Elektronische Bauelemente

ESDK12CL-C

150W, 12V

Ultra Low Capacitance ESD Protection Diode (Bi-direction)

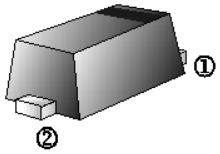
RoHS Compliant Product
A suffix of "-C" specifies halogen and lead-free

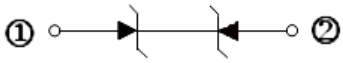
DESCRIPTION

ESDK12CL-C is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, it is suited for use in cellular phones, portable devices, digital cameras, power supplies and many other portable applications where board space comes at a premium. Also because of its low capacitance, it is suited for use in high frequency designs such as high speed line applications.

This device has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD (electrostatic discharge), and EFT(electrical fast transients).

SOD-523





FEATURES

- Protects One V_{CC} or Data Line
- Low Clamping Voltage
- Low Capacitance
- Low Leakage Current
- Flammability Rating: UL 94V-0

MARKING

MOC

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOD-523	3K	7 inch

ORDER INFORMATION

Part Number	Type
ESDK12CL-C	Lead (Pb)-free and Halogen-free

ABSOLUTE MAXIMUM RATINGS (T_A=25℃ unless otherwise specified)

Parameter		Symbol	Ratings	Unit
IEC 61000-4-2 ESD Voltage	Air Model	V_{ESD}	±30	kV
	Contact Model		±30	
Peak Pulse Power @tp=8/20μs		P_{PP}	150	W
Peak Pulse Current		I_{PP}	6	A
Maximum Lead Solder Temperature (10 Second Duration)		T_L	260	℃
Operating Junction Temperature Range		T_J	-55~125	
Storage Temperature Range		T_{STG}	-55~150	

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ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Reverse Stand-off Voltage	V_{RWM}	-	-	12	V	
Breakdown Voltage	$V_{(BR)}$	13.3	-	-	V	I_T=1mA
Reverse Leakage Current	I_R	-	-	1	μA	V_{RWM}=12V
Clamping Voltage @tp=8/20μs	V_C	-	-	19	V	I_{PP}=1A
		-	-	25		I_{PP}=6A
Junction Capacitance	C_J	-	8	15	pF	V_R=0V, f=1MHz

RATINGS AND CHARACTERISTICS CURVES

Fig 1 8/20μS Waveform per IEC61000-4-5

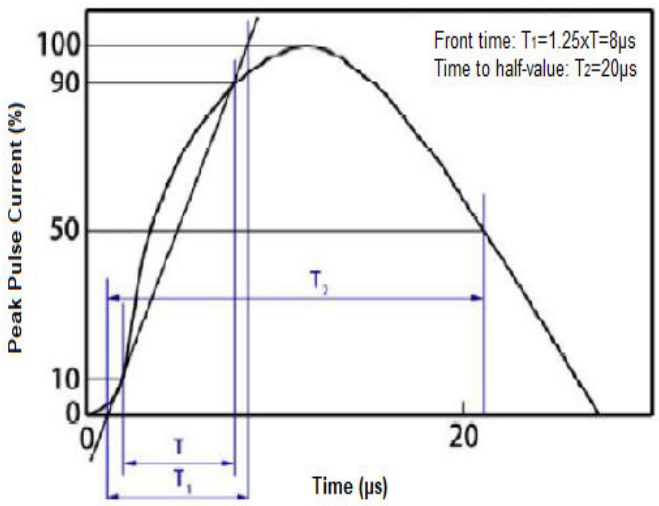


Fig 2 Contact Discharge Current Waveform per IEC 6100-4-2

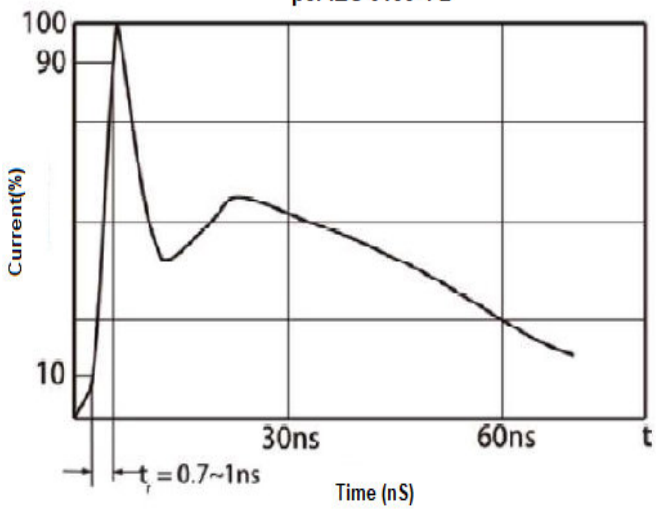


Fig 3 Voltage vs Capacitance

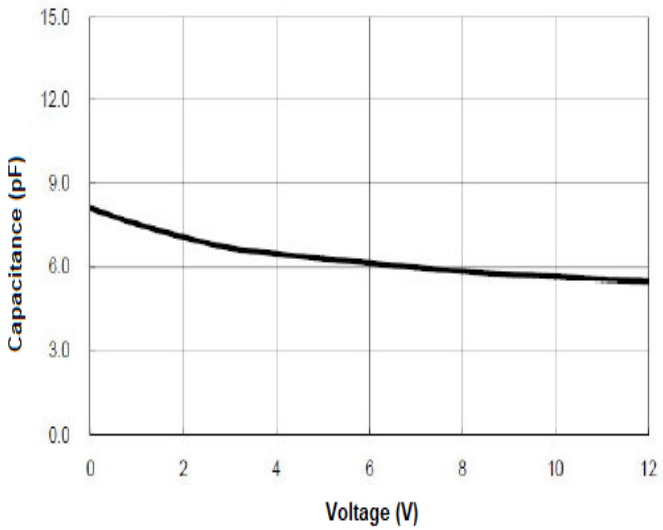
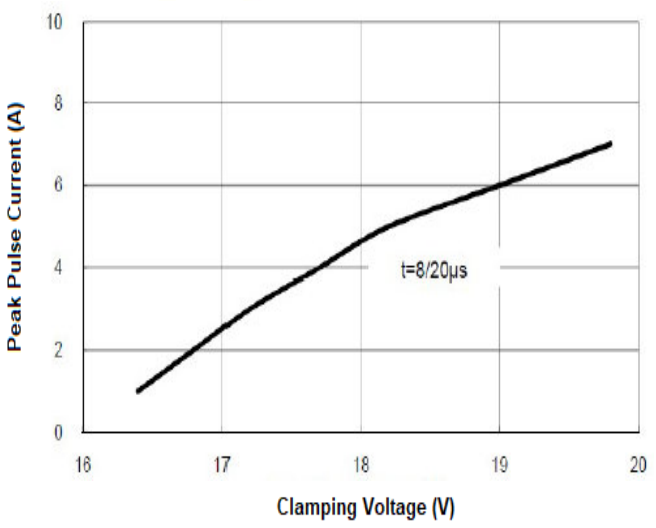
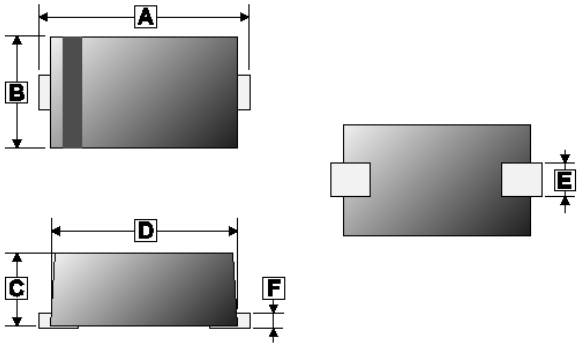


Fig 4 Clamping Voltage vs Peak Pulse Current



PACKAGE OUTLINE DIMENSIONS

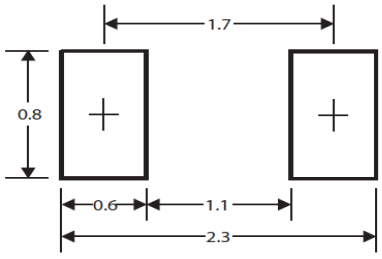
SOD-523



REF.	Millimeter	
	Min.	Max.
A	1.50	1.70
B	0.70	0.90
C	0.50	0.77
D	1.10	1.30
E	0.25	0.40
F	0.05	0.20

MOUNTING PAD LAYOUT

SOD-523



*Dimensions in millimeters