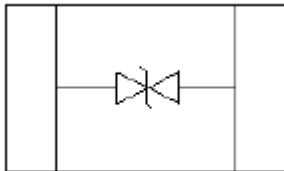
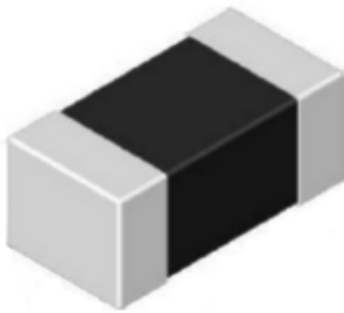


1-Line, Bi-directional, Transient Voltage Suppressor



SGD1006-2L

Features

- Ultra small package
- Stand-off voltage: 5 V Max
- Transient protection for each line according to IEC61000-4-2(ESD): $\pm 30\text{kV}$ (contact)
IEC61000-4-5(surge): 12A (8/20 μs)
- Ultra-low capacitance: $C_J = 0.5\text{ pF}$ typ
- Low leakage current
- Low clamping voltage
- RoHS Compliant

Applications

- Cellular Handsets and Accessories
- Display Ports
- MDDI / MHL
- USB 2.0 / USB 3.0
- Digital Visual Interface (DVI)

Caution:

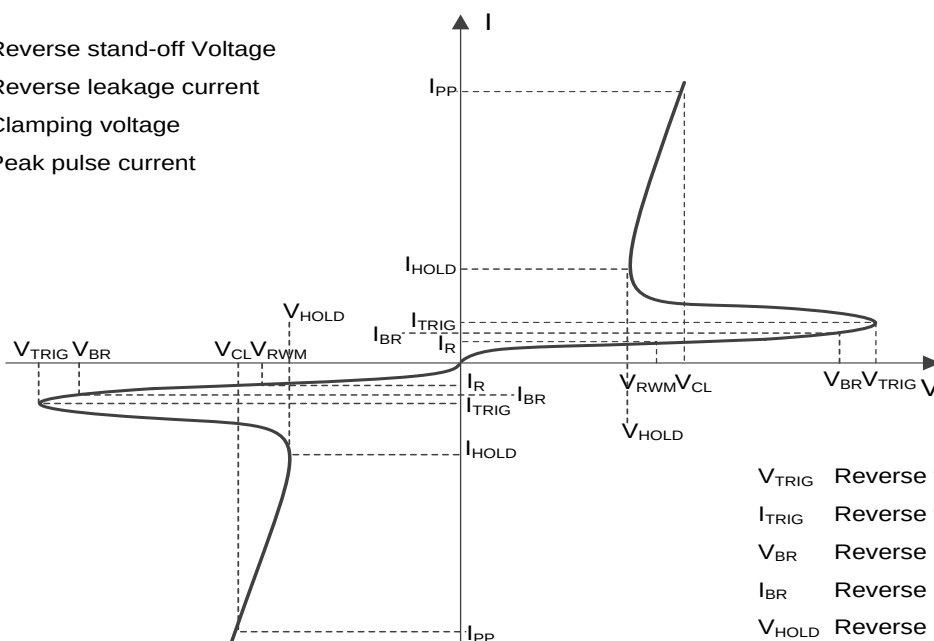
*This Device is designed for signal line protection only.
Do not operate under electrical bias or connect to a power line.*

Mechanical Characteristics

- Package: SGD1006-2L
- Case Material: "Green" Molding Compound.
- 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



SESDSLC5V0M1B

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

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	72	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{PP}	12	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	-55~125	°C
Storage temperature	T_{STG}	-55~150	°C

■Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				5
Punch-Through Voltage	V_{PT}	V	$I_T = 1mA$	6		
Reverse leakage current	I_R	μA	$V_{RWM} = 5V$			0.2
Clamping voltage ³⁾	V_{CL}	V	$I_{PP} = 12A, t_p = 8/20\mu s$			6
Junction capacitance	C_J	pF	$V_R = 0V, f = 1MHz$		0.5	

- (1). TLP parameter: $Z_0 = 50\Omega$, $t_p = 100ns$, $t_r = 2ns$, 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
SESDSLC5V0M1B	Approximate 0.6	10000	40000	400000	Tae& reel



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

Fig1. 8/20μs waveform per IEC61000-4-5

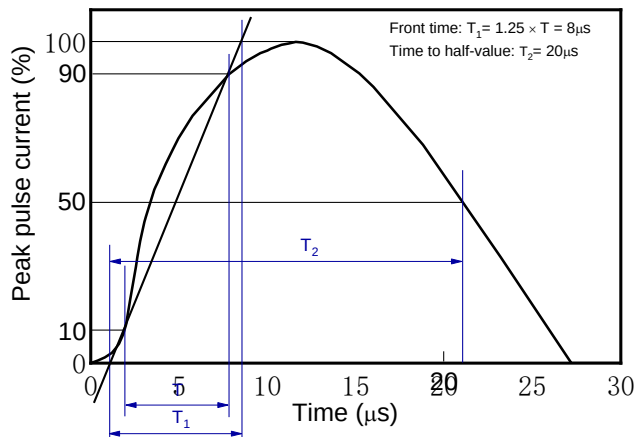


Fig2. Contact discharge current waveform per IEC61000-4-2

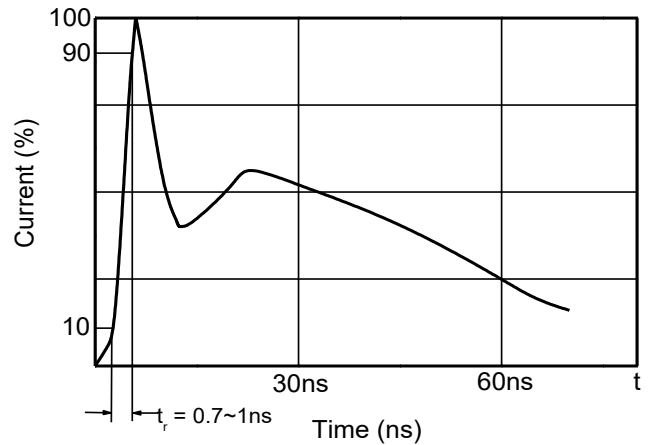


Fig3. Clamping voltage vs. Peak pulse current

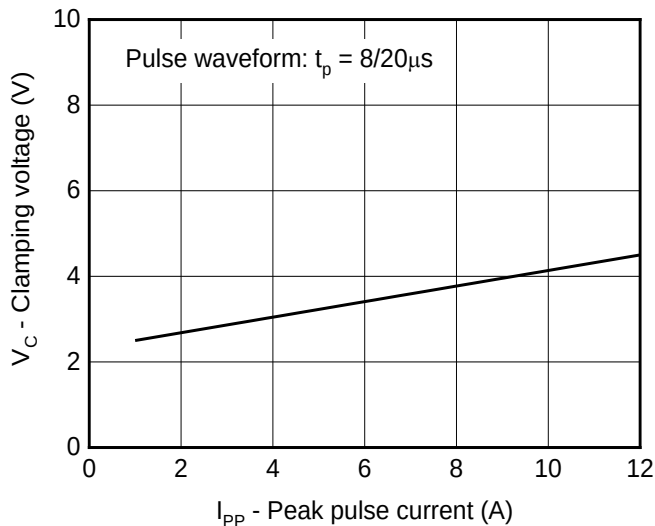


Fig4. Capacitance vs. Reverse voltage

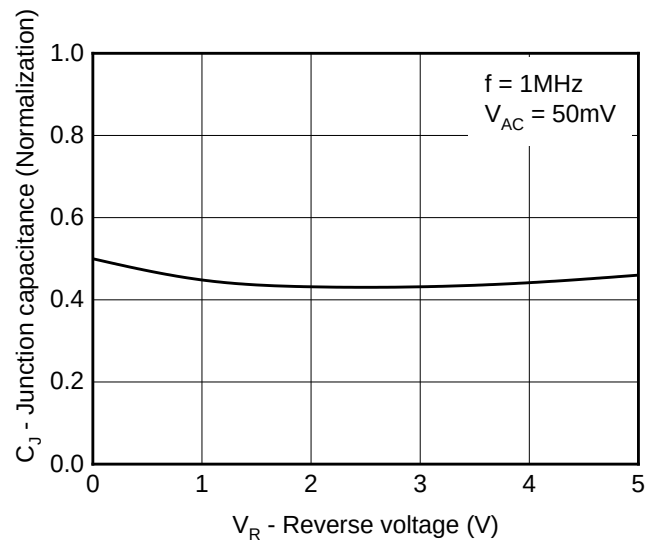


Fig5. Non-repetitive peak pulse power vs. Pulse time

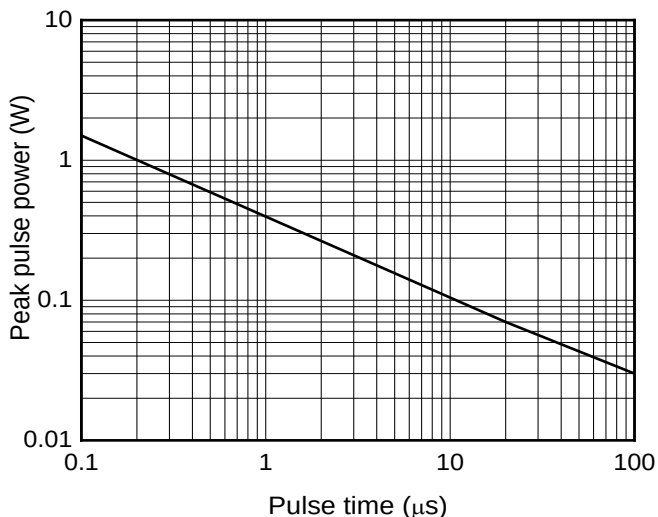


Fig6. Power derating vs. Ambient temperature

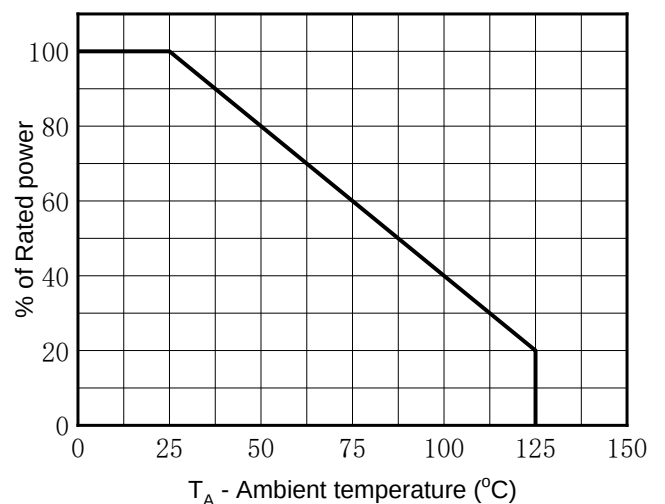
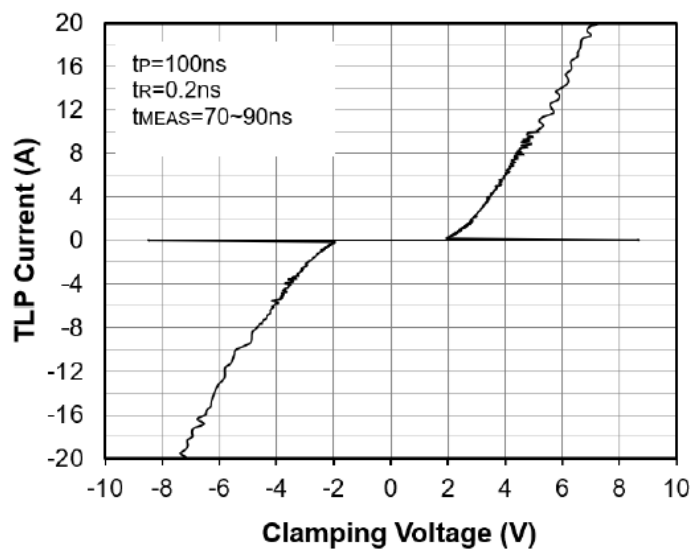


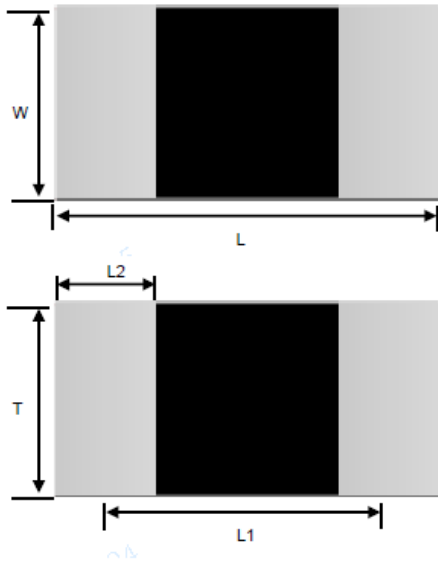


Fig7. TLP Measurement



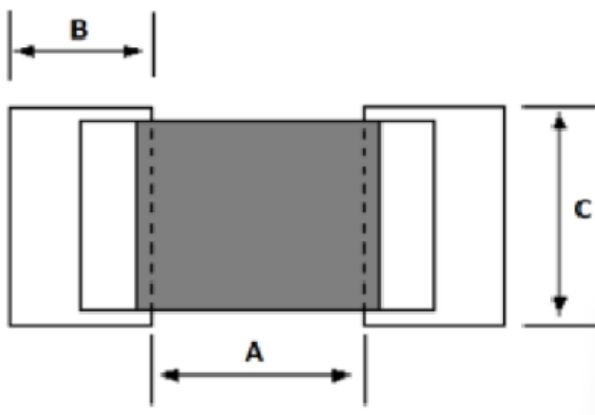


■ Outline Dimensions



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
W	0.55	0.60	0.65	0.022	0.024	0.026
L	0.95	1.00	1.05	0.038	0.040	0.042
T	0.45	0.50	0.65	0.018	0.022	0.026
L1	0.75 BSC			0.030 BSC		
L2	0.15	0.20	0.25	0.006	0.008	0.010

■ Recommend land pattern (Unit:mm)



SYM	DIMENSIONS
	MILLIMETERS
A	0.30-0.50
B	0.50-0.70
C	0.60-0.70

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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The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

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