



FEATURES:

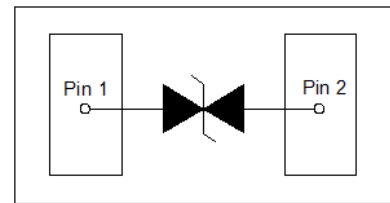
- ✧ Protects one I/O or power line
- ✧ Low clamping voltage
- ✧ Working voltage: 4.5V
- ✧ Low leakage current
- ✧ RoHS compliant



DFN1610-2L

MAIN APPLICATIONS

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



PIN Configuration

PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD) ±30kV (air),±30kV (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ IEC61000-4-5 (Lightning) 140A (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: D4N

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}	2000	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 ($T_A=25^{\circ}C$)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse working voltage	V_{RWM}				4.5	V
Reverse breakdown voltage	V_{BR}	$I_T=1mA$	4.7		6.5	V
Reverse leakage current	I_R	$V_{RWM}=\pm 4.5V$			± 1	μA
Clamping voltage	V_C	$I_{PP}=100A, t_P=8/20\mu s$		12	14	V
		$I_{PP}=140A, t_P=8/20\mu s$		16	18	V
Junction capacitance	C_J	$V_{RWM}=0V, f=1MHz$		450	600	pF

RATINGS AND V-I CHARACTERISTICS CURVES ($T_A=25^{\circ}C$, unless otherwise noted)

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

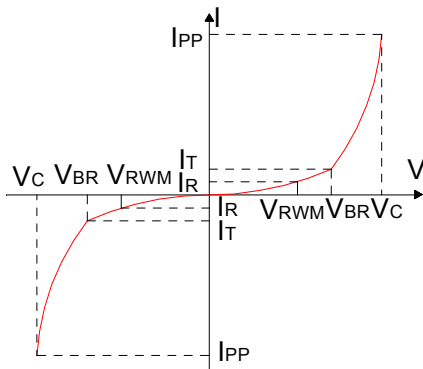


FIG.2: Pulse waveform (8/20μs)

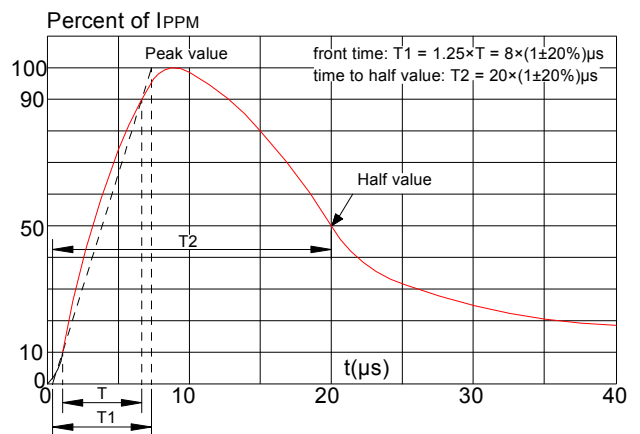


FIG.3: Pulse derating curve

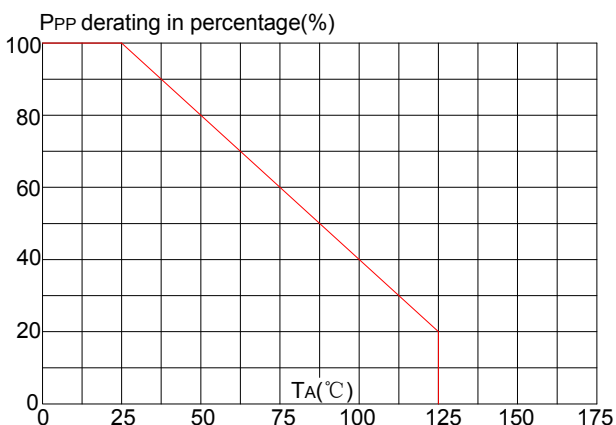
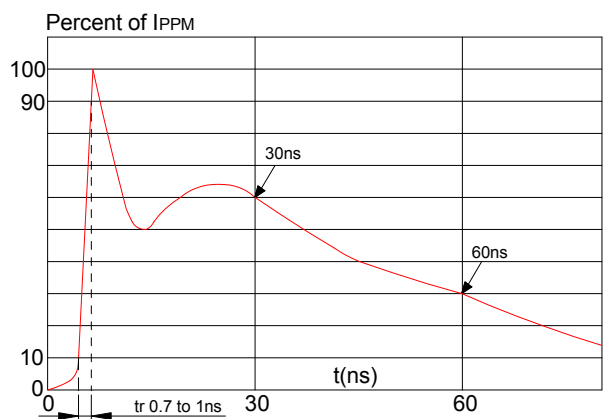
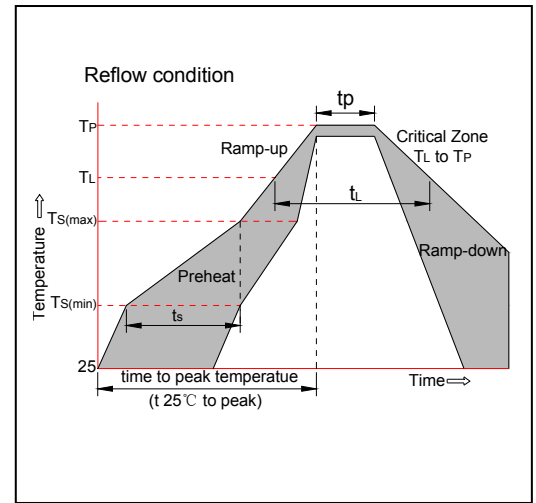


FIG.4: ESD clamping (30KV contact)

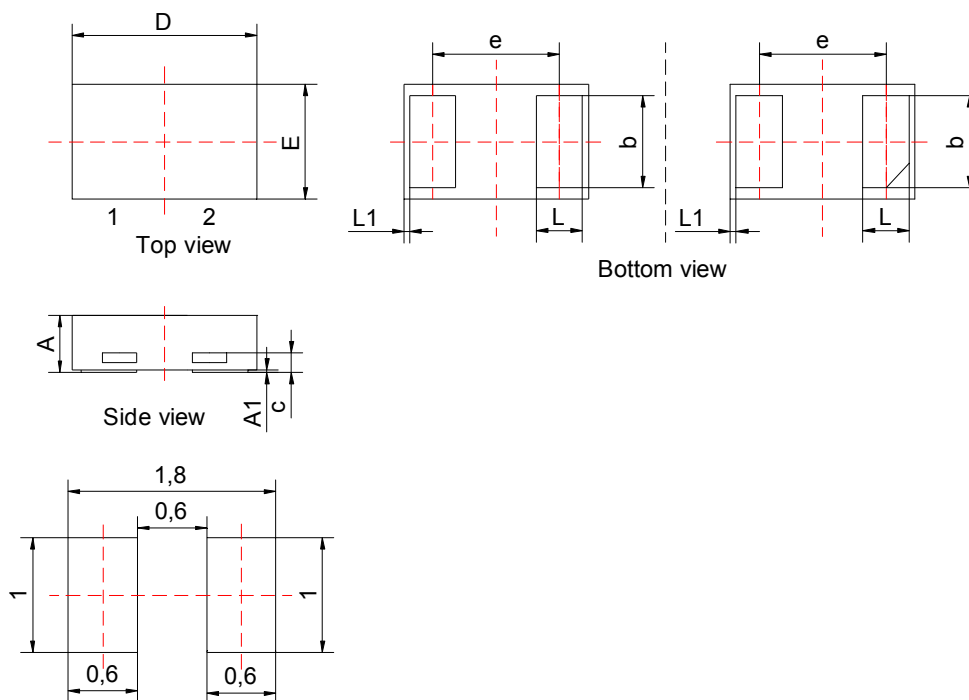


SOLDERING PARAMETERS

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



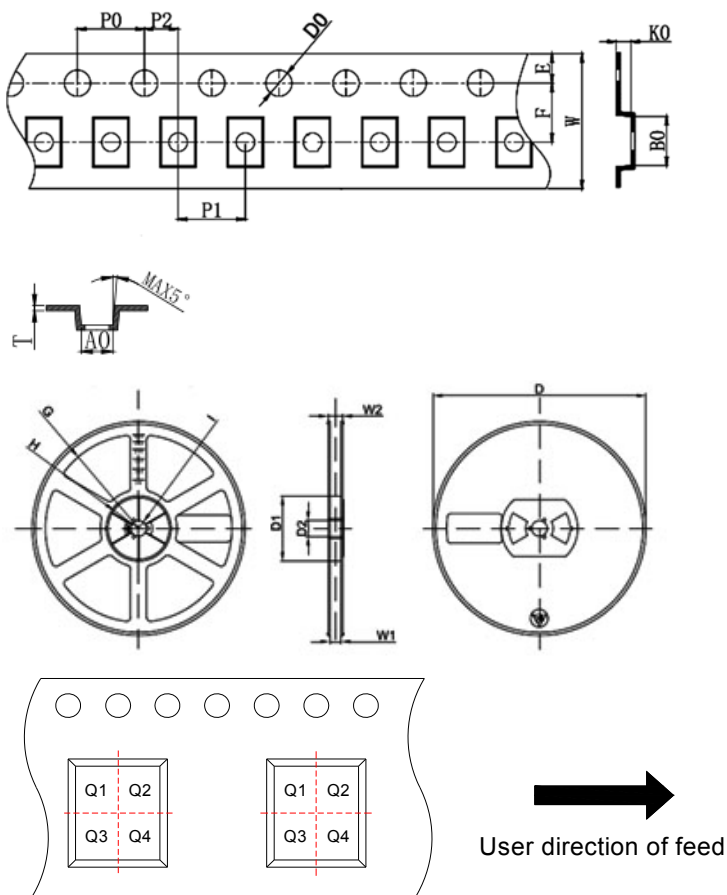
PACKAGE MECHANICAL DATA



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 3,000 units 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

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

MARKING CODE

Part Number	Marking Code
JEB4V5DP	<div data-bbox="842 338 1088 497" style="border: 1px solid black; padding: 10px; text-align: center;">D4N</div>

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