1-Line, Uni-directional, Transient Voltage Suppressor





SOD-323

Features

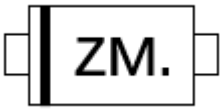
- Ultra small package
- Stand-off voltage: 12V Max
- Transient protection for each line according to
IEC61000-4-2(ESD): ±8kV (contact)
IEC61000-4-5(surge): 17A (8/20μs)
- Ultra-low capacitance: CJ = 120 pF typ
- Low leakage current
- Low clamping voltage
- RoHS Compliant

Applications

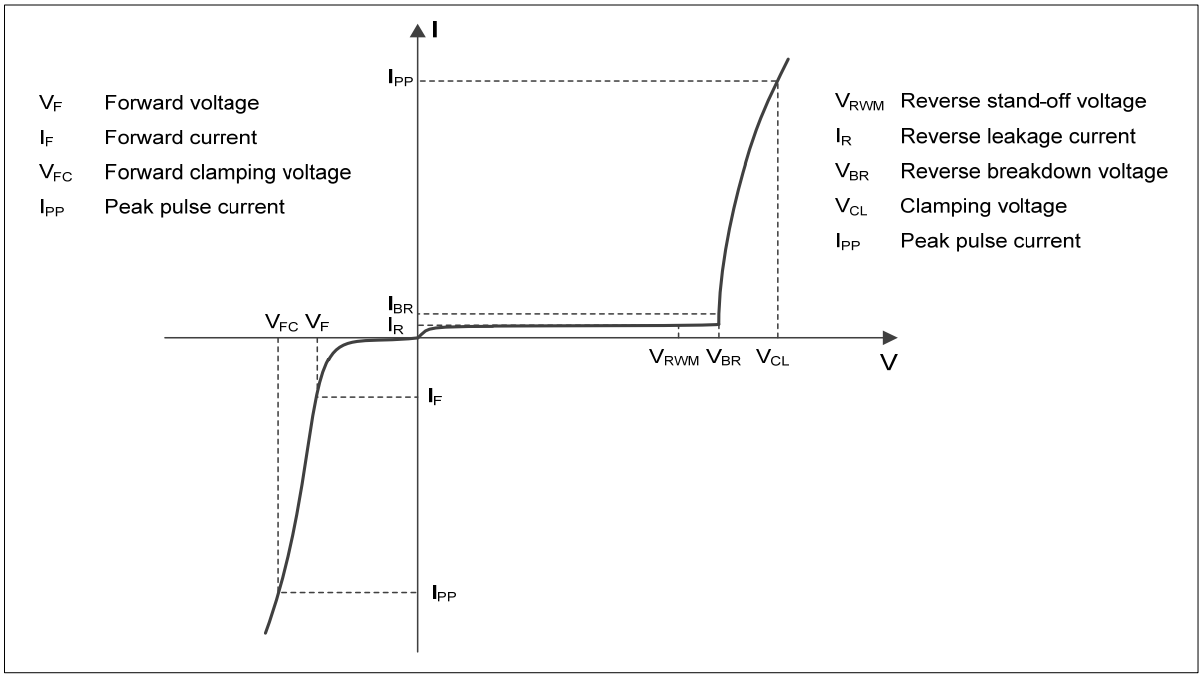
- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players

Mechanical Characteristics

- Package: DFN2510-10L
- Case Material: “Green” Molding Compound.
- Marking Information: See Below



■Definitions of electrical characteristics



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

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power (t_p = 8/20μs)	P_{pk}	442	W
Peak pulse current (t_p = 8/20μs)	I_{PP}	17	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±15	KV
ESD according to IEC61000-4-2 contact discharge		±8	KV
Junction temperature	T_J	125	°C
Operating temperature	T_{OP}	-40~85	°C
Storage temperature	T_{STG}	-55~150	°C

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

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				12
Reverse leakage current	I_R	uA	V_{RWM} =12V			0.5
Reverse breakdown voltage	V_{BR}	V	I_{BR} = 1mA	13		16
Clamping voltage [3]	V_{CL}	V	I_{PP} = 1A, t_p = 8/20μs			17
		V	I_{PP} = 17A, t_p = 8/20μs			26
Junction capacitance	C_J	pF	V_R = 0V, f = 1MHz		120	

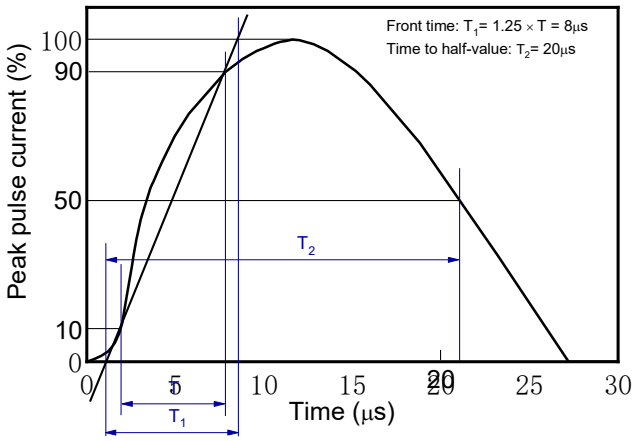
(1). TLP parameter: Z_0 = 50Ω, t_p = 100ns, t_r = 2ns, averaging window from 60ns to 80ns. R_{DYN} is calculated from 4A to 16A.
(2). Contact discharge mode, according to IEC61000-4-2.
(3). Non-repetitive current pulse, according to IEC61000-4-5.

■Ordering Information (Example)

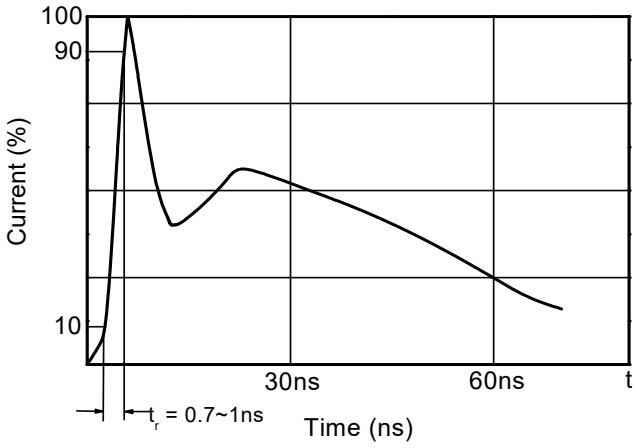
PREFERED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD12CD3	Approximate 0.04	3000	30000	120000	Tae& reel

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

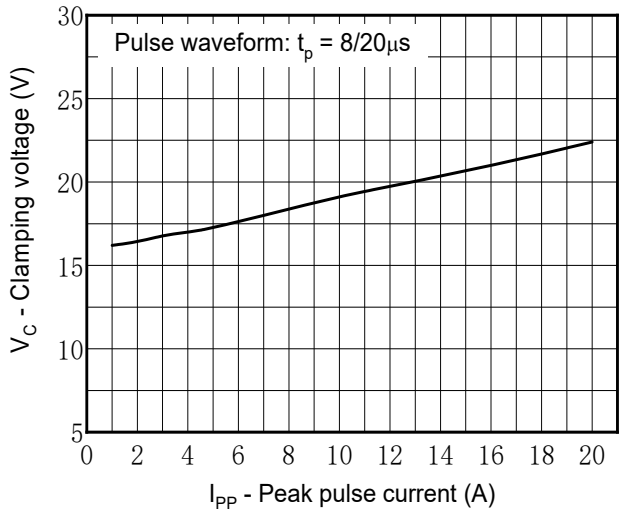
8/20μs waveform per IEC61000-4-5



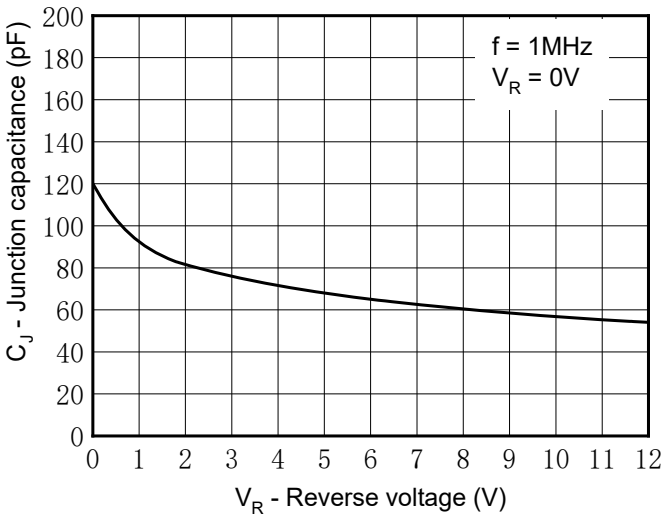
Contact discharge current waveform per IEC61000-4-2



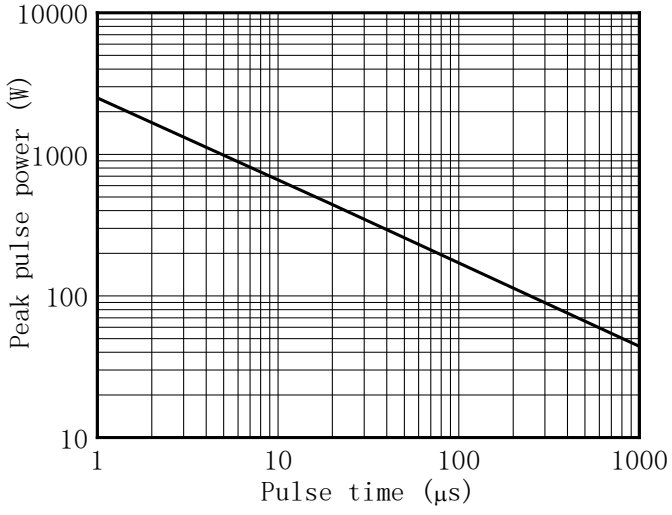
Clamping voltage vs. Peak pulse current



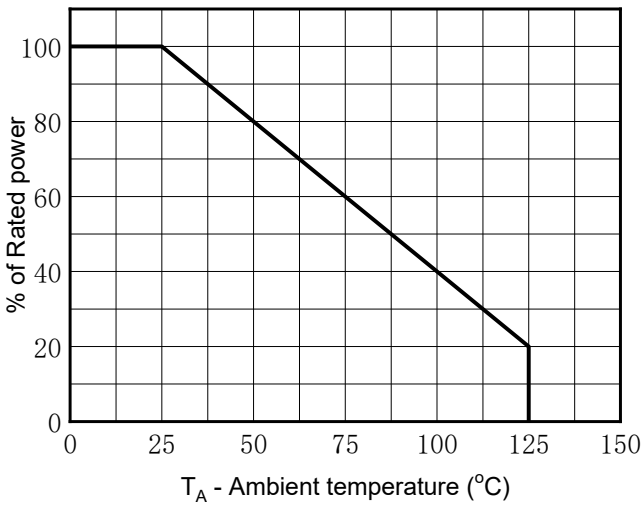
Capacitance vs. Reverse voltage



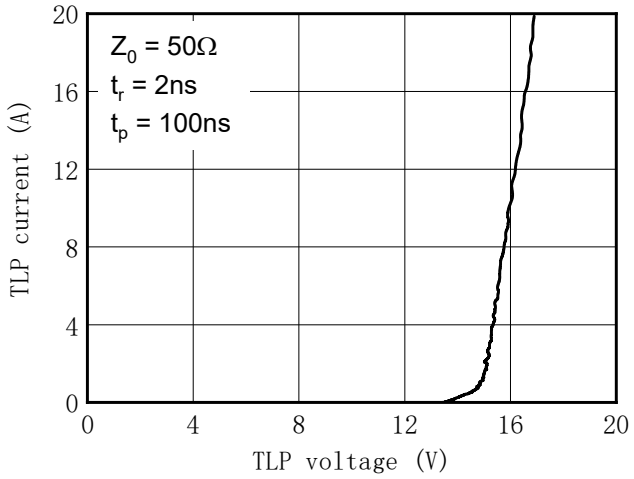
Non-repetitive peak pulse power vs. Pulse time



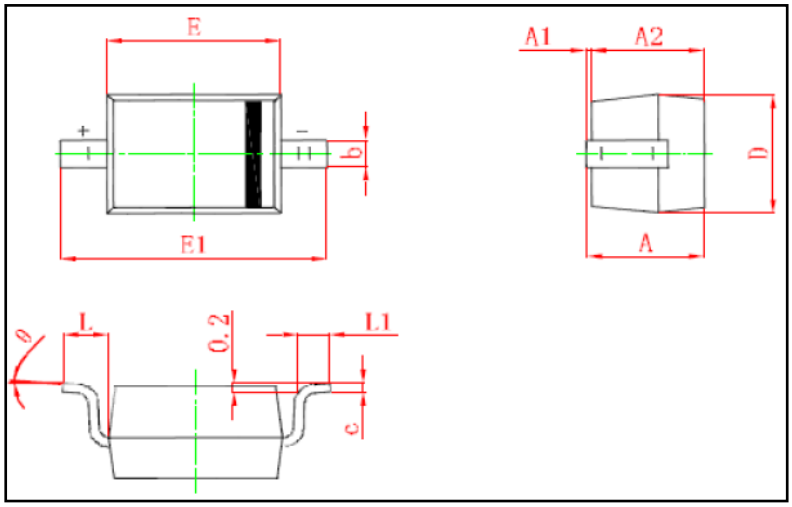
Power derating vs. Ambient temperature



TLP Measurement

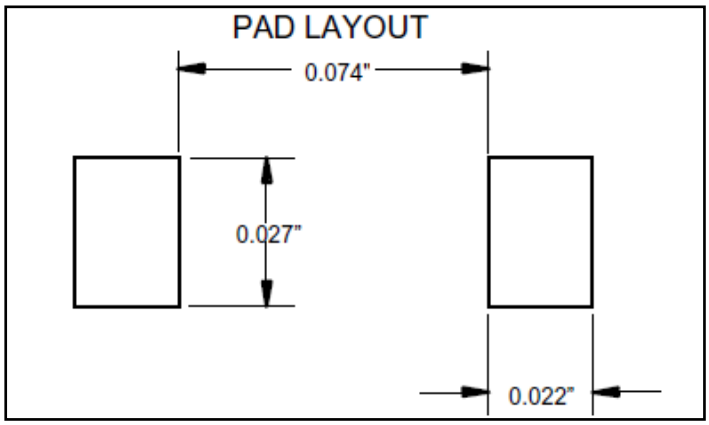


■ Outline Dimensions



Symbol	Min. (mm)	Max. (mm)
A		1.000
A1	0.000	0.100
A2	0.800	0.900
b	0.250	0.400
c	0.080	0.150
D	1.200	1.400
E	1.600	1.800
E1	2.500	2.700
L	0.475REF	
L1	0.250	0.400
θ	0°	8°

■ 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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