



FEATURES

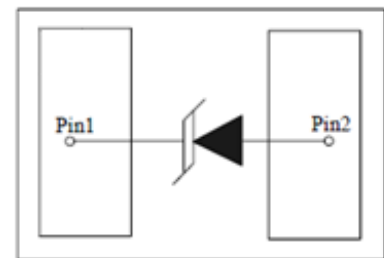
- ✧ Protects one I/O or power line
- ✧ Low clamping voltage
- ✧ Working voltage: 20V
- ✧ Low leakage current
- ✧ RoHS compliant

MAIN APPLICATIONS

- ✧ Power supply protection
- ✧ USB VBUS protection
- ✧ Personal digital assistants (PDA's)
- ✧ Small panel modules
- ✧ Portable devices
- ✧ Touch panel
- ✧ Notebook and handhelds
- ✧ MP3 players
- ✧ Peripherals
- ✧ Digital cameras



DFN1610-2L



PIN Configuration

PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ IEC61000-4-5 (Lightning) 50A (8/20 μs)

MECHANICAL CHARACTERISTICS

- ✧ DFN1610-2L package
- ✧ Molding compound flammability rating: UL 94V-0
- ✧ Quantity per reel: 3,000pcs
- ✧ Lead finish: lead free
- ✧ Marking code: 20P

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

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 8/20μs waveform	P _{PP}	1900	W
ESD per IEC 61000-4-2 (Air)	V _{ESD}	+/- 30	kV
ESD per IEC 61000-4-2 (Contact)		+/- 30	
Lead soldering temperature	T _L	260 (10 sec.)	°C
Operating junction temperature range	T _J	-55 to +125	°C
Storage temperature range	T _{STG}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse working voltage	V _{RWM}				20	V
Reverse breakdown voltage	V _{BR}	I _T =1mA	21		26	V
Reverse leakage current	I _R	V _{RWM} =20V			1	μA
Peak pulse current	I _{PP}	t _P =8/20μs			50	A
Clamping voltage	V _C	I _{PP} =5A, t _P =8/20μs		25.5		V
		I _{PP} =24A, t _P =8/20μs		30.7		
		I _{PP} =50A, t _P =8/20μs		36	40	
Junction capacitance	C _J	V _{RWM} =0V, f=1MHz		240		pF

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

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

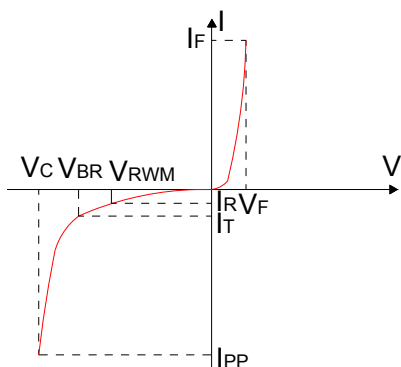


FIG.2: Pulse waveform (8/20μs)

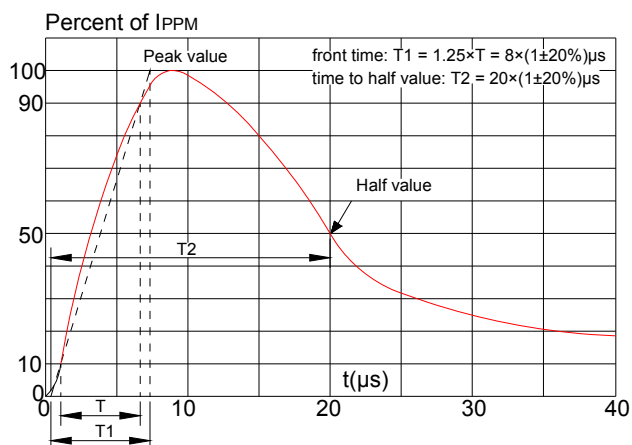


FIG.3: Pulse derating curve

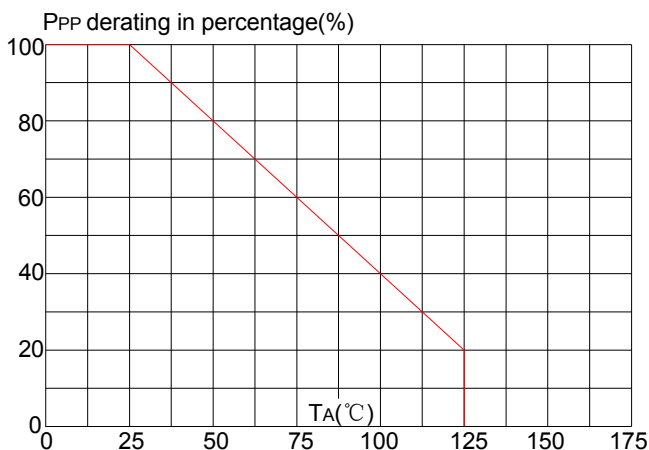
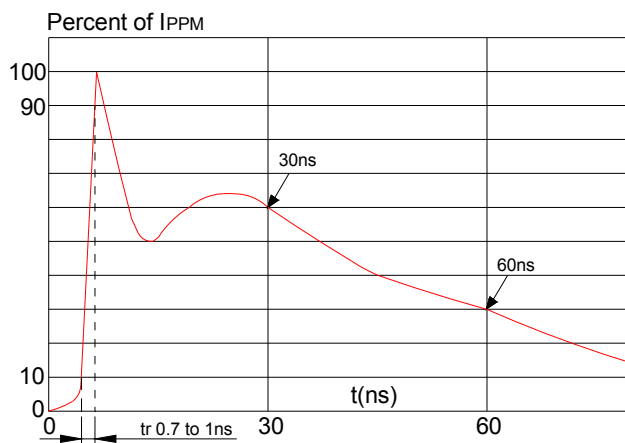
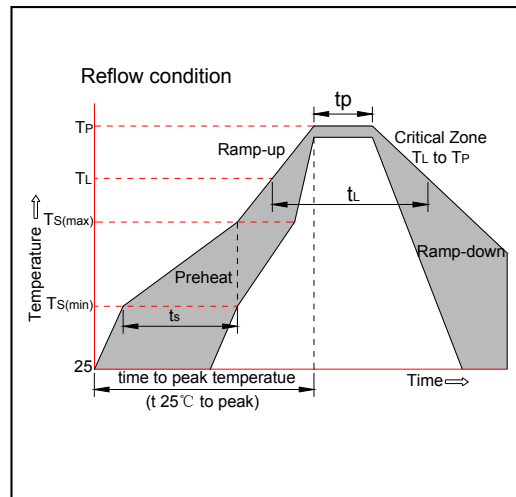


FIG.4: ESD clamping (30KV contact)

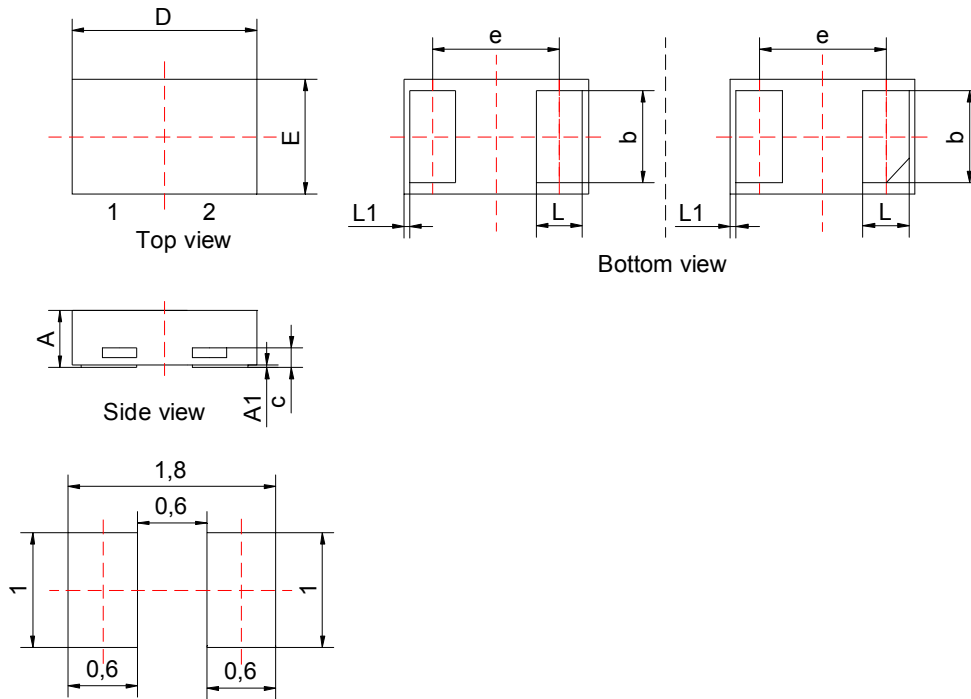


SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min (Ts(min))	+150°C
	-Temperature Max(Ts(max))	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp (TL)to peak)		3°C/sec. Max
Ts(max) to TL - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(TL)(Liquidus)	+217°C
	-Temperature(tL)	60-150 secs.
Peak Temp (Tp)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (tp)		20-40secs.
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (Tp)		8 min. Max
Do not exceed		+260°C



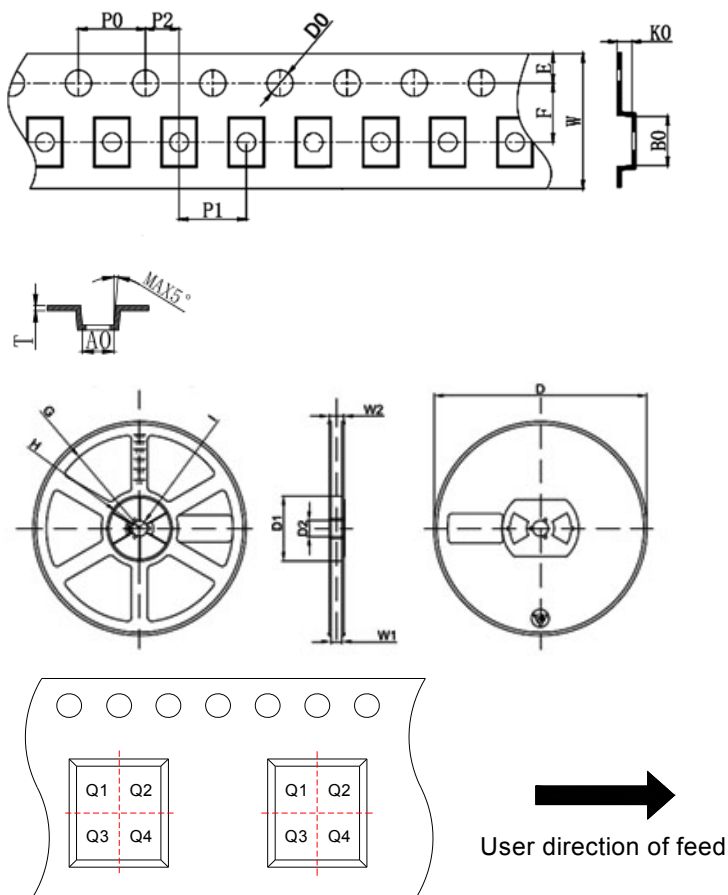
PACKAGE MECHANICAL DATA



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

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).

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

ORDERING INFORMATION

PART No.	PACKAGE TYPE	QUANTITY(PCS) REEL	DESCRIPTION
JEU20DP	DFN1610-2L	3,000	7 inch reel pack

MARKING CODE

Part Number	Marking Code	
JEU20DP	Pin1	

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