Elektronische Bauelemente

ESDK05CL-C

100W, 5V

Ultra Low Capacitance ESD Protection Diode (Bi-direction)

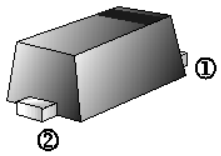
RoHS Compliant Product
A suffix of "-C" specifies halogen and lead-free

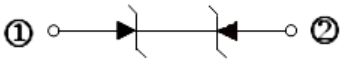
DESCRIPTION

ESDK05CL-C is a low-capacitance Transient Voltage Suppressor (TVS) designed to provide electrostatic discharge (ESD) protection for high-speed data interfaces. With typical capacitance of 0.25pF, it is designed to protect parasitic sensitive systems against over voltage and over current transient events. It complies with IEC 61000-4-2 (ESD) Level 4, IEC 61000-4-4 (EFT), very fast charged device model (CDM) ESD and cable discharge event (CDE), etc.

It uses ultra-small SOD-523 package. Each device can protect one high-speed data line. It offers system designers flexibility to protect single data line where space is a premium concern. The combined features of low capacitance, ultra-small size and high ESD robustness make ESDK05CL-C ideal for high speed data port and high-frequency line applications, such as cellular phones and HD visual devices.

SOD-523





FEATURES

- Transient Protection for High-Speed Data Lines
- IEC61000-4-2 Level 4 ESD Protection
- Protects One Data, Control Line
- Low Capacitance and Clamping Voltage
- Low Leakage Current
- Flammability Rating: UL 94V-0

MARKING

5G

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOD-523	3K	7 inch

ORDER INFORMATION

Part Number	Type
ESDK05CL-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}	±20	kV
	Contact Model		±20	
Peak Pulse Power @tp=8/20μs		P_{PP}	100	W
Peak Pulse Current		I_{PP}	4	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}	-	-	5	V	
Breakdown Voltage	$V_{(BR)}$	6	-	-	V	I_T=1mA
Reverse Leakage Current	I_R	-	-	100	nA	V_{RWM}=5V
Clamping Voltage @tp=8/20μs	V_C	-	-	13	V	I_{PP}=1A
		-	-	25		I_{PP}=4A
Junction Capacitance	C_J	-	0.25	0.4	pF	V_R=0V, f=1MHz

RATINGS AND CHARACTERISTICS CURVES

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

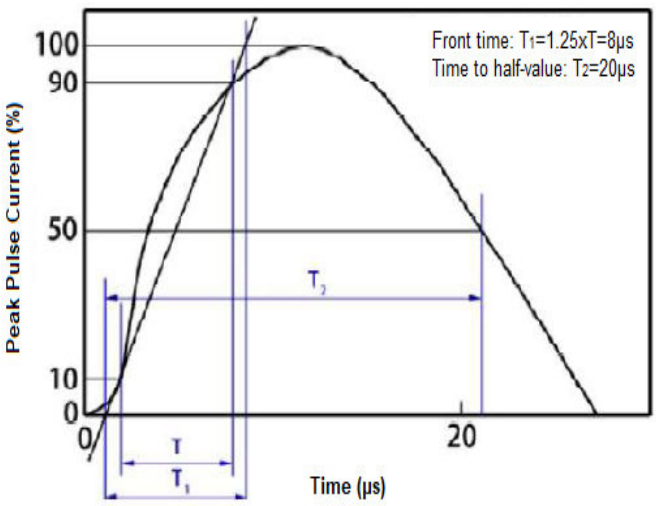


Fig 2 Contact Discharge Current Waveform per IEC 6100-4-2

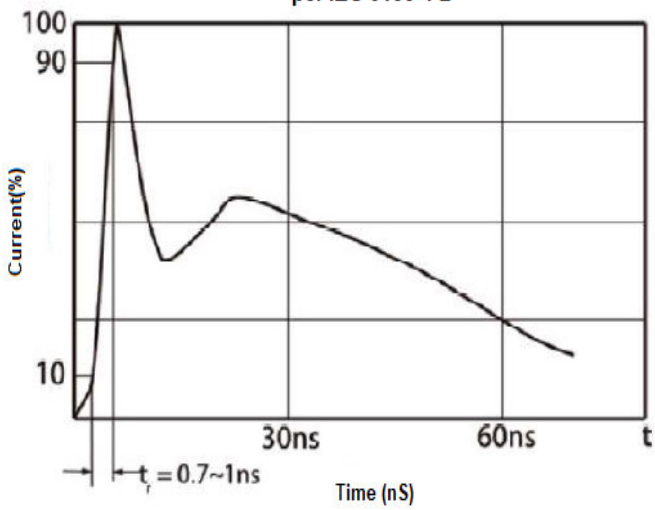


Fig 3 Voltage vs Capacitance

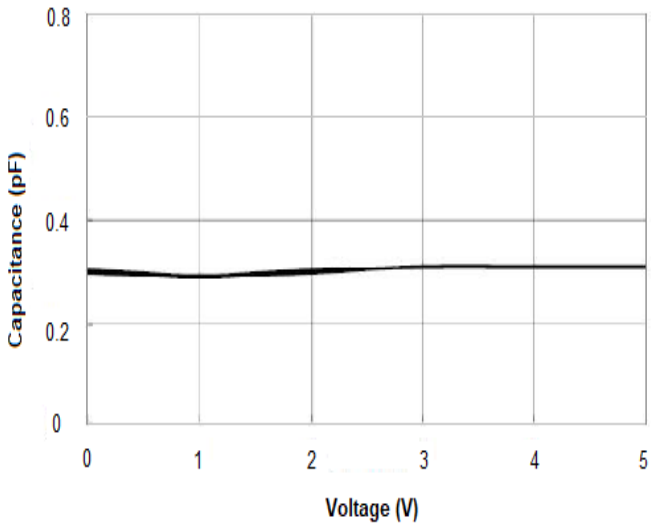
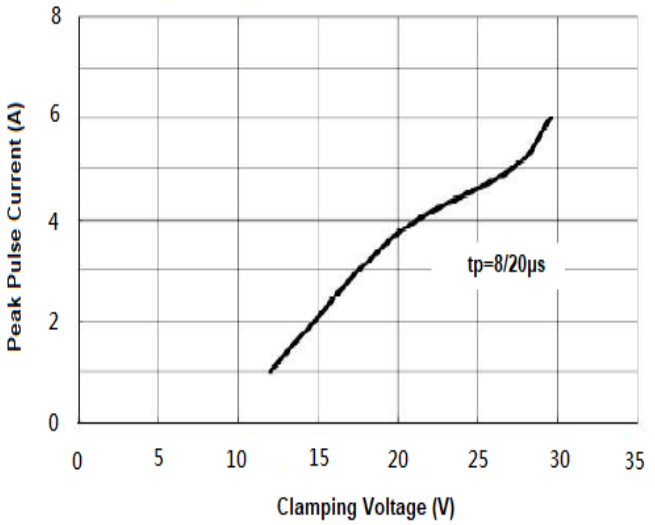


Fig 4 Clamping Voltage vs Peak Pulse Current



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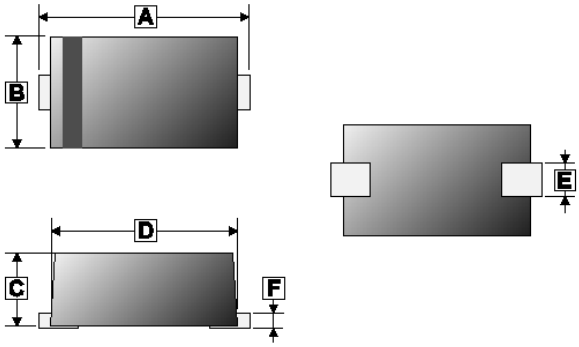
PACKAGE OUTLINE DIMENSIONS

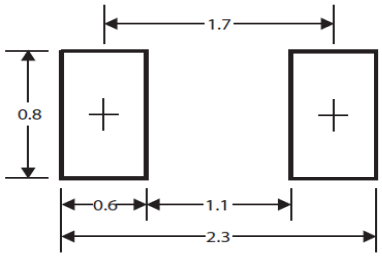
SOD-523



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