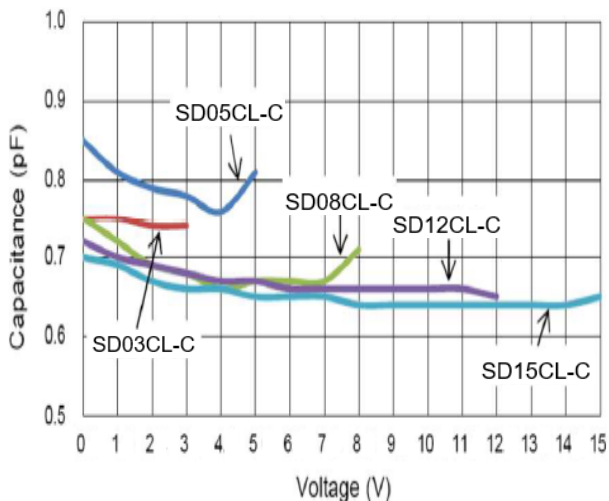
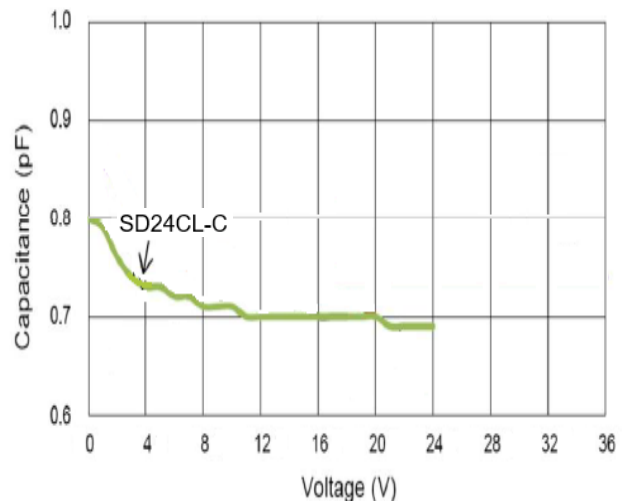
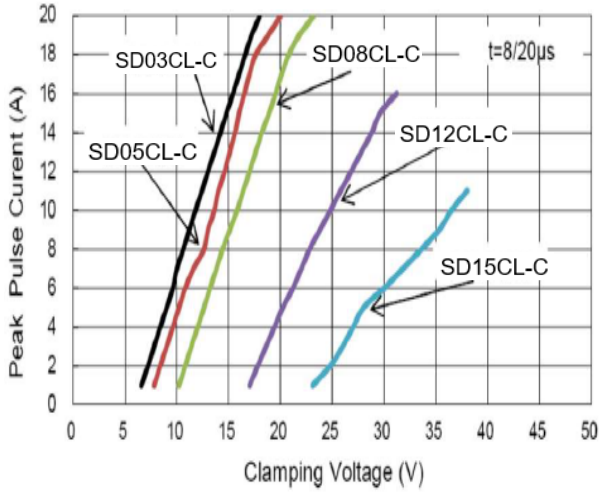


Fig 4 Voltage vs Capacitance

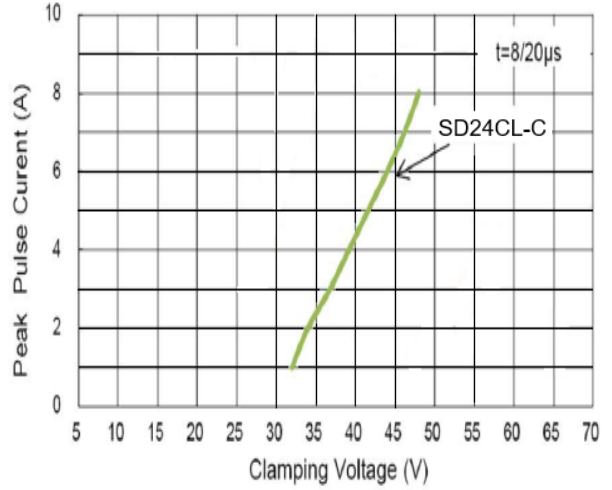


**CHARACTERISTICS CURVES**

**Fig 5 Clamping Voltage vs Peak Pulse Current**



**Fig 6 Clamping Voltage vs Peak Pulse Current**



**Fig 7 Mounting Pad Layout**

