

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

ESD5451X-MS

Product specification

FEATURES

- Capacitance: 15pF(typ.)
- Reverse Working Voltage: 5V
- IEC 61000-4-2 (ESD Air): $\pm 25\text{KV}$
IEC 61000-4-2 (ESD Contact): $\pm 25\text{KV}$
IEC 61000-4-5 (Lightning 8/20 μs): 8A

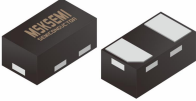
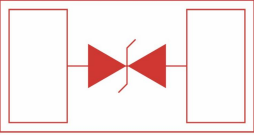

MACHANICAL DATA

- DFN1006-2L package
- Flammability Rating: UL 94V-0
- Packaging: Tape and Reel
- High temperature solderin guaranteed: 260C/10s
- Reel size: 7 inch

APPLICATIONS

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

Reference News

PACKAGE OUTLINE	PIN CONFIGURATION	Marking
 <p data-bbox="209 1603 344 1630">DFN1006-2L</p>		

ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Conditions	Min	Max	Unit
VESD	Electrostatic Discharge Voltage	IEC 61000-4-2; Contact Discharge	-	±25	V
		IEC 61000-4-2; Air Discharge	-	±25	V
PPP	Peak Pulse Power	tP = 8/20 μs	-	80	W
IPPM	Rated Peak Pulse Current	tP = 8/20 μs	-	8	A
TA	Ambient Temperature Range	-	-55	125	°C
Tstg	Storage Temperature Range	-	-55	150	°C

ELECTRICAL CHARACTERISTICS (Tamb=25 °C)

Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
VRWM	Reverse Working Voltage	TA = 25 °C	-	-	5.0	V
VBR	Breakdown Voltage	IR = 1mA; TA = 25 °C	5.6	6.5	8.4	V
IR	Reverse Leakage Current	VRWM = 5V; TA = 25 °C	-	-	0.1	A
VC	Clamping Voltage	IPP=1A, tP =8/20μs	-	-	6	V
		IPP=8A, tP =8/20μs	-	-	10	V
CJ	Junction Capacitance	VR = 0V, f = 1 MHz	-	15	18	F

ELECTRICAL CHARACTERISTICS CURVE

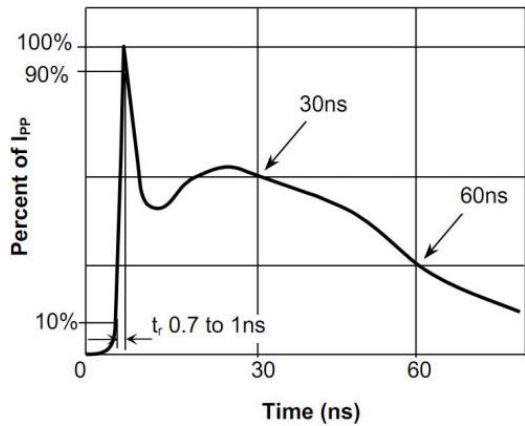


Fig.1 Pulse Waveform-ESD (IEC61000-4-2)

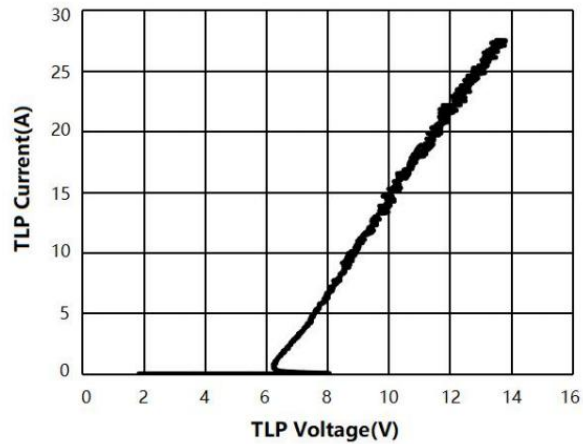


Fig.2 Transmission Line Pulse (TLP)

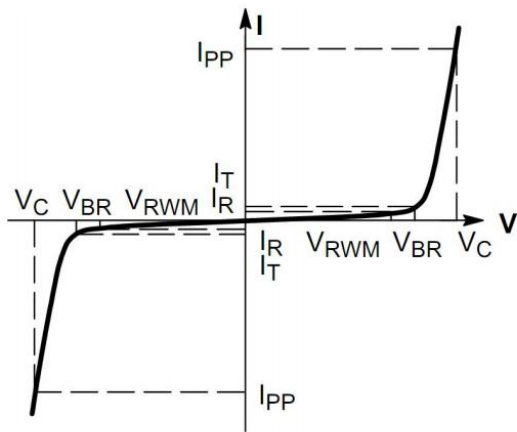


Fig.3 V-I Characteristics for Bidirectional Diode

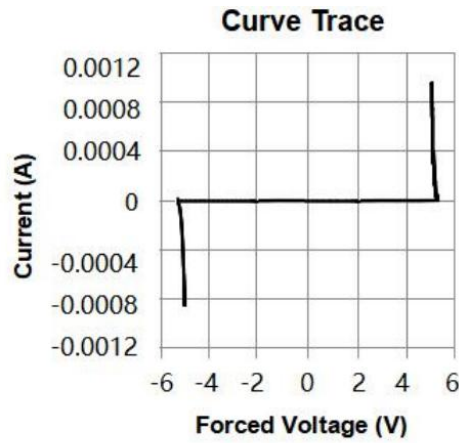


Fig.4 IV Curve

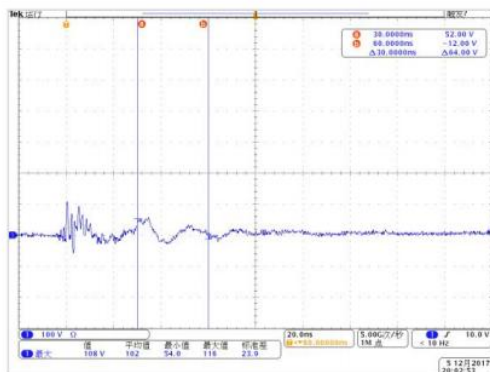


Fig.5 Clamping Voltage at IEC61000-4-2
+8kV Pulse Waveform

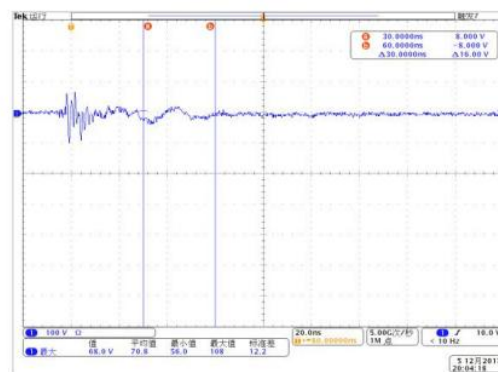
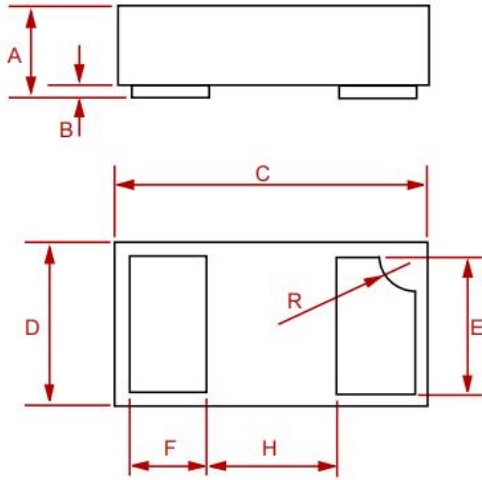


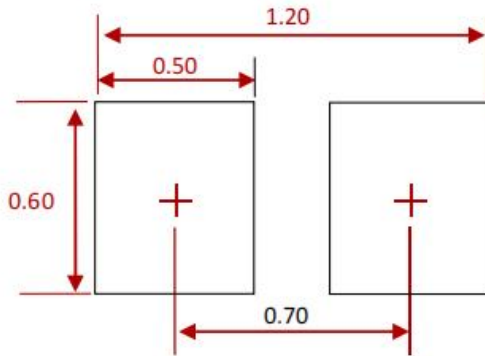
Fig.6 Clamping Voltage at IEC61000-4-2
-8kV Pulse Waveform

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
ESD5451X-MS	DFN1006-2L	10000

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