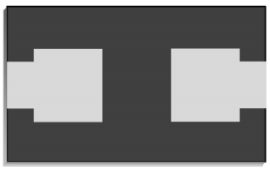
JEB12DF Bidirectional TVS Diode for ESD Protection

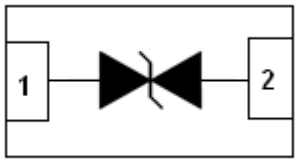
Features and benefits

- ✧ Small Body Outline Dimensions :1.0mm×0.6mm
- ✧ Protects one bi-directional I/O line
- ✧ Low clamping voltage
- ✧ Low operating voltage: 12V
- ✧ ROHS compliant

Pin Information and Graphic symbol



DFN1006



symbol

Application information

- ✧ Low frequency signal transmission line
- ✧ Communication systems
- ✧ Consumer electronics DC power supply

Protection solution to meet

- ✧ IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)

Mechanical Characteristics

- ✧ DFN1006 Package
- ✧ Molding Compound Flammability Rating : UL 94V-O
- ✧ Quantity Per Reel : 5,000pcs
- ✧ Lead Finish : Lead Free
- ✧ Marking Code：AF

Absolute Maximum Ratings (T_A=25℃, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage temperature range	T_{stg}	-55 to +150	℃
Operating junction temperature range	T_j	-55 to +125	℃
Lead Soldering Temperature	T_L	260 (10 sec.)	℃
Peak pulse power dissipation on 8/20 μs waveform	P_{PP}	150	W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	+/- 15 +/- 8	kV

Electrical Characteristics (TA=25℃)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Working Voltage	V_R				12	V
Reverse Breakdown Voltage	V_{BR}	I_T = 1mA	13.3			V
Reverse Leakage Current	I_R	V_R = 12V			1.0	μA
Peak Pulse Current	Ipp	t p =8/20μs			5	A
Clamping Voltage	V_C	I_{PP} = 1A, tp =8/20μs			20	V
		I_{PP} = 5A, tp =8/20μs			26	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz		11		pF

Ratings and V-I Characteristics Curves (T_A=25 ℃, unless otherwise noted)

FIG.1:V- I curve characteristics (Bi-directional)

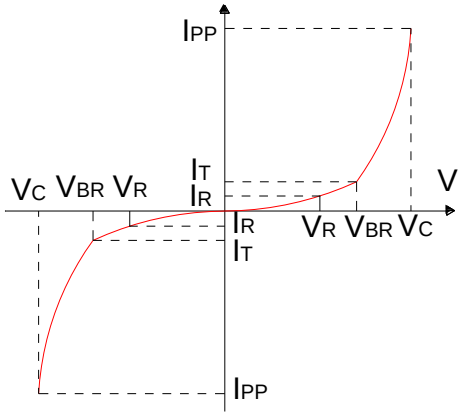


FIG.2: Pulse Waveform

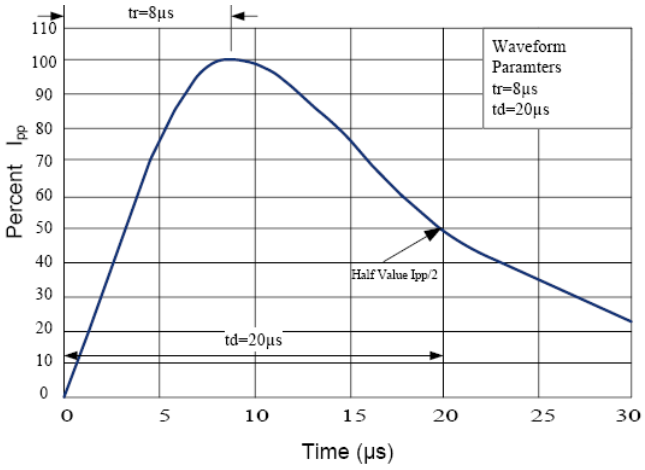


FIG.3: Pulse derating curve

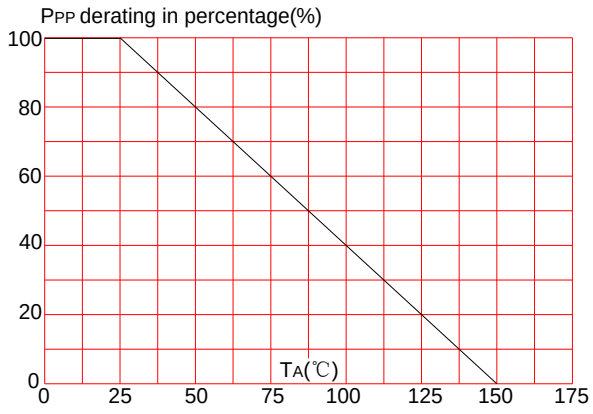
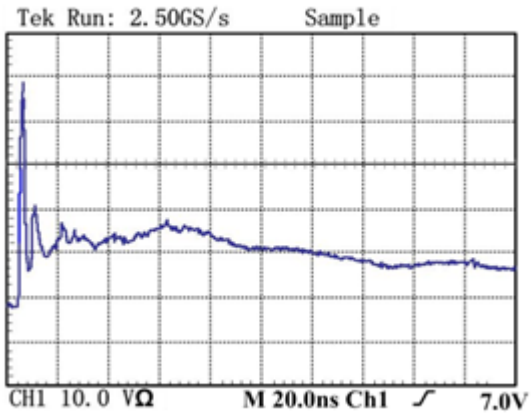
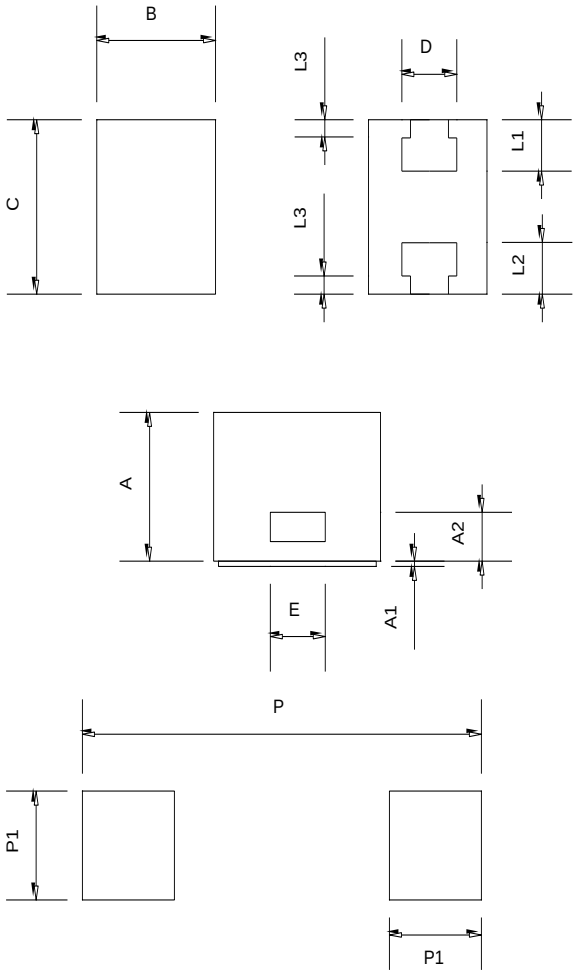


FIG.4:ESD Clamping(8KV Contact)



Package Mechanical Data



Symbol	Millimeter		Inches	
	Min	Max	Min	Max
A	0.450	0.550	0.018	0.022
A1	0.000	0.050	0.000	0.002
A2	0.150REF		0.006REF	
B	0.550	0.650	0.022	0.026
C	0.950	1.050	0.037	0.041
D	0.250	0.350	0.010	0.014
E	0.150	0.250	0.006	0.010
L1	0.300	0.400	0.012	0.016
L2	0.250	0.350	0.010	0.014
L3	0.100REF		0.004REF	
P1	0.45		0.018	
P	1.20		0.048	