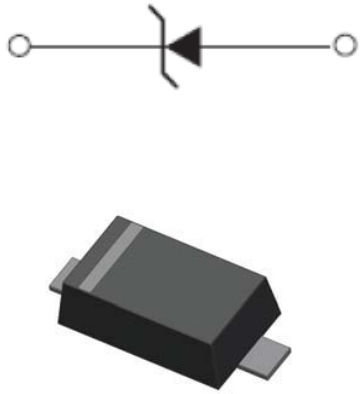
1- Line, Uni-directional, Transient Voltage Suppressor



SOD-523

Features

- Ultra small package
- Stand-off voltage: 5V Max
- Transient protection for each line according to
  IEC61000-4-2(ESD): ±30kV (contact)
  IEC61000-4-5(surge): 18A (8/20μs)
- Ultra-low capacitance: CJ = 150 pF typ
- Low leakage current
- Low clamping voltage
- RoHS Compliant

Applications

- Cellular handsets
- Tablets
- Laptops
- Network communication devices
- Other portable devices

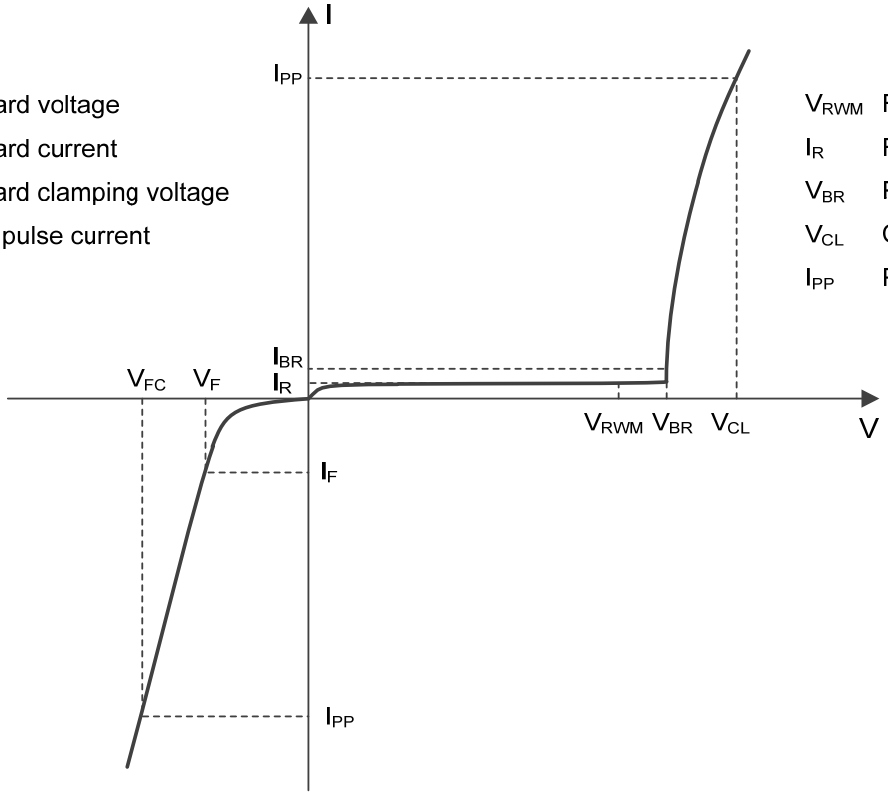
Mechanical Characteristics

- Package: SOD-523-2L
- Case Material: “Green” Molding Compound.
- Marking Information: See Below



■Definitions of electrical characteristics

V_F	Forward voltage
I_F	Forward current
V_{FC}	Forward clamping voltage
I_{PP}	Peak pulse current



V_{RWM}	Reverse stand-off voltage
I_R	Reverse leakage current
V_{BR}	Reverse breakdown voltage
V_{CL}	Clamping voltage
I_{PP}	Peak pulse current

■Absolute Maximum Ratings (Ta=25°C unless otherwise specified)

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power (t_p = 8/20μs)	P_{pk}	240	W
Peak pulse current (t_p = 8/20μs)	I_{PP}	20	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±30	KV
ESD according to IEC61000-4-2 contact discharge		±30	KV
Junction temperature	T_J	125	°C
Storage temperature	T_{STG}	-55~150	°C

■Electrical Characteristics (Ta=25℃ Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				5
Reverse breakdown voltage	V_{BR}	V	I_{BR} = 1mA	6		
Reverse leakage current	I_R	nA	V_{RWM} =5V			500
Clamping voltage 3)	V_{CL}	V	I_{PP} = 5A, t_p = 8/20μs			9
		V	I_{PP} = 20A, t_p = 8/20μs			12
Junction capacitance	C_J	pF	V_R = 0V, f = 1MHz		150	

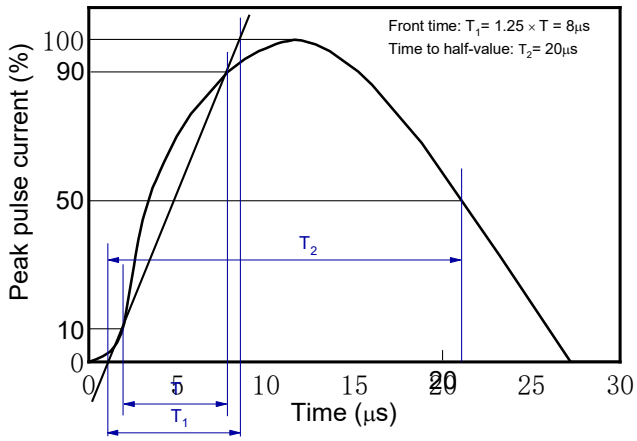
(1). TLP parameter: Z_0 = 50Ω, t_p = 100ns, t_r = 2ns, averaging window from 60ns to 80ns. R_{DYN} is calculated from 4A to 16A.
(2). Contact discharge mode, according to IEC61000-4-2.
(3). Non-repetitive current pulse, according to IEC61000-4-5.

■Ordering Information (Example)

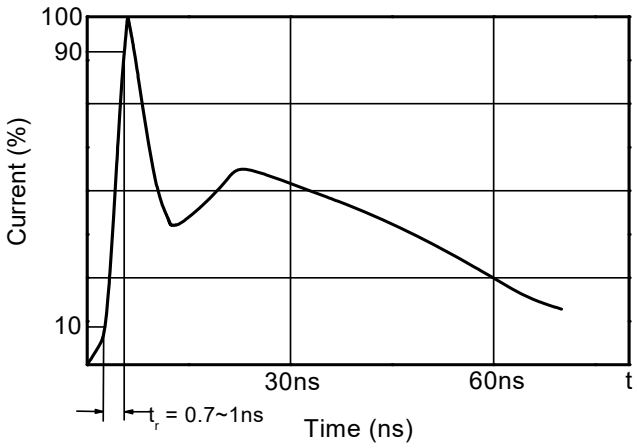
PREFERED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD5V0D5A	Approximate 2	8000	80000	320000	Tae& reel

■ Typical Performance Characteristics (Ta=25℃ unless otherwise Specified)

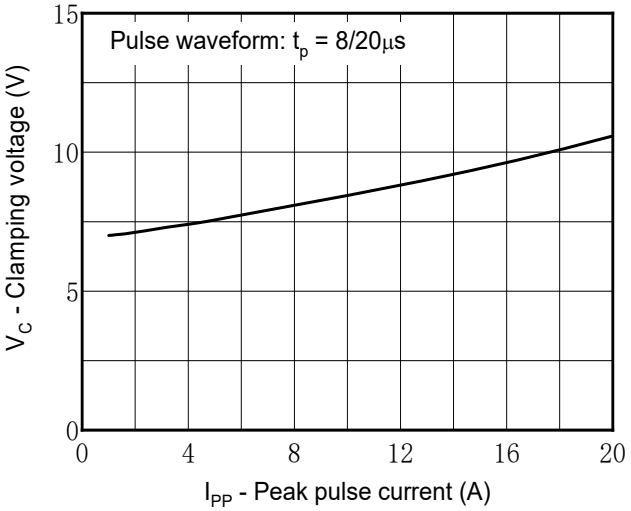
8/20μs waveform per IEC61000-4-5



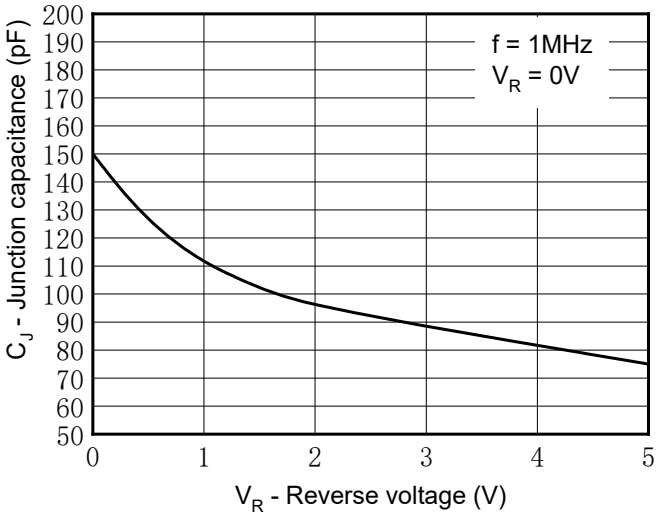
Contact discharge current waveform per IEC61000-4-2



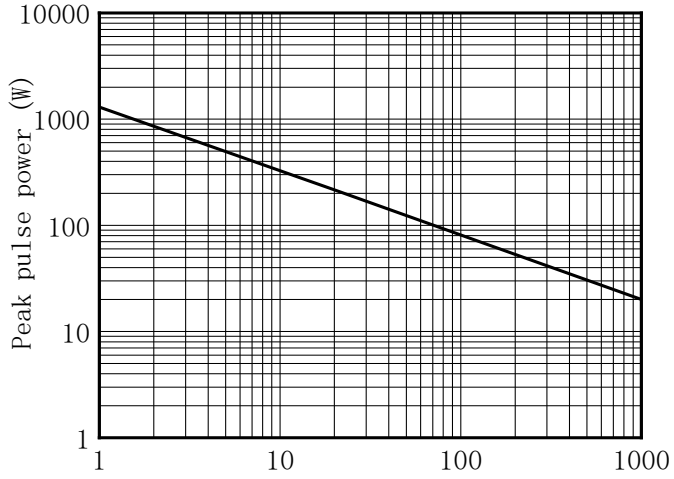
Clamping voltage vs. Peak pulse current



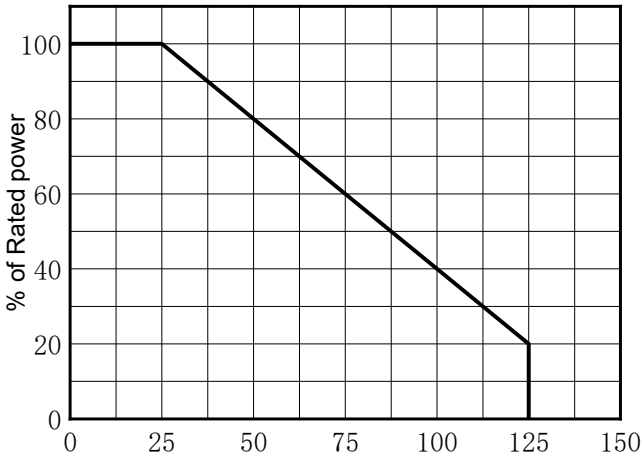
Capacitance vs. Reverse voltage

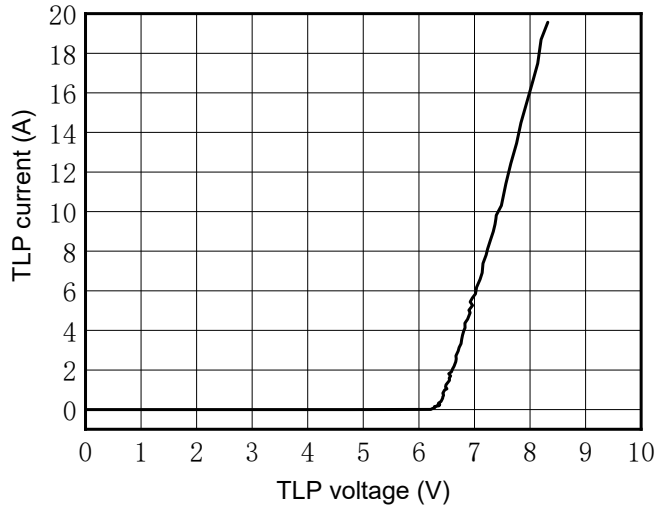


Non-repetitive peak pulse power vs. Pulse time

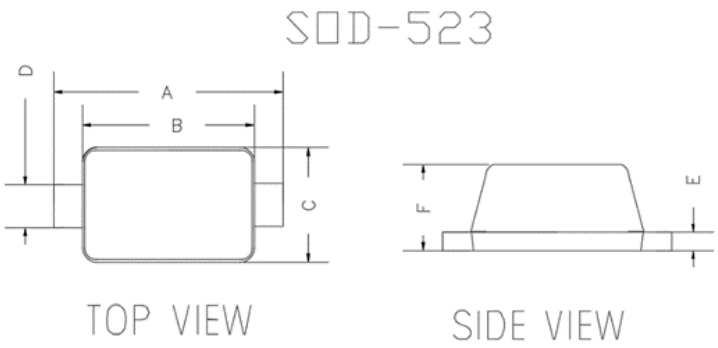


Power derating vs. Ambient temperature



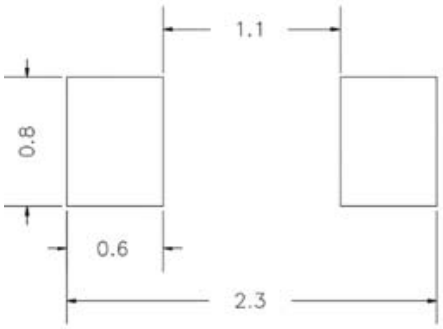


■ Outline Dimensions



DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MN	MAX
A	0.059	0.067	1.500	1.700
B	0.043	0.051	1.100	1.300
C	0.028	0.035	0.700	0.900
D	0.010	0.014	0.250	0.350
E	0.002	0.008	0.050	0.200
F	0.020	0.028	0.500	0.700

■ Recommend land pattern (Unit:mm)



Notes:
This recommended land pattern is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met

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