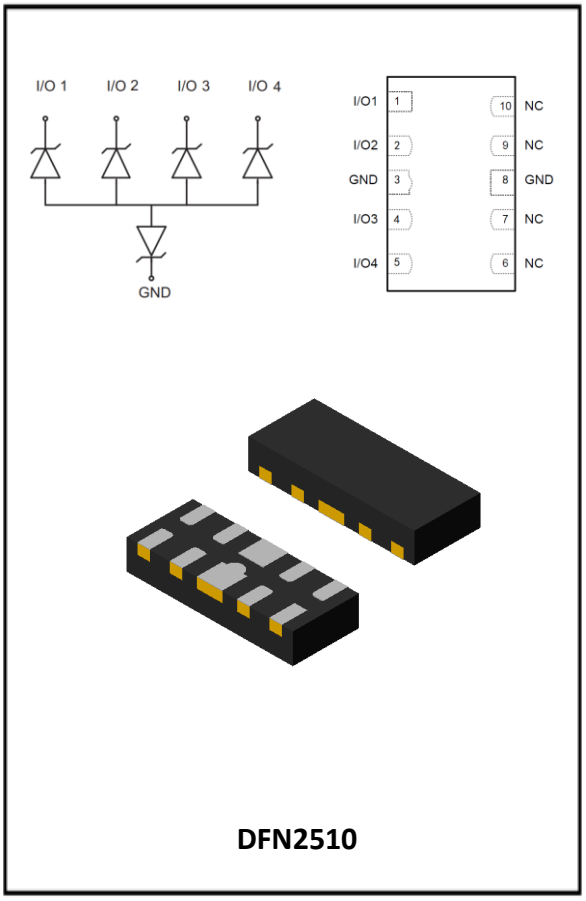
4-Line, Bi-directional, Ultra-low Capacitance, Transient Voltage Suppressor



Features

- Stand-off voltage: 5.0V Max
- Transient protection for each line according to
  IEC61000-4-2(ESD): ±15kV (contact)
  IEC61000-4-5(surge): 7A (8/20μs)
- Ultra-low capacitance: C_J = 0.22 pF typ
- Low leakage current
- Low clamping voltage
- Up to 4 lines protects
- RoHS Compliant

Applications

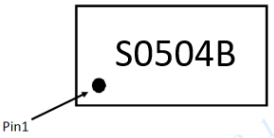
- HDMI 2.0/2.1, USB 3.0/3.1 Type C
- Monitors and flat panel displays
- Set-top box and Digital TV
- MDDI ports
- Video graphics cards
- Digital Video Interface (DVI)
- Notebook Computers
- PCI Express and Serial SATA Ports

Caution:

This Device is designed for signal line protection only. Do not operate under electrical bias or connect to a power line.

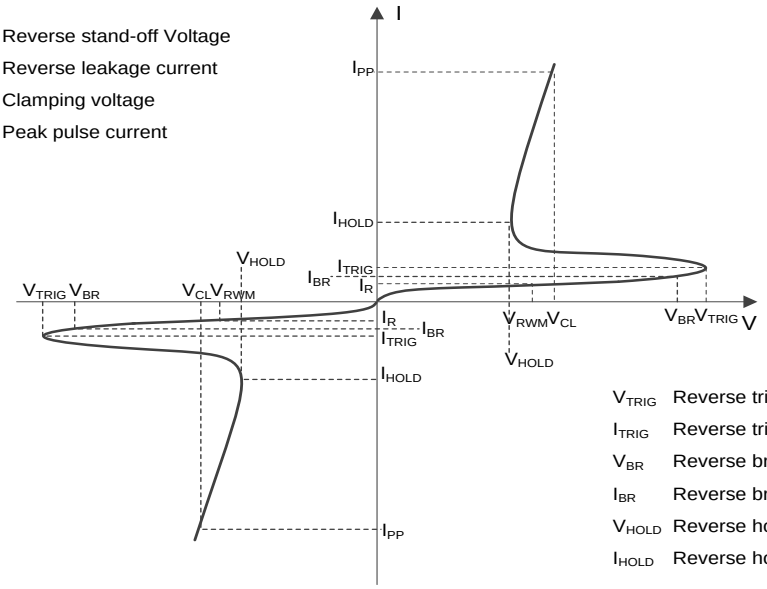
Mechanical Data

- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Marking Information: See Below



■Definitions of electrical characteristics

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



V_{TRIG}	Reverse trigger voltage
I_{TRIG}	Reverse trigger current
V_{BR}	Reverse breakdown voltage
I_{BR}	Reverse breakdown current
V_{HOLD}	Reverse holding voltage
I_{HOLD}	Reverse holding current

■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power (t_p = 8/20μs)	P_{pk}	56	W
Peak pulse current (t_p = 8/20μs)	I_{PP}	7	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±15	KV
ESD according to IEC61000-4-2 contact discharge		±15	
Junction temperature	T_J	-55~125	°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	Any I/O pin to ground			5.0
Reverse leakage current	I_R	nA	V_{RWM} = 5.0V, any I/O pin to ground			200
Reverse breakdown voltage	$V_{(BR)}$	V	I_T = 1mA, any I/O pin to ground	6.0	7.6	10.0
Reverse holding voltage	V_{HOLD}	V	I_{HOLD} = 50mA, any I/O pin to ground	2		
Clamping voltage [1]	V_{CL}	V	I_{PP} = 16A, t_p = 100ns		6.5	
Clamping voltage 2[2]	V_{CL}	V	I_{PP} = 1A, t_p = 8/20μs		3	5
		V	I_{PP} = 7A, t_p = 8/20μs		6.5	8
Junction capacitance	CJ	pF	V_R = 0V, f = 1MHz Any I/O pin to GND		0.22	0.28
			V_R = 1.5V, f = 1MHz Any I/O pin to GND		0.2	0.26

Notes:

1) TLP parameter: Z_0 = 50Ω, t_p = 100ns, t_r = 2ns, averaging window from 60ns to 80ns.
2) Non-repetitive current pulse, according to IEC61000-4-5.

■Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SESDULC0504P5B	F1	Approximate 3.48	3000	30000	120000	7 reel

■ Characteristics (Typical)

Fig.1 8/20μs waveform per IEC61000-4-5

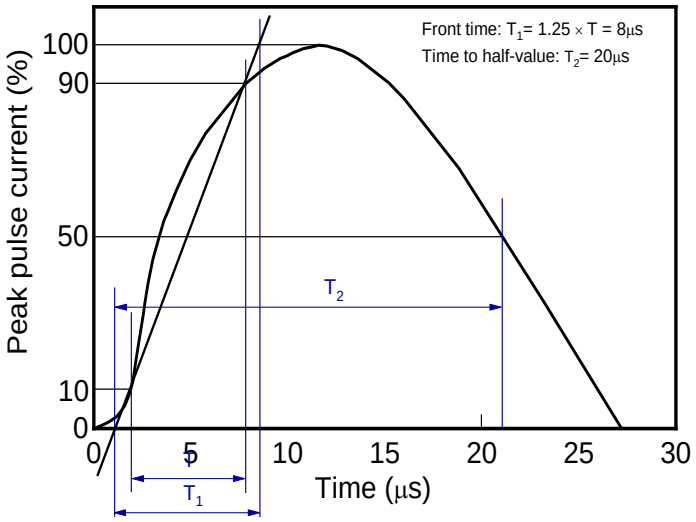


Fig.2 Contact discharge current waveform per IEC61000-4-2

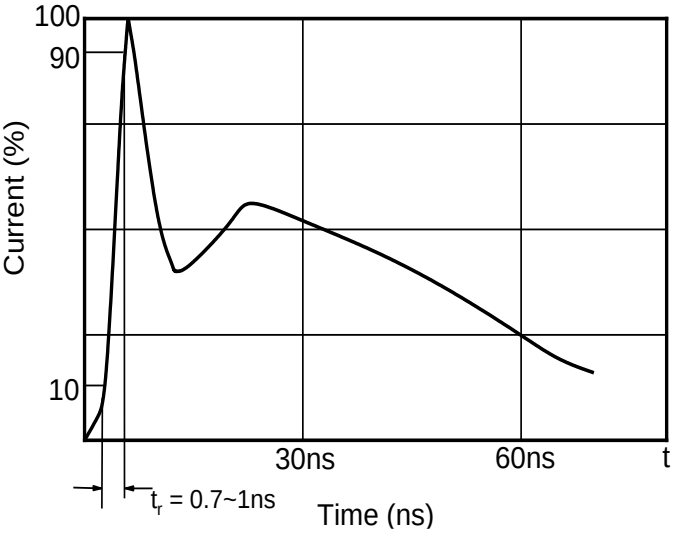


Fig.3 Clamping voltage vs. Peak pulse current

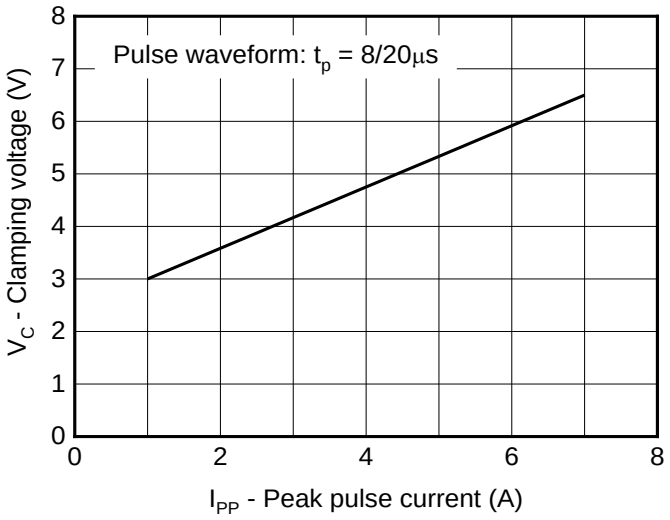


Fig.4 Capacitance vs. Reverse voltage

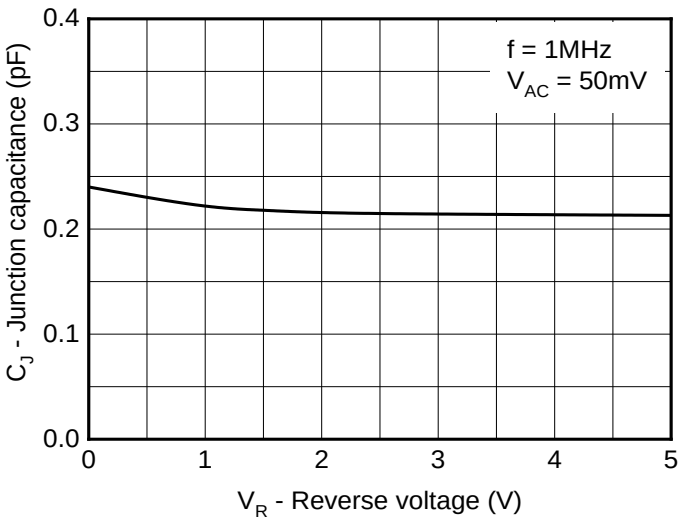


Fig.5 Non-repetitive peak pulse power vs. Pulse time

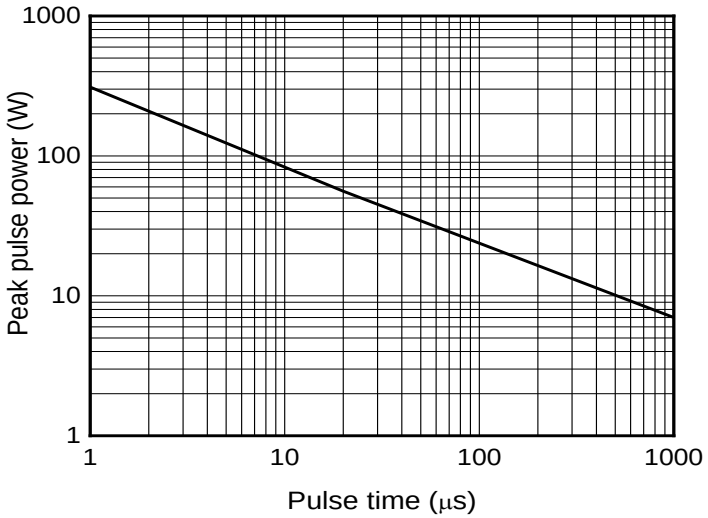


Fig.6 Power derating vs. Ambient temperature

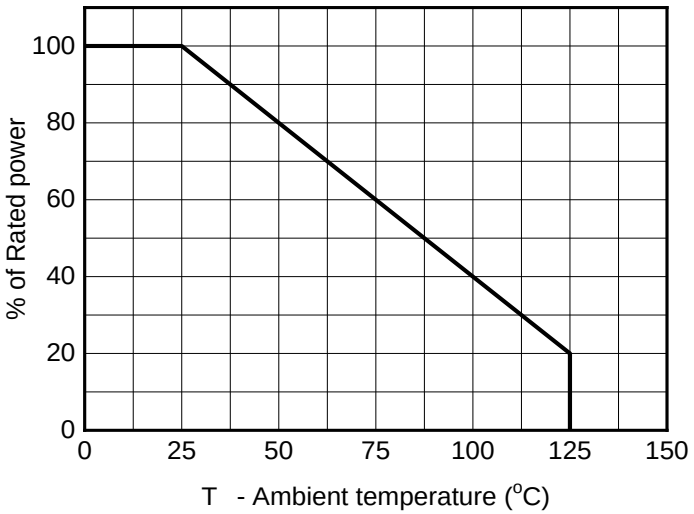
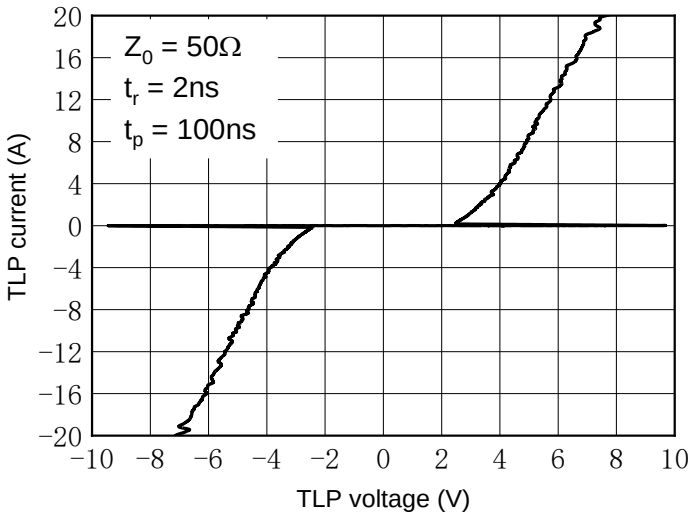
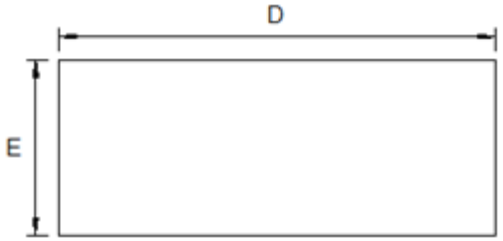
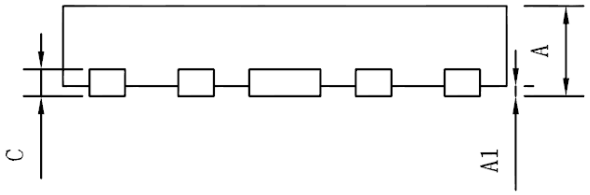


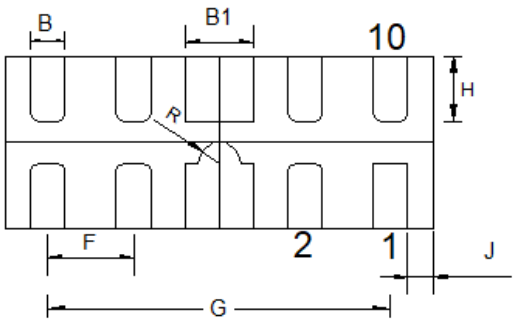
Fig.7 TLP Measurement



■ Outline Dimensions

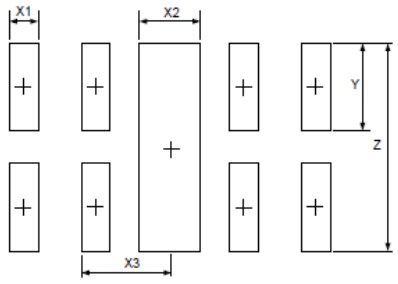






SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	0.40	0.45	0.50
A1	--	0.02	0.05
B	0.15	0.20	0.25
B1	0.35	0.40	0.45
C	0.10	0.15	0.20
D	2.45	2.50	2.55
E	0.95	1.00	1.05
F	0.50 BSC		
G	2.00 BSC		
H	0.30	0.38	0.46
R	0.125 BSC		
J	0.10	0.15	0.20

■ Soldering Footprint



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X1	0.200	0.008
X2	0.400	0.016
X3	0.600	0.024
Y	0.600	0.024
Z	1.400	0.056

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

Notice

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