



FEATURES

- ◇ 3900 Watts peak pulse power ($t_P=8/20\mu s$)
- ◇ Working Voltage: 3.3V
- ◇ Excellent Clamping Capability
- ◇ Low Inductance

MAIN APPLICATIONS

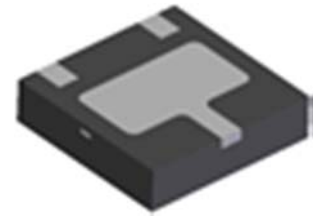
- ◇ Power lines
- ◇ I/O Interfaces
- ◇ Automotive and Telecommunication
- ◇ Computer & Consumer Electronics
- ◇ Industrial Electronics
- ◇ Microcontroller Input Protection

PROTECTION SOLUTION TO MEET

- ◇ IEC61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
- ◇ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◇ IEC61000-4-5 (Lightning) 260A (8/20 μs)

MECHANICAL CHARACTERISTICS

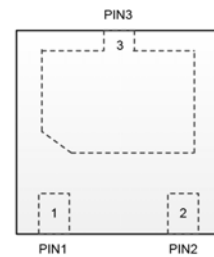
- ◇ DFN2x2-3L package
- ◇ Molding compound flammability rating: UL 94V-0
- ◇ Quantity per reel: 3,000pcs
- ◇ Lead finish: lead free
- ◇ Marking code: M4.5A+date code



DFN2x2-3L



Circuit Diagram



PIN Configuration

ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$, $\text{RH}=45\%-75\%$, unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power($t_p=8/20\mu\text{s}$)	P_{PP}	3900	W
Peak pulse current($t_p=8/20\mu\text{s}$)	I_{PP}	260	A
Operating junction temperature range	T_J	-55 to +125	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse working voltage	V_{RWM}				3.3	V
Reverse breakdown voltage	V_{BR}	$I_T=1\text{mA}$	3.7			V
Reverse leakage current	I_R	$V_{RWM}=3.3\text{V}$			500	nA
Forward Voltage	V_F	$I_F=10\text{mA}$	0.5		1	V
Clamping voltage	V_C	$I_{PP}=260\text{A}$, $t_p=8/20\mu\text{s}$			15	V
Junction capacitance	C_J	$V_{RWM}=0\text{V}$, $f=1\text{MHz}$		850	1000	pF

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

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

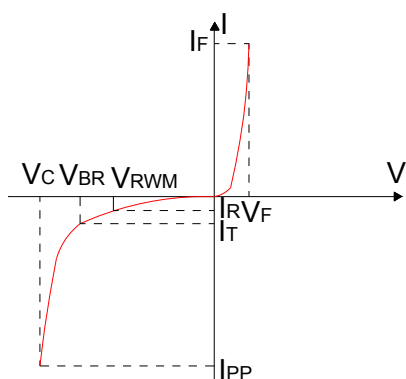


FIG.2: Pulse waveform (8/20μs)

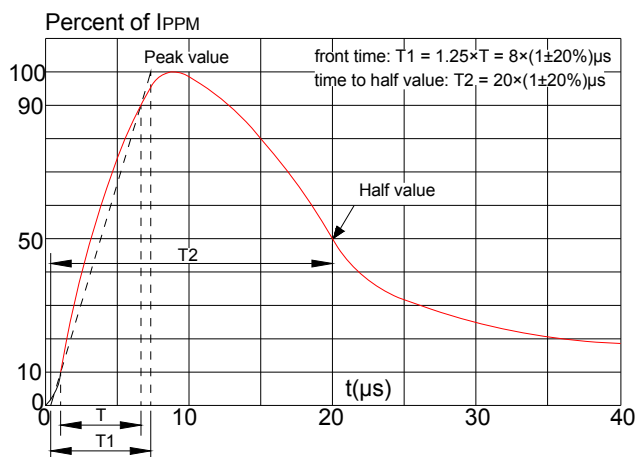


FIG.3: Pulse derating curve

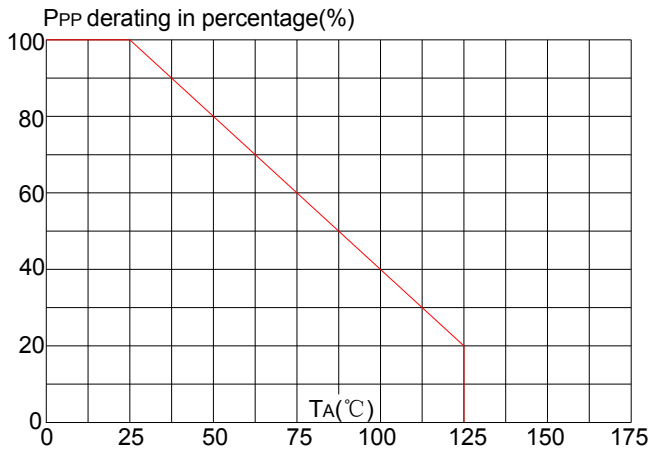


FIG.4: ESD clamping (30KV contact)

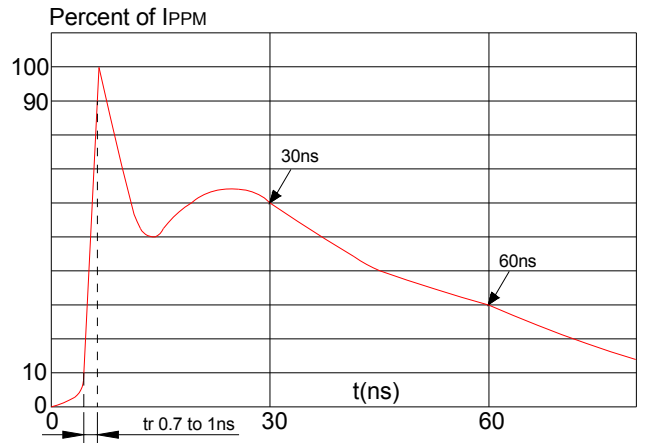


FIG.5:Clamping voltage vs.peak pulse current

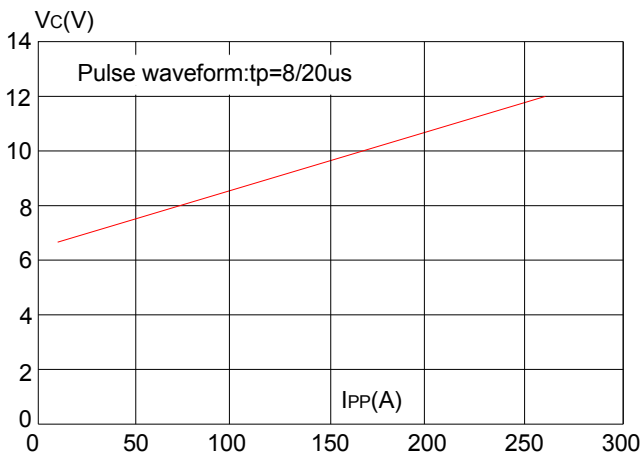
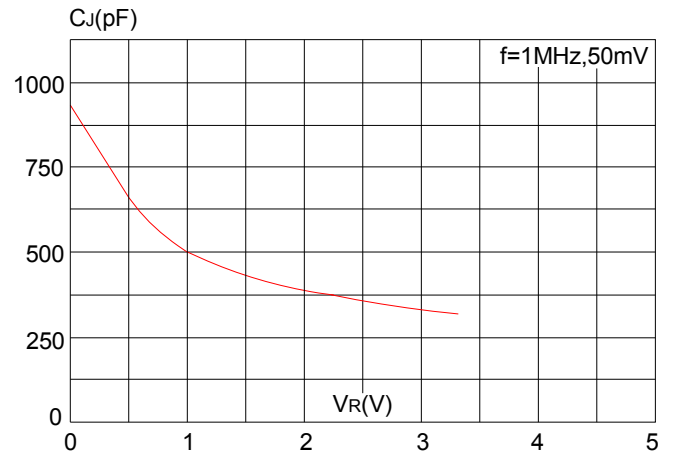
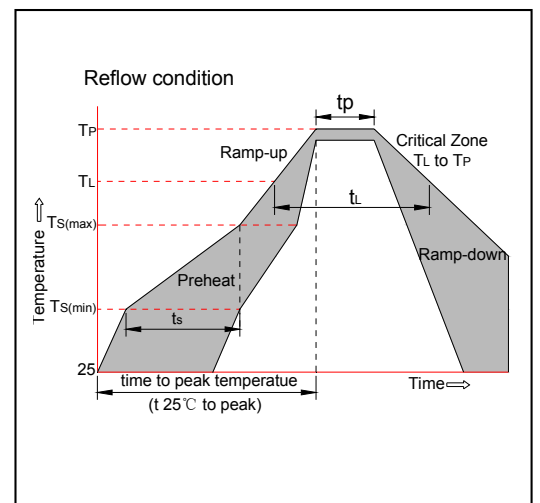


FIG.6:Capacitance vs.reverse voltage

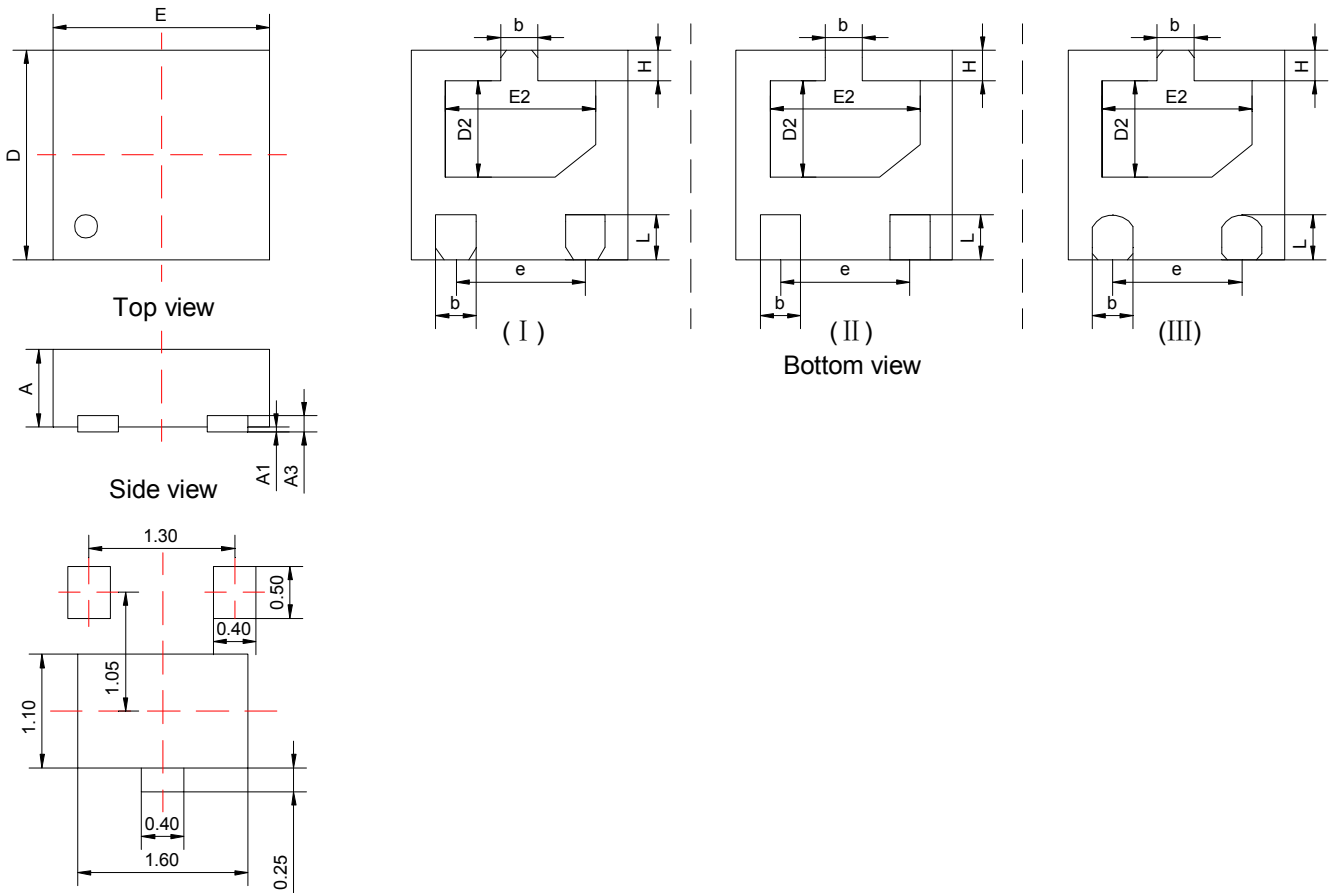


SOLDERING PARAMETERS

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) (ts)	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



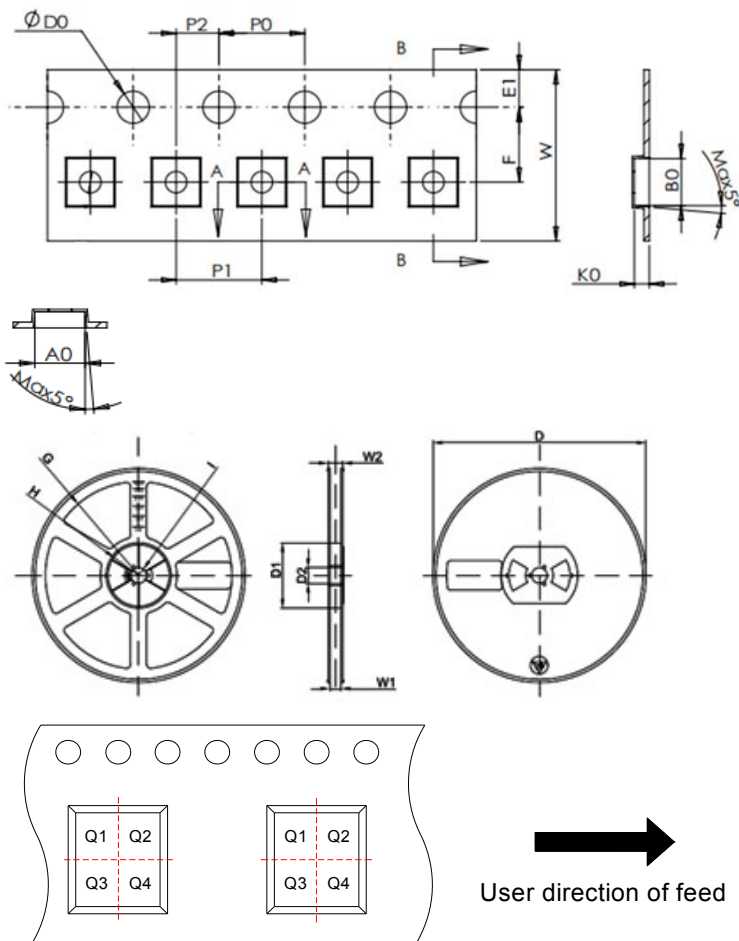
PACKAGE MECHANICAL DATA



Recommended soldering footprint(mm)

Symbol	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	0.45	0.50	0.60	0.018	0.020	0.024
A1	0.00	0.02	0.05	0.000	0.001	0.002
A3	0.15REF			0.006REF		
b	0.25	0.30	0.35	0.010	0.012	0.014
D	1.90	2.00	2.10	0.075	0.079	0.083
E	1.90	2.00	2.10	0.075	0.079	0.083
D2	0.85	1.05	1.15	0.033	0.041	0.045
E2	1.40	1.50	1.60	0.055	0.059	0.063
e	1.30BSC			0.051BSC		
H	0.20	0.25	0.30	0.008	0.010	0.012
L	0.35	0.40	0.45	0.014	0.016	0.018

TAPE AND REEL INFORMATION-DFN2x2-3L



Pin 1 quadrant: Q3

Packaging Description:


DFN2x2-3L 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	Dimensions	
	Millimeters	Inches
	Typ.	Typ.
A0	2.20	0.087
B0	2.20	0.087
K0	0.70	0.028
D0	1.55	0.061
E1	1.75	0.069
F	3.50	0.138
P0	4.00	0.157
P1	4.00	0.157
P2	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	DESCRIPTION
JEU3V3N3	DFN2x2-3L	3,000	7 Inch

MARKING CODE

Part Number	Marking Code
JEU3V3N3	<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;"> <p style="margin: 0;">M4.5A</p> <p style="margin: 0;">XXXX</p>  </div> <div> <p style="margin: 0;">M4.5A=Special Device Code</p> <p style="margin: 0;">XXXX=Date Code</p> </div> </div>

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