

# MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

Product data sheet

**Features**

Ultra Low Capacitance: 0.30pF(typ.)  
 Reverse Working Voltage: 5V  
 IEC 61000-4-2 (ESD Air): ±20kV  
 IEC 61000-4-2 (ESD Contact): ±20kV  
 IEC 61000-4-5 (Lightning 8/20µs): 5A

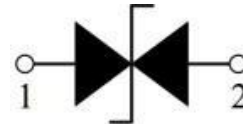
**Pin Description**



**Applications**

Smart Phone and Tablet PC  
 TV and Set Top Box  
 Wearable Devices  
 PDA

**Schematic Diagram**



**Limiting Values(T<sub>A</sub> = 25 °C, unless otherwise specified)**

Symbol	Parameter	Conditions	Min	Max	Unit
V <sub>ESD</sub>	Electrostatic Discharge Voltage	IEC 61000-4-2; Contact Discharge	-	±20	kV
		IEC 61000-4-2; Air Discharge	-	±20	kV
P <sub>PP</sub>	Peak Pulse Power	t <sub>p</sub> = 8/20 µs	-	110	W
I <sub>PPM</sub>	Rated Peak Pulse Current	t <sub>p</sub> = 8/20 µs	-	5.0	A
T <sub>A</sub>	Operating Temperature Range	-	-55	125	°C
T <sub>stg</sub>	Storage Temperature Range	-	-55	150	°C

**Electrical Characteristics(T<sub>A</sub> = 25 °C unless otherwise specified)**

Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
V <sub>RWM</sub>	Reverse Working Voltage	T <sub>A</sub> = 25 °C	-	-	5.0	V
V <sub>BR</sub>	Breakdown Voltage	I <sub>R</sub> = 1mA; T <sub>A</sub> = 25 °C	6.0	8.5	9.5	V
I <sub>R</sub>	Reverse Leakage Current	V <sub>RWM</sub> = 5V; T <sub>A</sub> = 25 °C	-	-	0.1	μA
V <sub>C</sub>	Clamping Voltage	I <sub>PP</sub> =1A, t <sub>p</sub> =8/20μs	-	-	10	V
		I <sub>PP</sub> =5.0A, t <sub>p</sub> =8/20μs	-	-	22	V
C <sub>J</sub>	Junction Capacitance	V <sub>R</sub> = 0V, f = 1 MHz	-	0.30	0.40	pF

**Typical Characteristics**

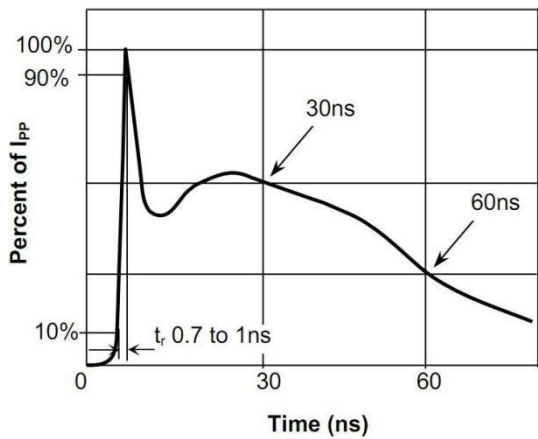


Fig.1 Pulse Waveform-ESD (IEC61000-4-2)

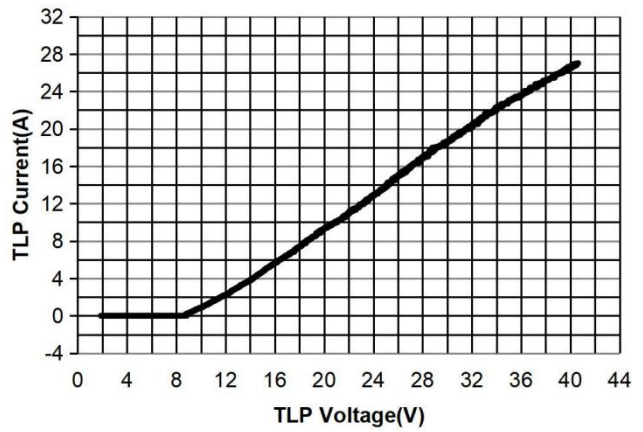


Fig.2 Transmission Line Pulse (TLP)

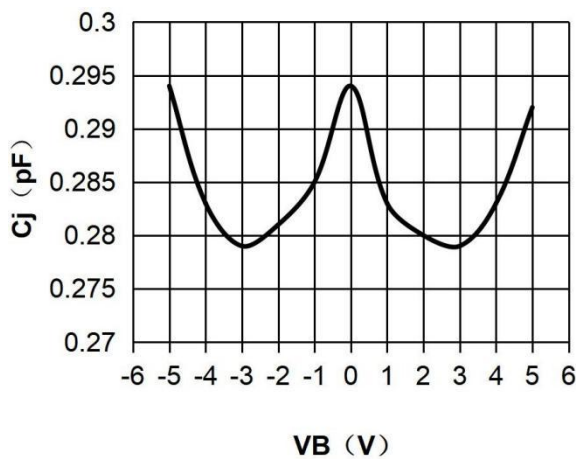


Fig.3 Capacitance vs. Reverse Voltage

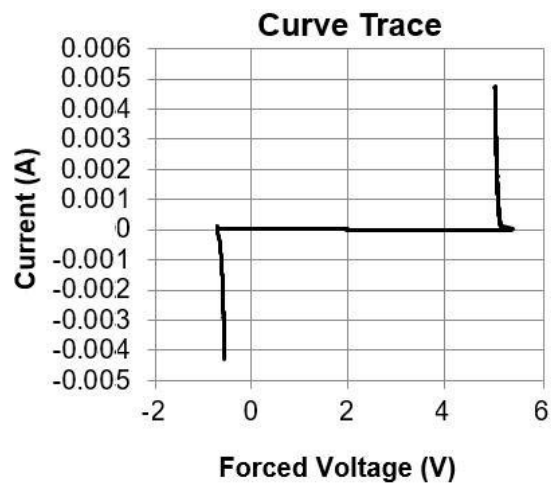
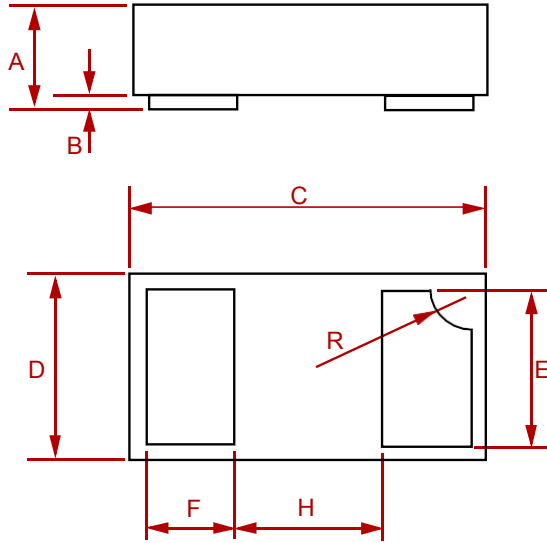


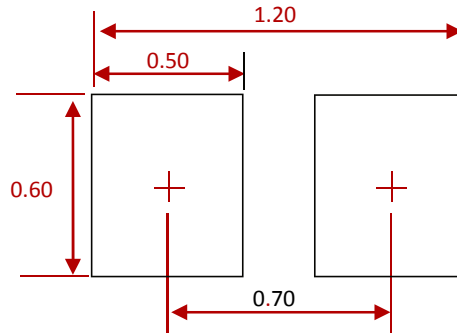
Fig.4 IV Curve

**PACKAGE MECHANICAL DATA**



Dim	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.0125	0.02	0.32	0.52
B	0.000	0.002	0.00	0.05
C	0.037	0.043	0.95	1.080
D	0.022	0.027	0.55	0.680
E	0.016	0.024	0.40	0.60
F	0.008	0.012	0.20	0.30
H	0.015Typ.		0.40Typ.	
R	0.001	0.005	0.05	0.15

**Suggested Pad Layout**



**NOTES:**

1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
2. THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY. CONSULT YOUR MANUFACTURING GROUP TO ENSURE YOUR COMPANY'S MANUFACTURING GUIDELINES ARE MET.

**REEL SPECIFICATION**

P/N	PKG	QTY
ESD5301N-MS	DFN1006-2	10000

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