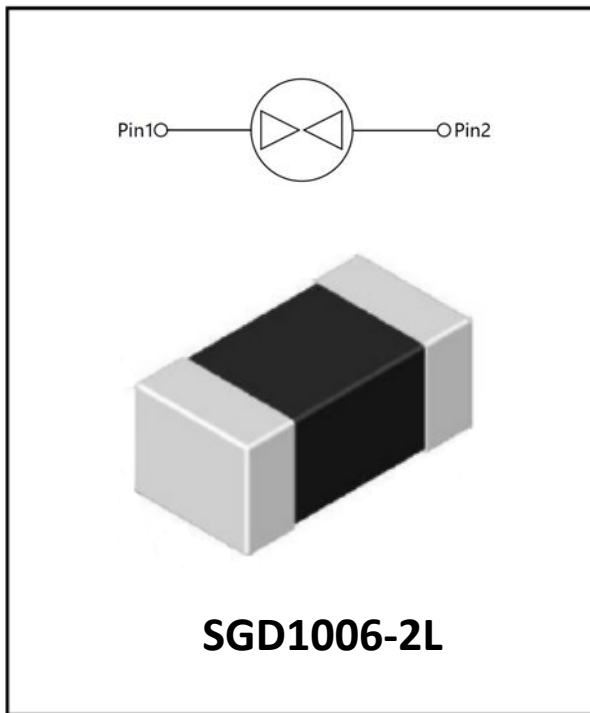


## 1-Line, Bi-directional, Transient Voltage Suppressor



### Features

- Ultra small package
- Stand-off voltage: 24V Max
- Transient protection for each line according to  
IEC61000-4-2(ESD):  $\pm 25\text{kV}$  (air)  
IEC61000-4-2(ESD):  $\pm 15\text{kV}$  (contact)
- Low leakage current
- Low clamping voltage
- RoHS Compliant

### Applications

- Smart Phone/Mobile Interment Device
- Loptop/Desktop Computer
- Antennas
- High Speed Ethernet
- Lightning and Thunder Bolt interface
- USB 2.0 and USB 3.0

### Mechanical Characteristics

- Package: SGD1006-2L
- Moisture Sensitivity: Level 1 per J-STD-020
- Case Material: Glass Fiber Epoxy Resin
- Marking Information: None

### ■ Absolute Maximum Ratings ( $T_a=25^\circ\text{C}$ unless otherwise specified)

PARAMETER	SYMBOL	Value	Units
Response time	Trise	<0.5	ns
ESD according to IEC61000-4-2 air discharge	V <sub>ESD</sub>	$\pm 25$	kV
ESD according to IEC61000-4-2 contact discharge		$\pm 15$	
Operation ambient temperature	T <sub>OPT</sub>	-55~+125	°C
Storage temperature range	T <sub>STG</sub>	-55~+150	°C

### ■ Electrical Characteristics ( $T_a=25^\circ\text{C}$ Unless otherwise specified)

Part No.	Working Voltage	Typical Trigger Voltage	ESD Typical ESD Clamping Voltage at 60ns	Leakage Current (at Initial State)	Leakage Current (after ESD Test)	Cap. Value at 1MHz (typ)	Cap. Value at 1MHz (max)
Symbol	VDC (max)	V <sub>trigger</sub> (typ)	VC (typ)	ILDC	ILDCA	C <sub>j</sub> (typ)	C <sub>j</sub> (max)
Unit	V	V	V	$\mu\text{A}$	$\mu\text{A}$	pF	pF
ESDM6V0M1	6	300	30	<0.1	<0.1	0.05	0.08
ESDM12VM1	12	300	30	<0.1	<0.1	0.05	0.08
ESDM24VM1	24	300	30	<0.1	<0.1	0.05	0.08



# ESDM6V0M1-ESDM24VM1

## ■ Ordering Information (Example)

PREFERED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESDM6V0M1~ ESDM24VM1	Approximate 0.59	10000	100000	400000	Tae& reel

## ■ ESD Testing Circuit and Testing Results

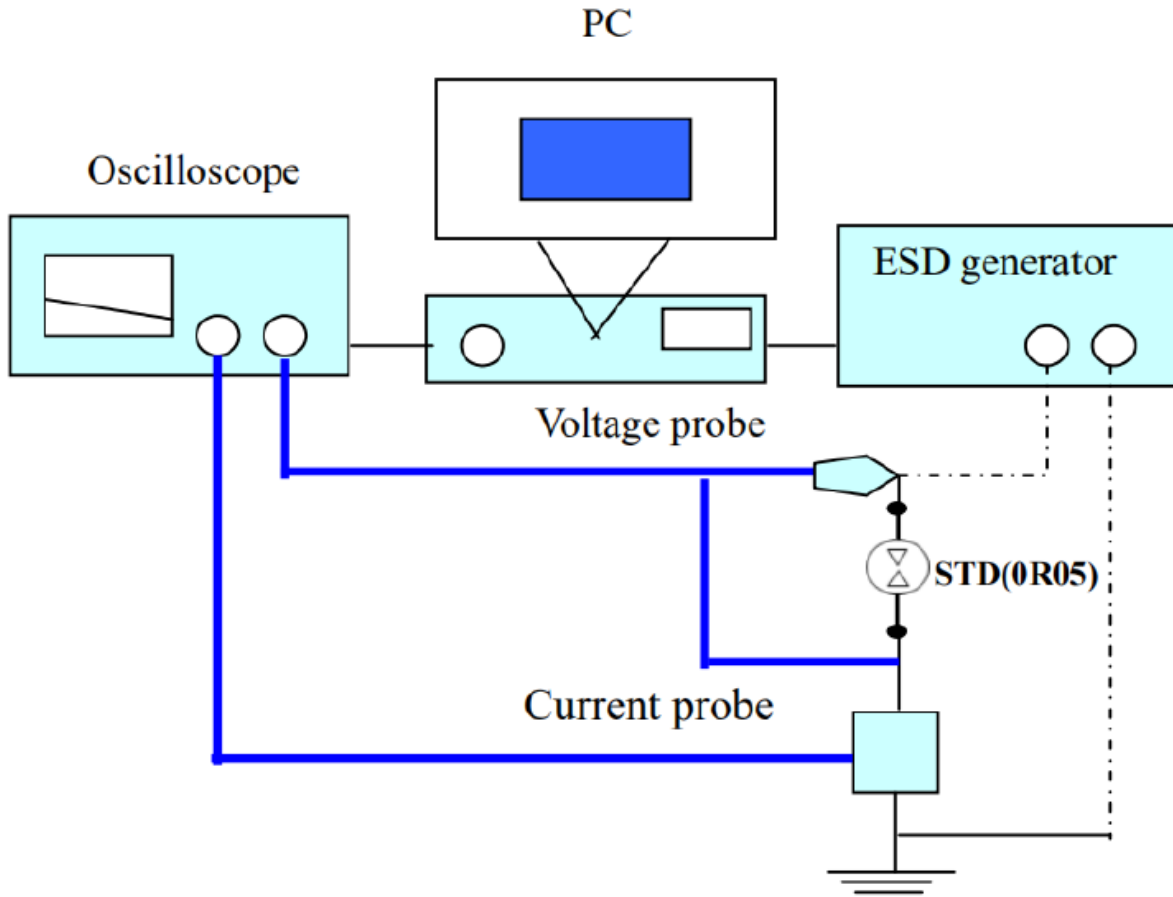
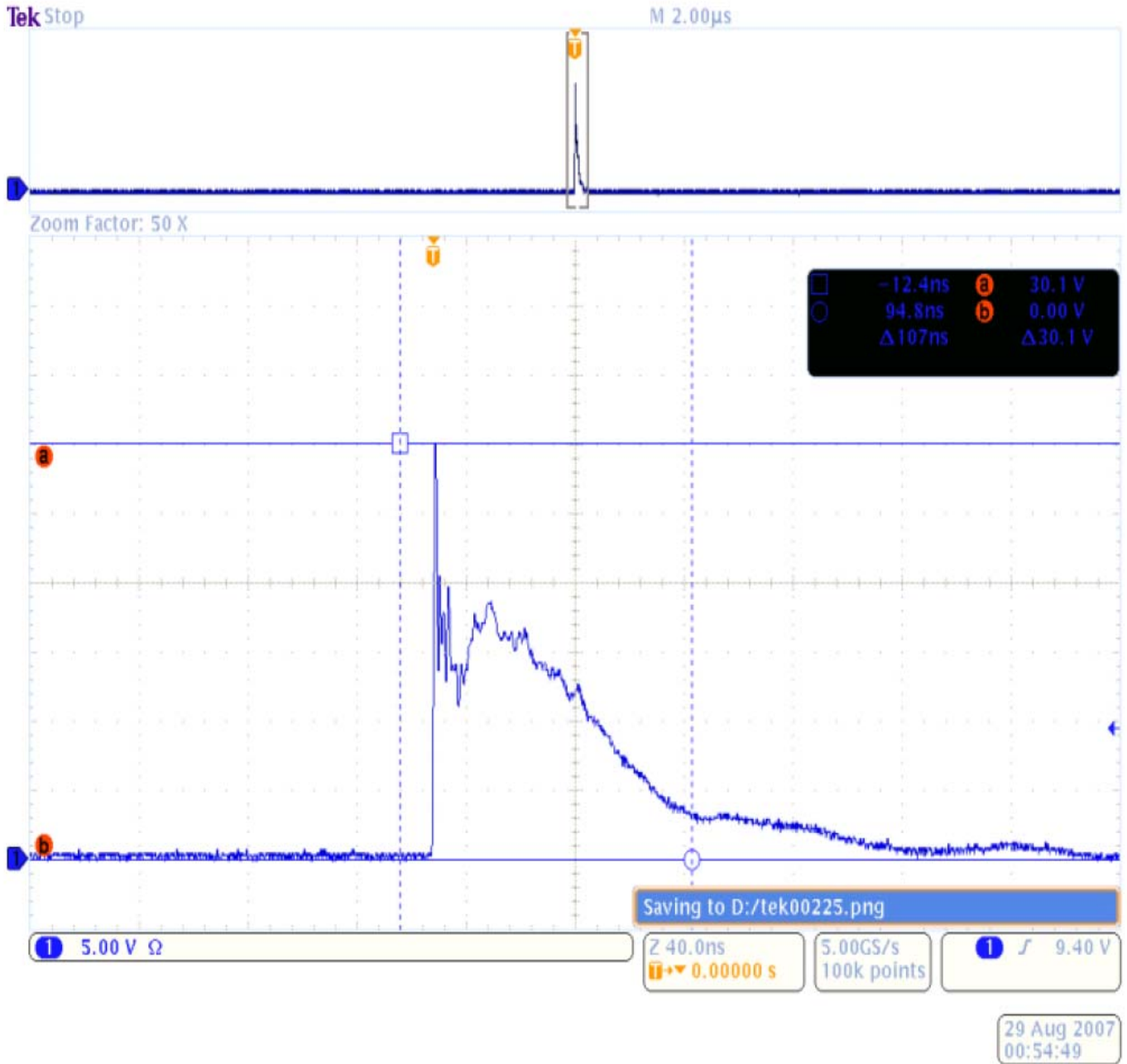


Fig 2 (A) ESD testing circuit



Test with high voltage probe of attenuation factor ×250  
Fig 2 (B) without ESD protection sample

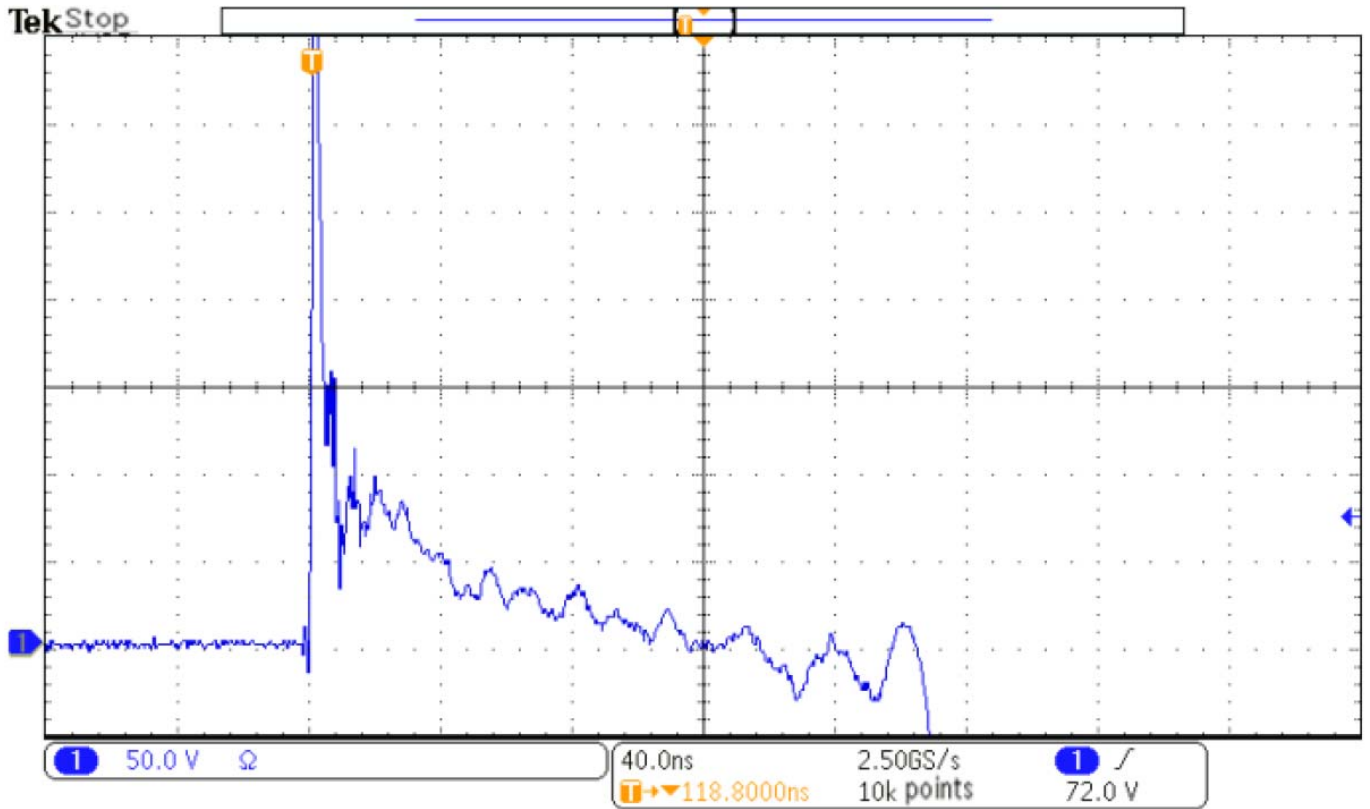


Fig 2 (C) with ESD protection sample

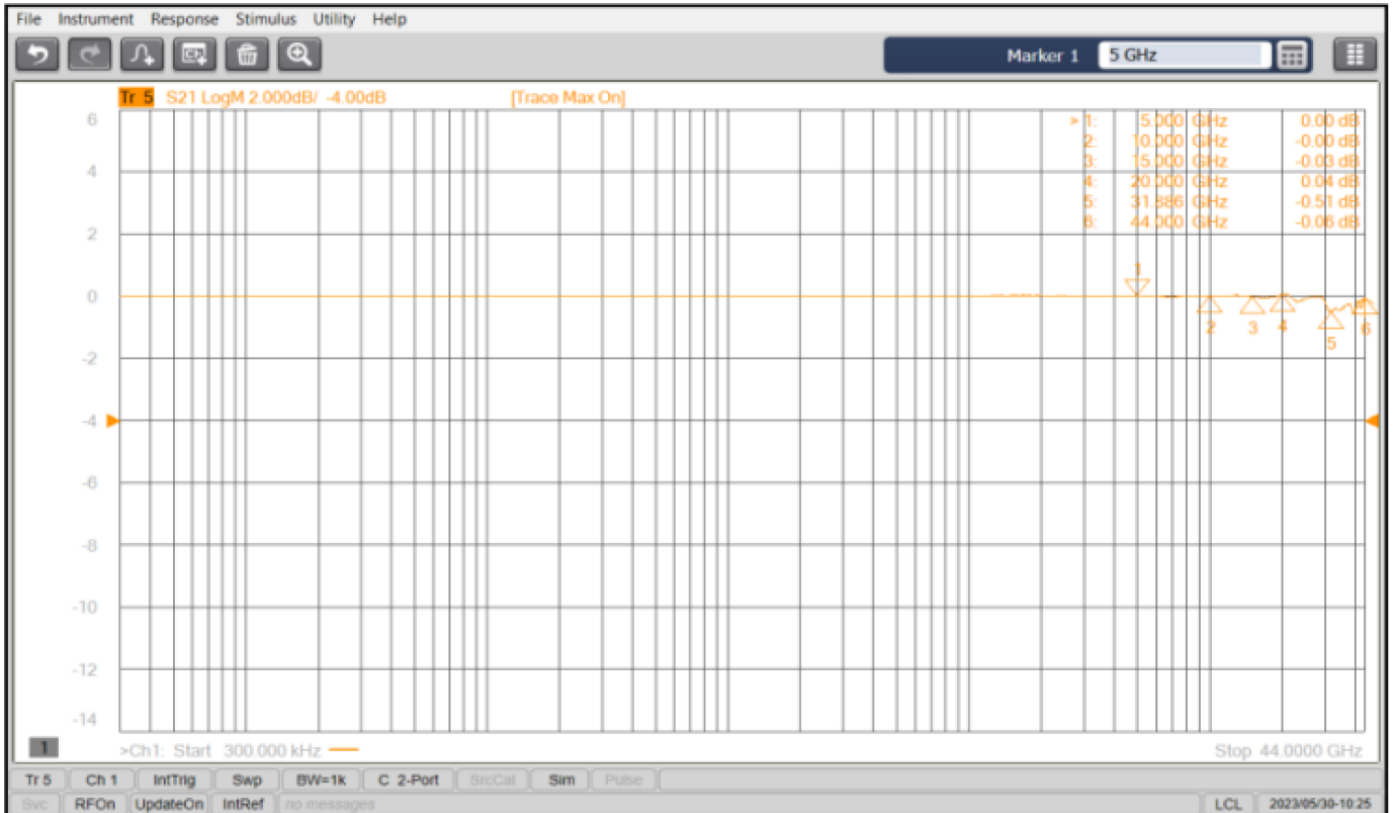


Fig 3(A) Insertion loss



# ESDM6V0M1-ESDM24VM1

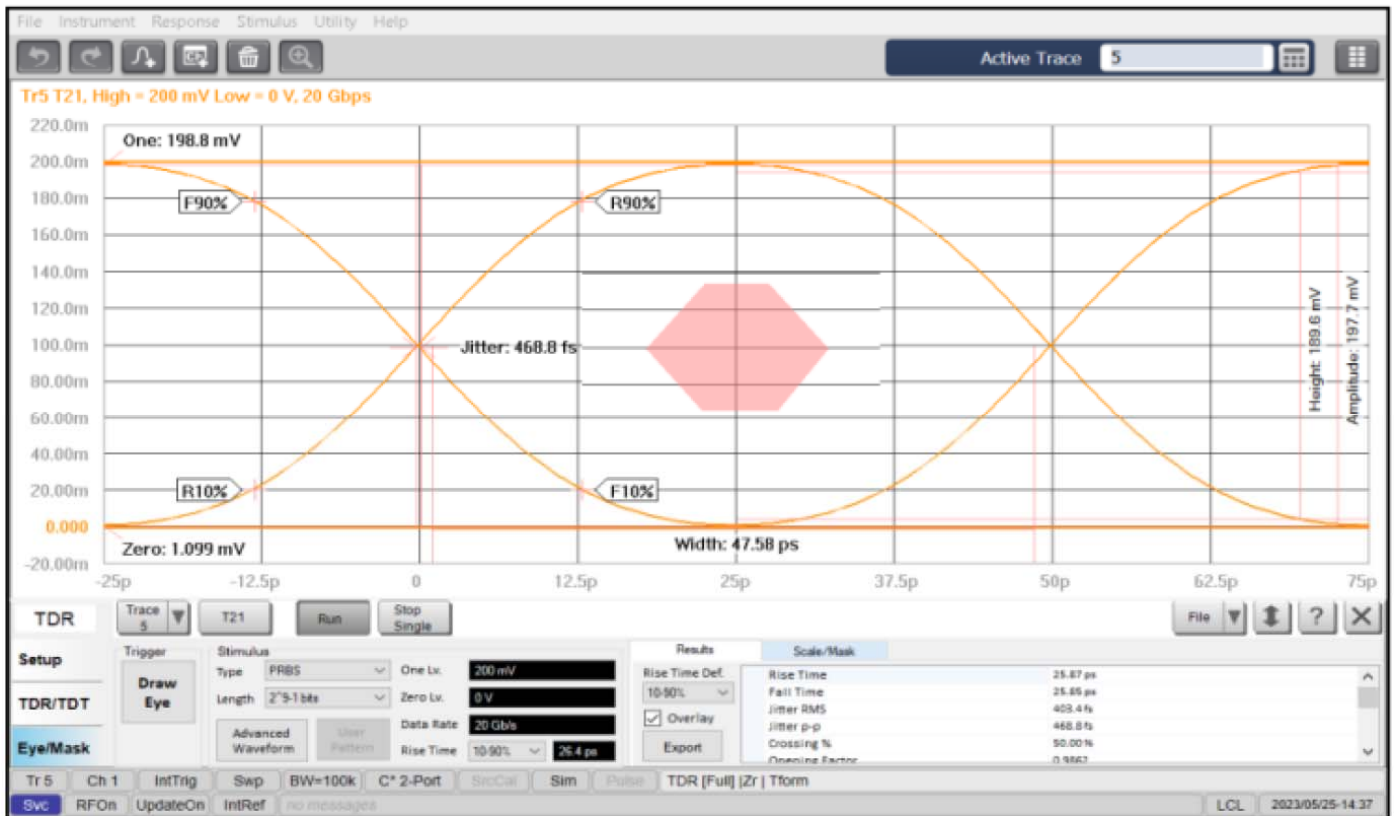


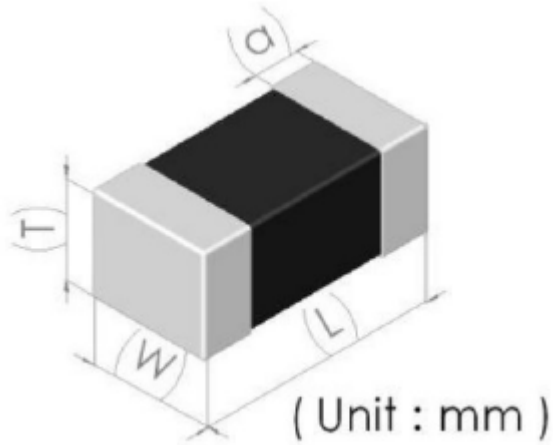
Fig 3(B) Eye pattern



# ESDM6V0M1-ESDM24VM1

## ■ Outline Dimensions

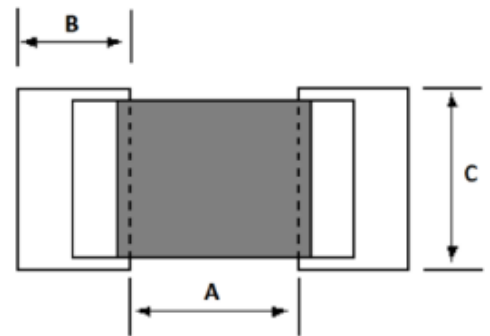
<b>Model</b>	SGD1006
Length (L)	1.00±0.10
Width (W)	0.60±0.10
Thickness (T)	0.50±0.10
Termination (a)	0.25±0.10



## ■ Recommend land pattern (Unit:mm)

(Unit:mm)

	A	B	C
0402	0.3~0.5	0.5~0.7	0.6~0.7





# ESDM6V0M1-ESDM24VM1

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