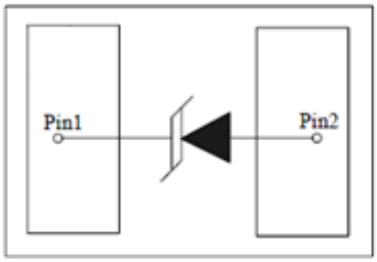
JEU07DP Uni-directional TVS Diode for ESD Protection Rev.1.3

FEATURES

- ✧ Protects one I/O or power line
- ✧ Low clamping voltage
- ✧ Working voltage: 7.0V
- ✧ Low leakage current
- ✧ RoHS compliant

DFN1610-2L



PIN Configuration

MAIN APPLICATIONS

- ✧ Cellular phones
- ✧ Personal digital assistants (PDA's)
- ✧ Laptop computers
- ✧ Digital cameras

PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ IEC61000-4-5 (Lightning) 100A (8/20μs)

MECHANICAL CHARACTERISTICS

- ✧ DFN1610-2L package
- ✧ Molding compound flammability rating: UL 94V-0
- ✧ Quantity per reel: 3,000pcs
- ✧ Lead finish: lead free
- ✧ Marking code: 07P

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

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 8/20μs waveform	P_{PP}	2000	W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	+/- 30 +/- 30	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}				7.0	V
Reverse breakdown voltage	V_{BR}	I_T = 1mA	7.5	8	10	V
Reverse leakage current	I_R	V_{RWM} = 7V			1	μA
Forward voltage	V_F	I_F =10mA	0.6		1.0	V
Peak pulse current	I_{PP}	t_P =8/20μs			100	A
Clamping voltage	V_C	I_{PP}=50A, t_P=8/20μs		12	15	V
		I_{PP}=100A, t_P=8/20μs		15	18	
Junction capacitance	C_J	V_{RWM}=0V, f=1MHz		720	900	pF

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

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

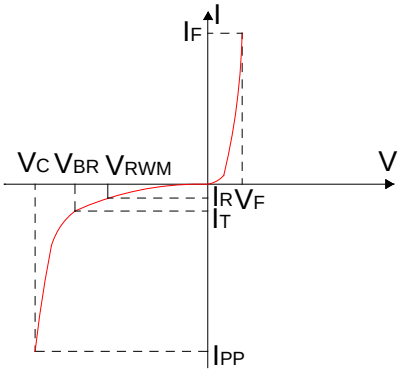


FIG.2: Pulse waveform (8/20μs)

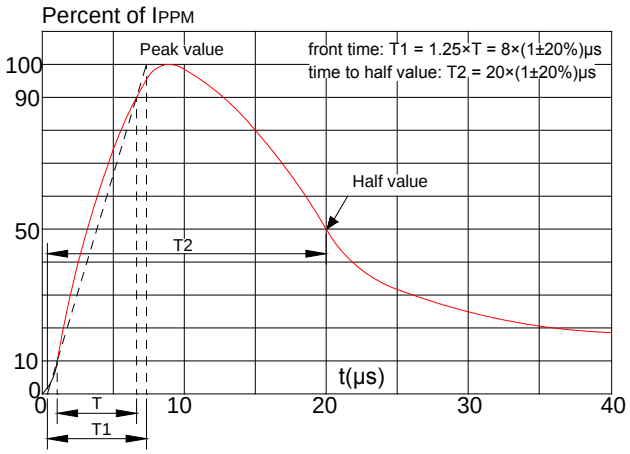


FIG.3: Pulse derating curve

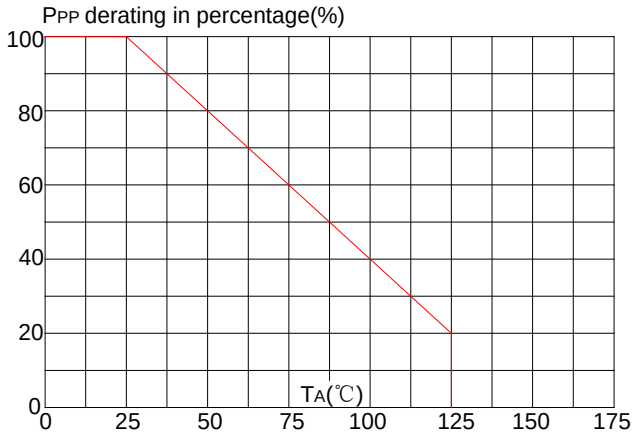
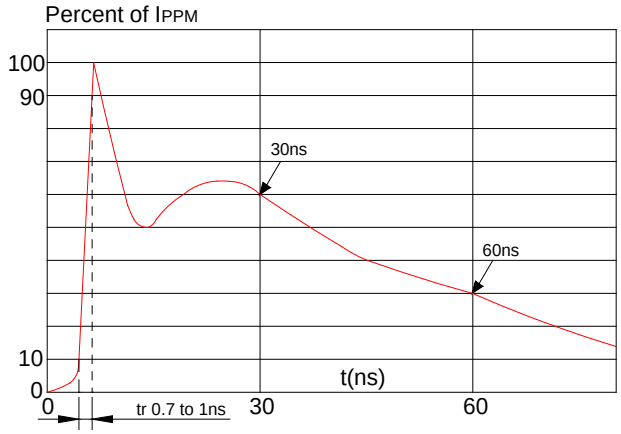
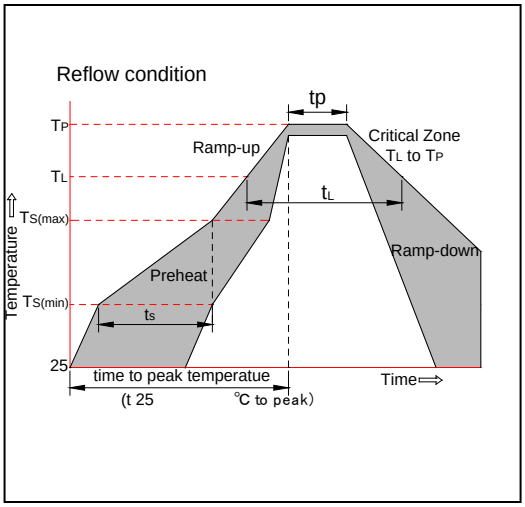


FIG.4: ESD clamping (30KV contact)

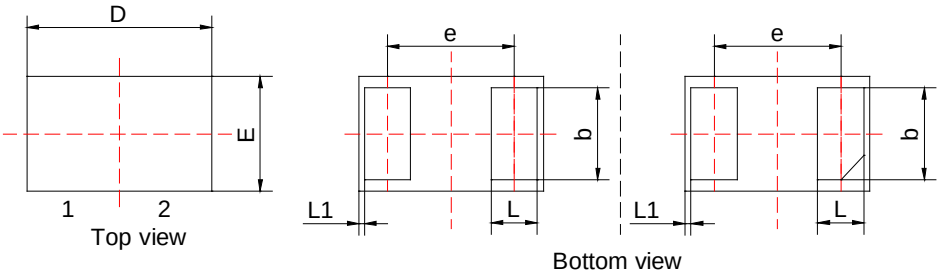


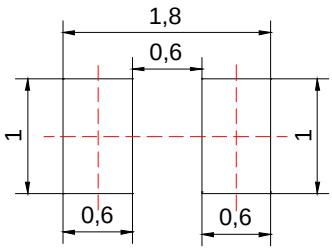
SOLDERING PARAMETERS

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

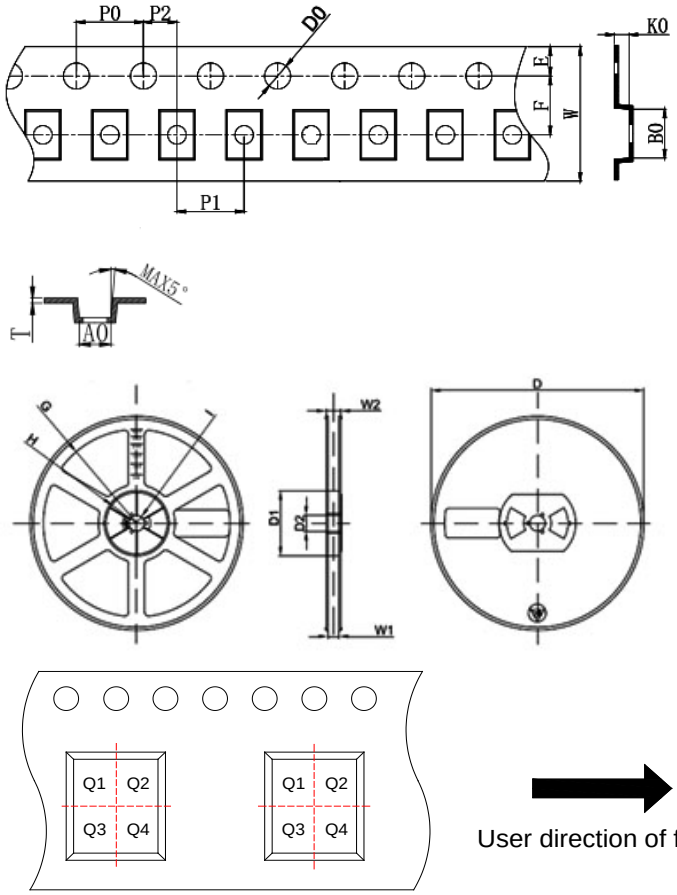




Recommended Soldering Footprint

Symbol	Millimeter			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.75	0.85	0.95	0.030	0.033	0.037
c	0.08	0.12	0.18	0.003	0.005	0.007
D	1.55	1.60	1.65	0.061	0.063	0.065
e	1.10BSC			0.043BSC		
E	0.95	1.00	1.05	0.037	0.039	0.041
L	0.35	0.40	0.45	0.014	0.016	0.018
L1	0.06BSC			0.002BSC		

TAPE AND REEL INFORMATION-DFN1610-2L



Pin 1 quadrant:Q1&Q2

Symbol	Millimeters	Inches
	Typ.	Typ.
A0	1.15	0.045
B0	1.75	0.069
K0	0.67	0.026
D0	1.55	0.061
P0	4.00	0.157
P1	4.00	0.157
P2	2.00	0.079
E	1.75	0.069
F	3.50	0.138
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

Packaging Description:

DFN1610-2L 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 3,000units per 7'' or 17.8cm diameter reel. The reels are clear in color and made of polystyrene plastic(anti-static coated).

ORDERING INFORMATION

OUTLINE	Package	Reel Size	Quantity Per Reel
TAPING	DFN1610-2L	7 Inch	3,000 pcs

MARKING CODE

Part Number	Marking Code
JEU07DP	Pin1  Pin2

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