

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

ESD12VV1BL-MS

Product specification


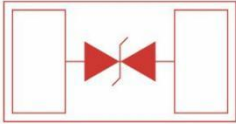

Features

- LowCapacitance:8pF(typ.)
- ReverseWorkingVoltage:12V
- IEC61000-4-2(ESDAir):±30KV
IEC61000-4-2(ESDContact):±30KV
IEC61000-4-5(Lightning8/20μs):8A

Applications

- SmartPhoneandTabletPC
- TVandSetTopBox
- WearableDevices
- PDA

Reference News

PACKAGE OUTLINE	PIN Configuration	Marking
 DFN1006		

Limiting Values(TA = 25 °C, unless otherwise specified)

Symbol	Parameter	Conditions	Min	Max	Unit
VESD	Electrostatic Discharge Voltage	IEC 61000-4-2; Contact Discharge	-	±30	kV
		IEC 61000-4-2; Air Discharge	-	±30	kV
PPP	Peak Pulse Power	t _p = 8/20 μs	-	150	W
I _{PPM}	Rated Peak Pulse Current	t _p = 8/20 μs	-	8.0	A
T _A	Ambient Temperature Range	-	-55	125	°C
T _{stg}	Storage Temperature Range	-	-55	150	°C

Electrical Characteristics(TA = 25 °C, unless otherwise specified)

Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
V _{RWM}	Reverse Working Voltage	T _A = 25 °C	-	-	12.0	V
V _{BR}	Breakdown Voltage	I _R = 1mA; T _A = 25 °C	14.0	14.5	15.0	V
I _R	Reverse Leakage Current	V _{RWM} = 12V; T _A = 25 °C	-	-	0.1	μA
V _C	Clamping Voltage	I _{PP} =8.0A, t _p =8/20μs	-	-	19.0	V
C _J	Junction Capacitance	V _R = 0V, f = 1 MHz	-	8.0	8.5	pF

Typical Characteristics

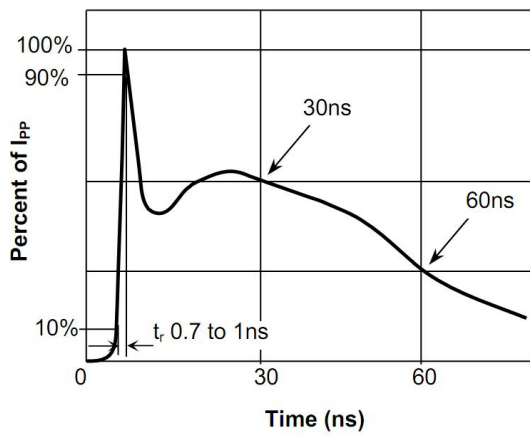


Fig.1 Pulse Waveform-ESD(IEC61000-4-2)

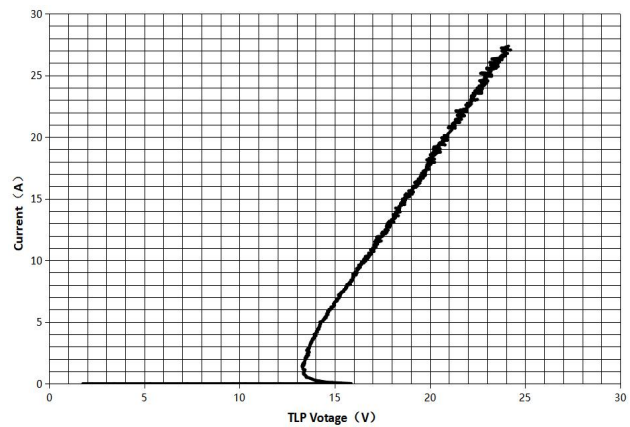


Fig.2 Transmission Line Pulse (TLP)

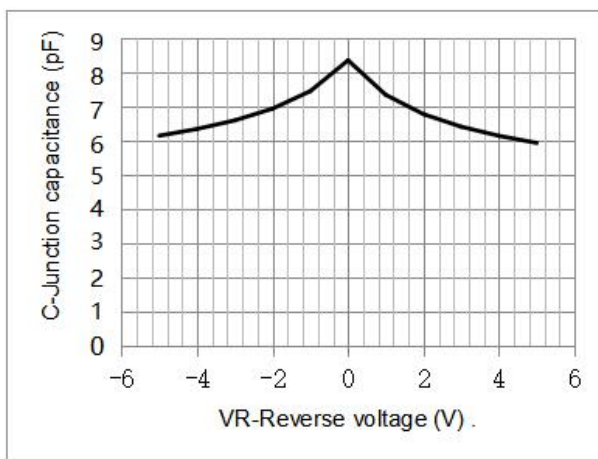


Fig.3 Capacitance vs. Reverse Voltage

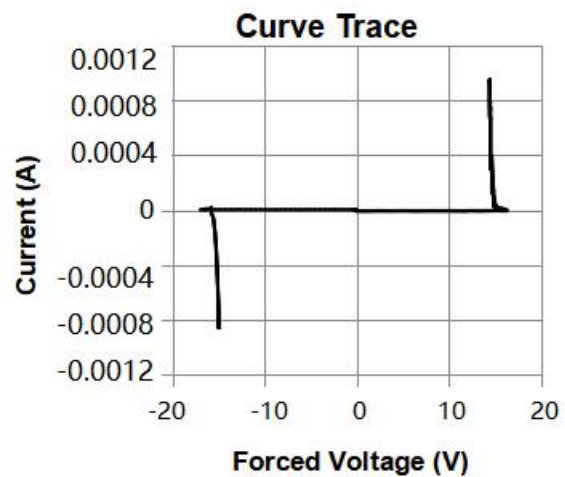
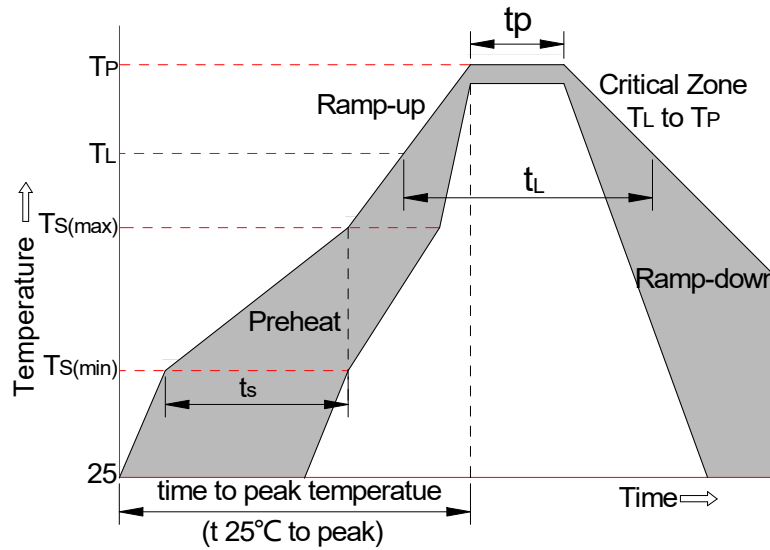


Fig.4 IV Curve (Forward Voltage)

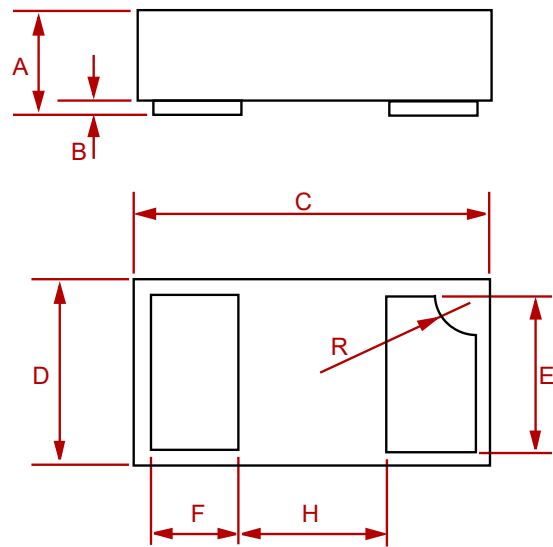
SolderingParameters

FIG.5: Reflow condition



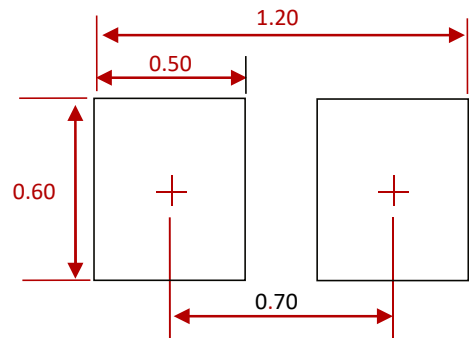
Reflow Condition		Pb-Free Assembly
Pre-heat	-Temperature Min ($T_{S(min)}$)	+150°C
	-Temperature Max($T_{S(max)}$)	+200°C
	-Time (Min to Max) (t_s)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{S(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
xTime 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C

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
ESD12VV1BL-MS	DFN1006	10000

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