JEB05LCDF 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: 5.0V
- ✧ Low Capacitance:0.5 pF
- ✧ ROHS compliant

Pin Information and Graphic symbol

DFN1006

symbol

Application information

- ✧ High frequency signal transmission line
- ✧ Communication systems
- ✧ Digital Visual Interface (DVI)
- ✧ Wireless Communications

Protection solution to meet

- ✧ IEC61000-4-2 (ESD) ±20kV (air), ±18kV (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ IEC61000-4-5 (Lightning) 4A (8/20μs)

Mechanical Characteristics

- ✧ DFN1006 Package
- ✧ Molding Compound Flammability Rating : UL 94V-O
- ✧ Quantity Per Reel : 10,000pcs
- ✧ Lead Finish : Lead Free
- ✧ Marking Code：5F

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}	30	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				5.0	V
Reverse Breakdown Voltage	V_{BR}	I_T = 1mA	6.0		11	V
Reverse Leakage Current	I_R	V_R = 5.0V			1.0	uA
Peak Pulse Current	Ipp	t p =8/20μs			4	A
Clamping Voltage	V_C	I_{PP} = 1A, tp =8/20μs		8.5	12.5	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz		0.3	0.5	pF

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

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

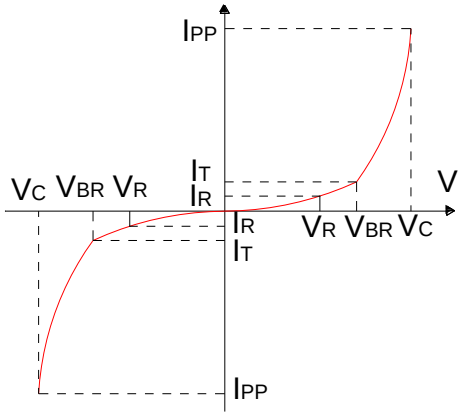


FIG.2: Pulse Waveform

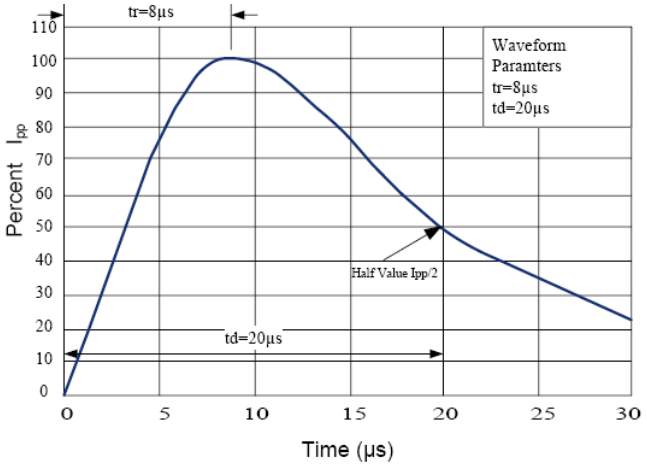


FIG.3: Pulse derating curve

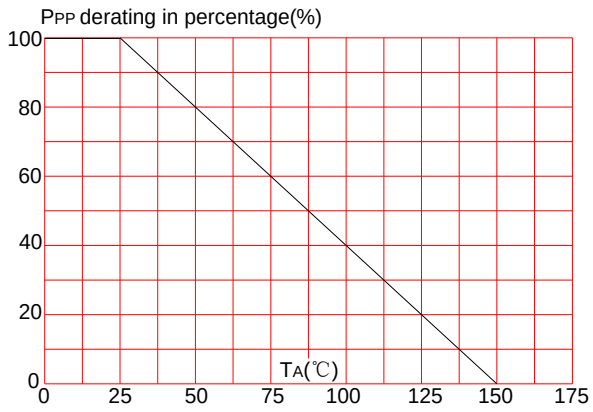
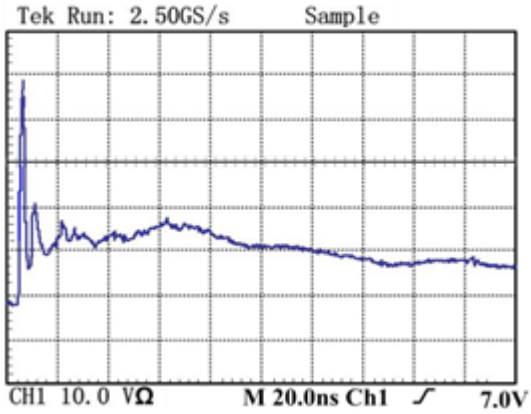
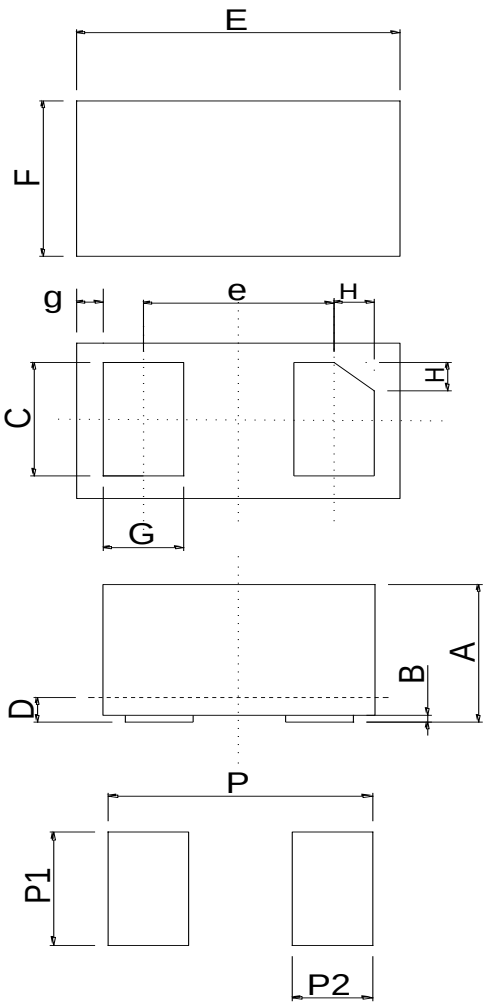


FIG.4:ESD Clamping(8KV Contact)



Package Mechanical Data



Symbol	Millimeter		Inches	
	Min	Max	Min	Max
A	0.45	0.55	0.018	0.022
B	0.00	0.05	0.000	0.002
C	0.45	0.55	0.018	0.022
D	0.12	0.18	0.005	0.007
e	0.65BSC		0.030BSC	
E	0.95	1.05	0.040	0.041
F	0.55	0.65	0.023	0.025
g	0.05REF		0.003REF	
G	0.20	0.30	0.008	0.012
H	0.07	0.17	0.003	0.007
P1	0.60		0.024	
P2	0.35		0.015	
P	1.00		0.040	