

# MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

Product data sheet

[www.msksemi.com](http://www.msksemi.com)

Other Data

Body  
End termination  
Packaging  
Complies with Standard

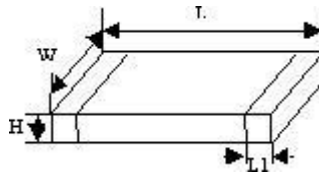
ZnO  
Ag/Ni/Sn  
Tape  
IEC61000-4-2、IEC61000-4-5

Notes:

- \*1 AC voltage at 50~60Hz
- \*2 Varistor voltage
- \*3 Capacitance
- \*4 Maximum clamping voltage
- \*5 Rated peak single pulse transient current

Measured at 1mA DC  
Measured at f=1kHz, Vrms=0.5V  
Measured at 1A by 8/20µs Pulse  
Measured by 8/20µs Pulse

Size:		Unit: mm		
PKG	Length (L)	Width (W)	High (H)	Termination (L1)
0402	1.00±0.20	0.50±0.20	0.70 (max)	0.30±0.20



Standards

MS      0402      ESDA      XX  
①      ②      ③      ④

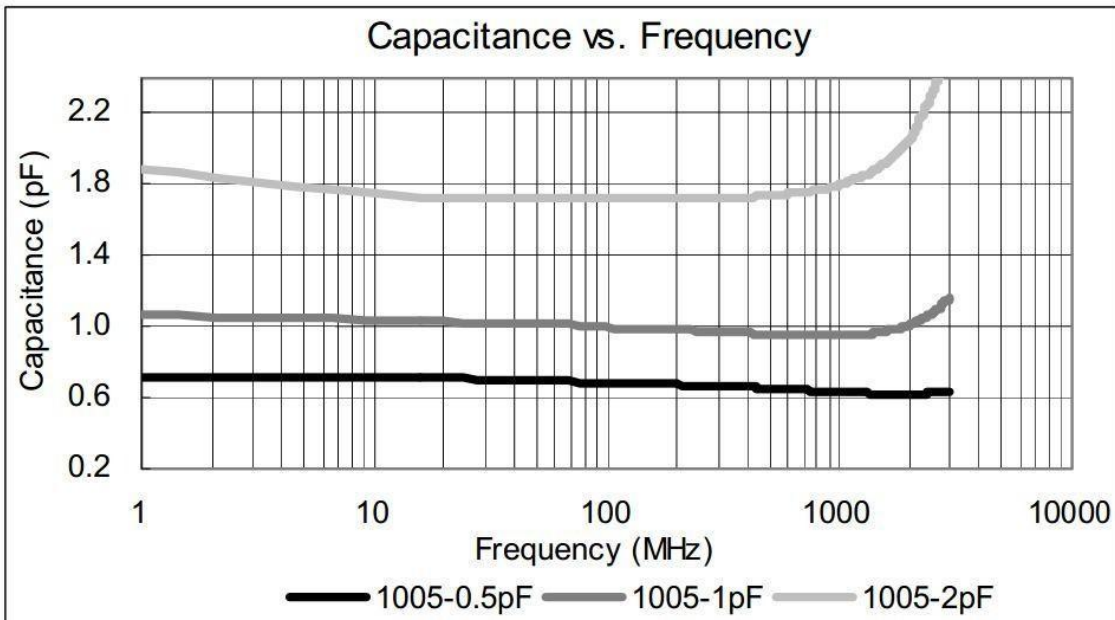
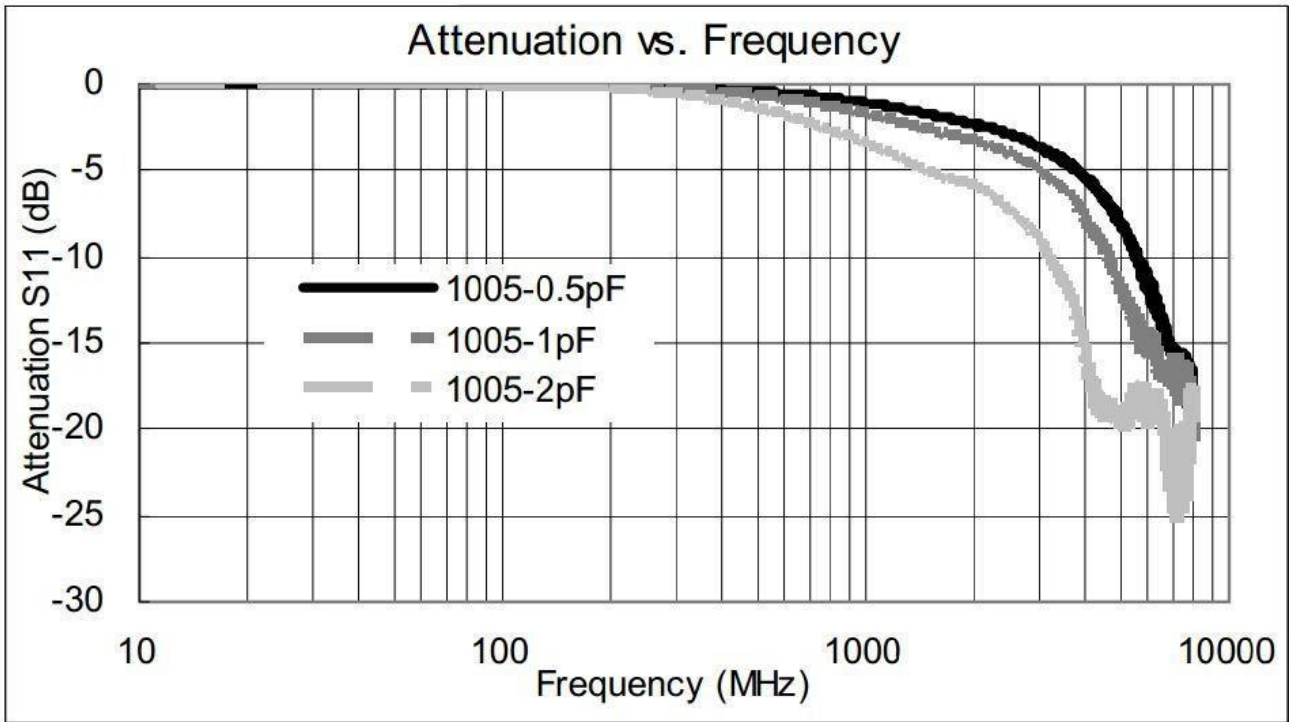
- ① production series: msksemi
- ② size: 0402
- ③ type: ESD高分子保护器件
- ④ V<sub>DC</sub>: 5V 9V 12V 14V 18V 24V

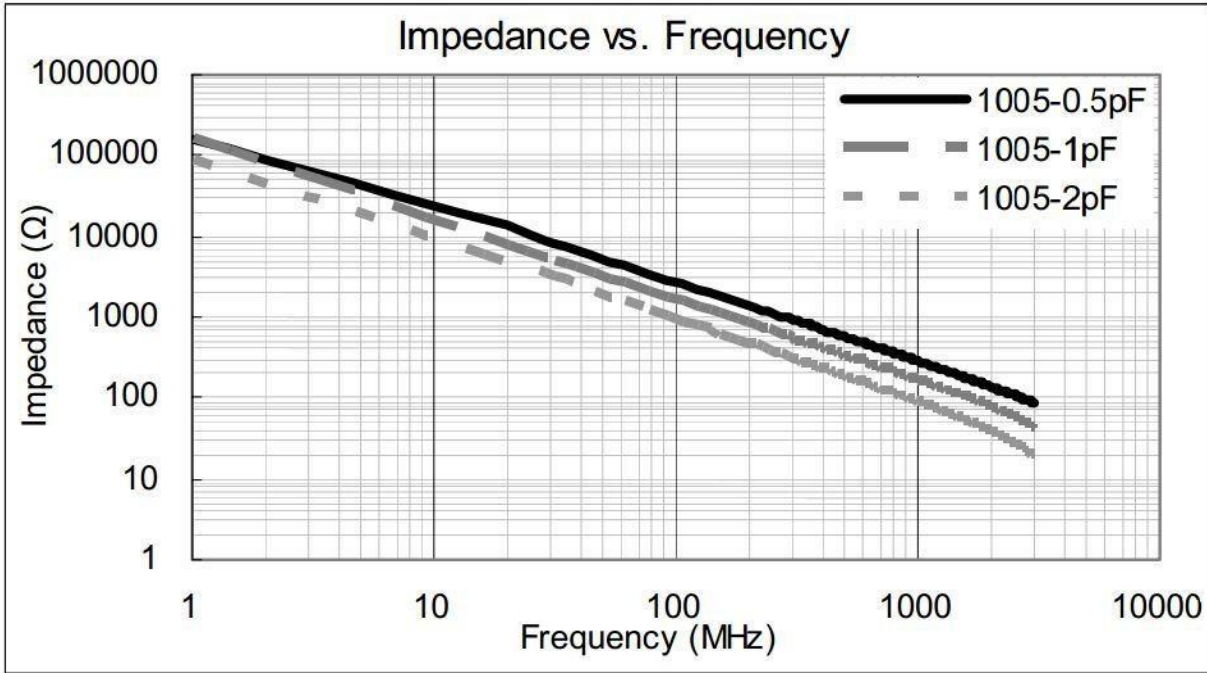
Technical Data	Symbol	Value	Unit
Maximum allowable continuous DC voltage	V <sub>DC</sub>	5.0	V
Varistor voltage Measured*2	V <sub>B</sub>	130	V
Varistor voltage tolerance		±20	%
Typical capacitance value measured*3	C	1.0	pF
Typical capacitance value tolerance		±0.3	PF
Maximum clamping voltage measured*4	V <sub>C</sub>	250	V

Reference Data

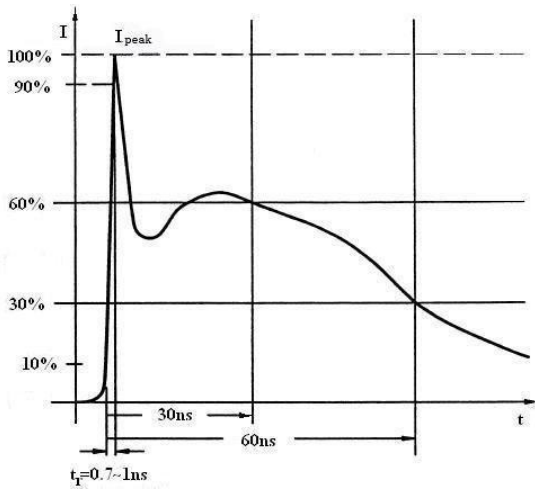
Response time	T <sub>rise</sub>	<1	ns
Leakage current at V <sub>B</sub> ×80%(At initial state)	I <sub>LVB</sub>	<20	µA
Leakage current at V <sub>B</sub> ×80%(After reliability Test)	I <sub>LVBA</sub>	<100	µA
Operating ambient temperature		- 55~+125	°C
Storage temperature		- 40~+125	°C
Reflow temperature profile(Recommend)		260	°C

V-I characteristic





**Esd Wave Form**



IEC61000-4-2 Standards

SEVERITY LEVEL	AIRDIRCHARGE	DIRECT ISCHARGE
1	2 kV	2 kV
2	4 kV	4 kV
3	8 kV	6 kV
4	15 kV	8 kV

IEC61000-4-2 Compliant ESD Current Pulse Waveform

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