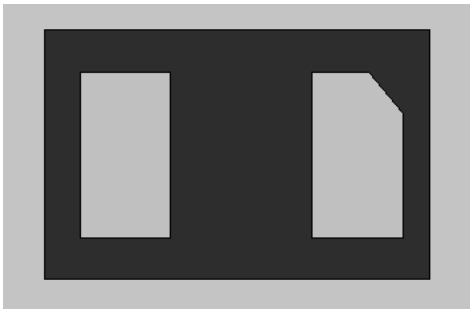
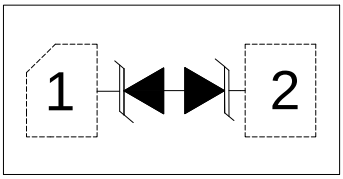
JEB24DF Bi-directional TVS Diode for ESD Protection Rev.1.1

FEATURES

- Protects one bi-directional I/O line
- Low clamping voltage
- Low operating voltage: 24V
- Low leakage current
- RoHS compliant



DFN1006-2L(Bottom view)



Pin Configuration(Top view)

MAIN APPLICATIONS

- Cell phone handsets and accessories
- Personal digital assistants (PDA's)
- Notebooks, desktops, and servers
- Portable instrumentation
- Pagers
- Microprocessor based equipment

PROTECTION SOLUTION TO MEET

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

MECHANICAL CHARACTERISTICS

- DFN1006-2L package
- Molding compound flammability rating : UL 94V-0
- Quantity per reel : 10,000pcs
- Lead finish : lead free
- Marking code: DH

ABSOLUTE MAXIMUM RATINGS (T_A=25ºC, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation at 8/20μs waveform	P_{PP}	240	W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	+/-20 +/-20	kV
Lead soldering temperature	T_L	260 (10 sec.)	
Operating junction temperature range	T_J	-55 to +125	
Storage temperature range	T_{STG}	-55 to +150	

ELECTRICAL CHARACTERISTICS (T_A=25)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse working voltage	V_{RWM}				24	V
Reverse breakdown voltage	V_{BR}	I_T=1mA	26.7		32	V
Reverse leakage current	I_R	V_{RWM}=24V			0.5	μA
Peak pulse current	I_{PP}	t_P=8/20μs			4	A
Clamping voltage	V_C	I_{PP}=4A, t_P=8/20μs		51	60	V
Junction capacitance	C_J	V_{RWM}=0V, f=1MHz		12.5	15	pF

RATINGS AND V-I CHARACTERISTICS CURVES (T_A=25 , unless otherwise noted)

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

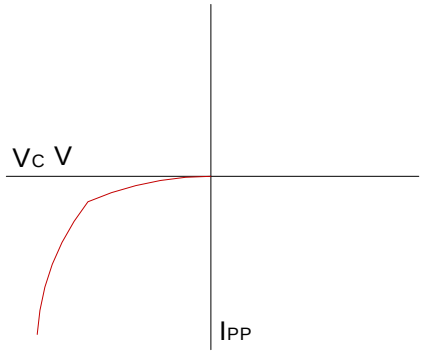
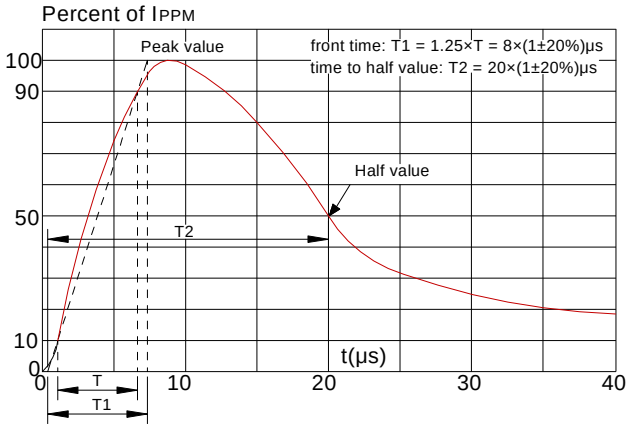
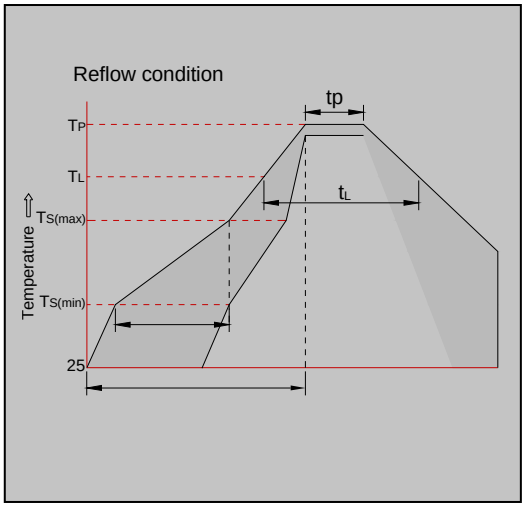


FIG.2: Pulse waveform (8/20μs)

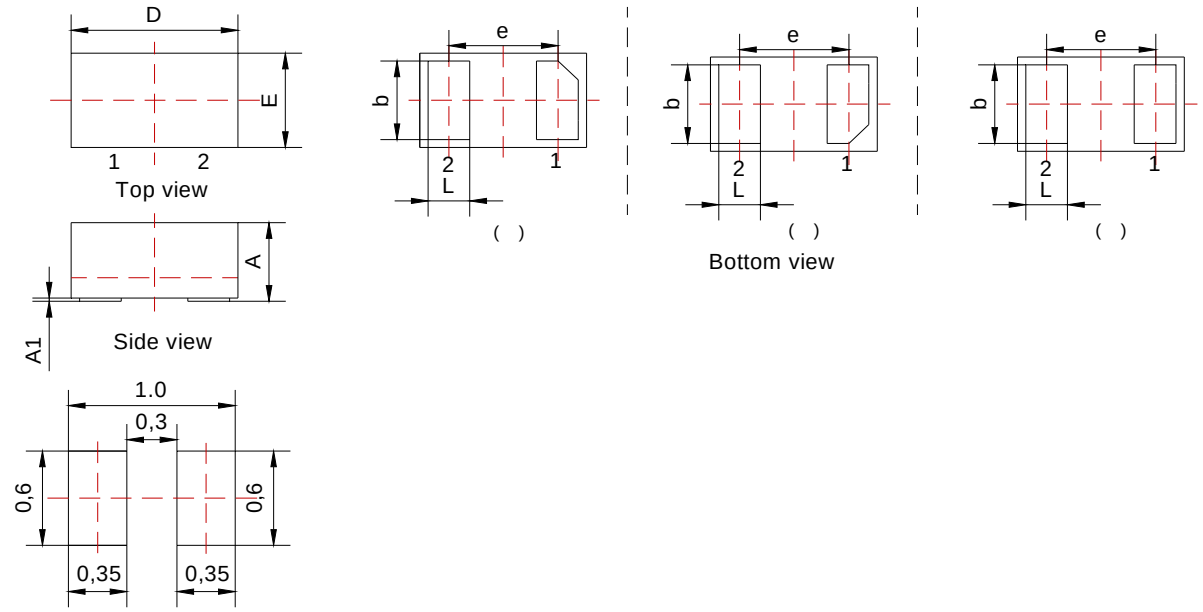


SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150
	-Temperature Max($T_{s(max)}$)	+200
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp (T_L)to peak)		3 /sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3 /sec. Max
Reflow	-Temperature(T_L)(Liquidus)	+217
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)
Time within 5 of actual Peak Temp (t_p)		20-40secs.
Ramp-down Rate		6 /sec. Max
Time 25 to Peak Temp (T_P)		8 min. Max
Do not exceed		+260



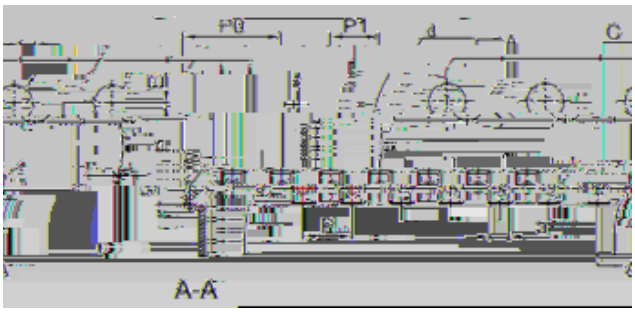
PACKAGE MECHANICAL DATA

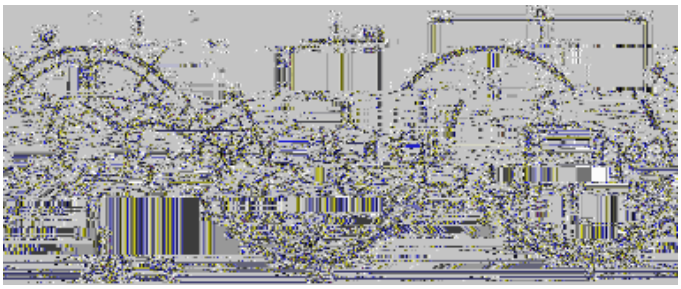


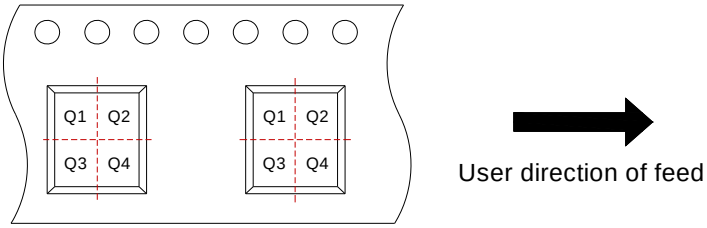
Recommended soldering footprint(mm)

Symbol	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	0.40	0.50	0.55	0.016	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.45	0.50	0.55	0.018	0.020	0.022
D	0.95	1.00	1.05	0.037	0.039	0.041
e	0.65BSC			0.026BSC		
E	0.55	0.60	0.65	0.022	0.024	0.026
L	0.20	0.25	0.30	0.008	0.010	0.012

TAPE AND REEL INFORMATION-DFN1006-2L







User direction of feed

Pin 1 quadrant:Q1&Q2

Packaging Description:
DFN1006-2L parts are shipped in tape. The carrier tape is made from a dissipative(carbon filled) polycarbonate resin. The cover tape is a multilayer film(heat activated adhesive in nature)primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 10,000units per 7" or 17.8cm diameter reel. The reels are clear in color and made of polystyrene plastic(anti-static coated).

Symbol	Millimeters	Inches
	Typ.	Typ.
a	0.66	0.026
B	1.15	0.045
C	0.66	0.026
d	Φ1.50	Φ0.059
E	1.75	0.069
F	3.50	0.138
P0	4.00	0.157
P	2.00	0.079
P1	2.00	0.079
W	8.00	0.315
D	Φ178	Φ7.008
D1	54.40	2.142
D2	13.00	0.512
G	R78.00	R3.071
H	R25.60	R1.008
I	R6.50	R0.256
W1	9.50	0.374
W2	12.30	0.484

ORDERING INFORMATION

PART No.	PACKAGE TYPE	QUANTITY(PCS) REEL	DESCIPTION
JEB24DF	DFN1006-2L	10,000	7 inch reel pack

MARKING CODE

Part Number	Marking Code
JEB24DF	DH

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