



### 1. Features

- 2-pin lead-less package
- Junction capacitance (Max value: 20pF)
- Peak Pulse current (8/20μs) Max:8A
- IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- Low clamping voltage
- Low leakage current
- Working voltages:3.3V
- RoHS Compliant

### 2. Mechanical Data

- Case:Molded Plastic,DFN1006-2L.
- Epoxy:UL 94V-0 rate flame retardant.
- Terminals:Plated Leads Solderable per MIL-STD-750, Method-2026.
- Marking:B1
- Marking:marked on body.

DFN1006-2L



Bi-directional

### 3. Maximum Ratings

Electrical Characteristics Rating at 25°C ambient temperature unless otherwise specified.

Characteristic	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	$P_{PP}$	85	W
Peak Pulse Current (8/20μs)	$I_{PP}$	8	A
ESD per IEC 61000-4-2 (Air)	$V_{ESD}$	±30	KV
ESD per IEC 61000-4-2 (Contact)		±30	
Junction Temperature	$T_j$	-55~+125	°C
Storage Temperature	$T_{stg}$	-55~+150	°C

### 4. Electrical Characteristics ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Characteristics	Symbol	Condition	Min	TYP	Max	Unit
Reverse Working Voltage	$V_{RWM}$		-	-	3.3	V
Reverse Breakdown Voltage	$V_{BR}$	$I_R = 1\text{mA}$	3.5	-	5.5	V
Reverse Leakage Current	$I_R$	$V_R = 3.3\text{V}$	-	-	0.5	uA
Clamping voltage	$V_C$	$I_{PP} = 1\text{A}, T_P = 8/20\text{us}$	-	-	6	V
Clamping voltage	$V_C$	$I_{PP} = 8\text{A}, T_P = 8/20\text{us}$	-	-	11	V
Junction capacitance	$C_J$	$V_R = 0\text{V}, f = 1\text{MHz}$	-	10	20	pF



### 5. Rating And Characteristic Curves

FIG1: Power rating derating curve

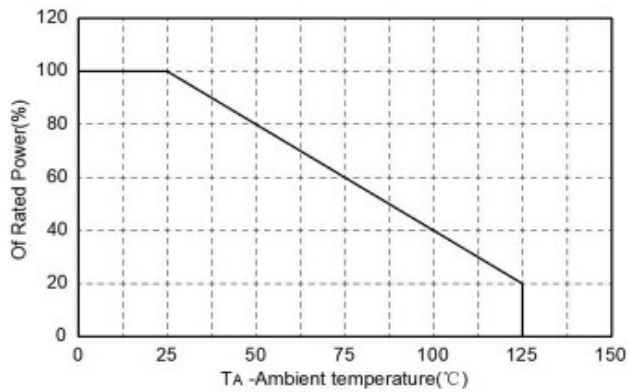


FIG2: pulse Waveform

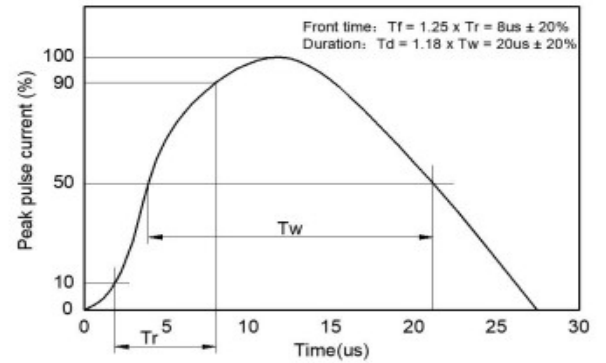


FIG3: Capacitance between

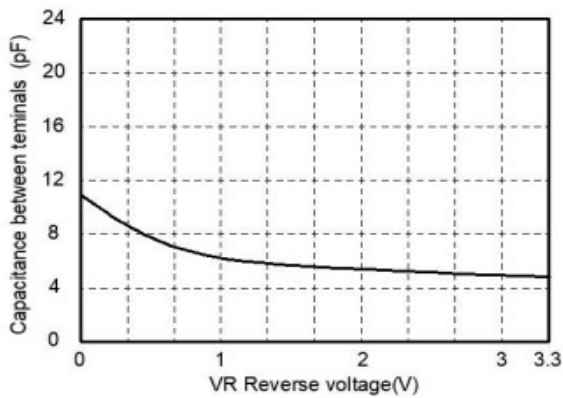
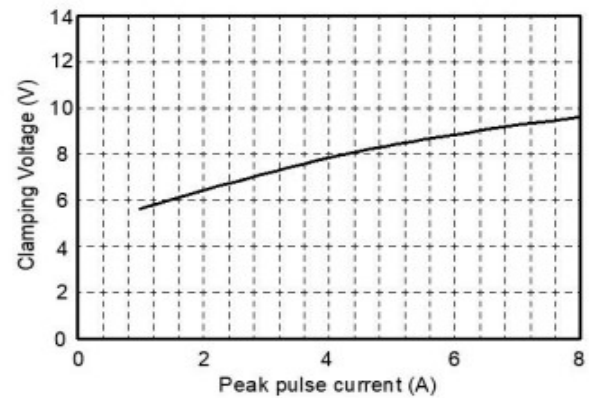
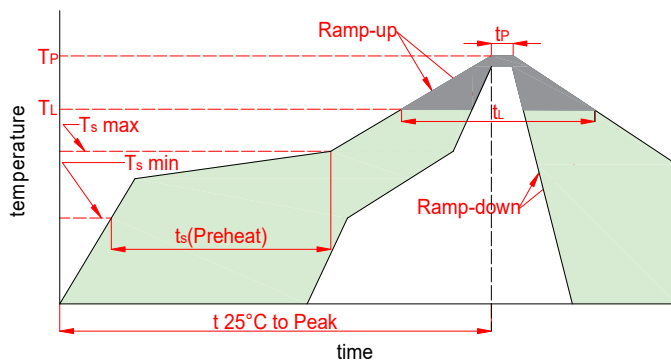


FIG4: Clamping Voltage vs. Peak Pulse Current



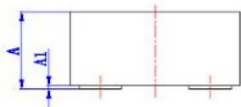
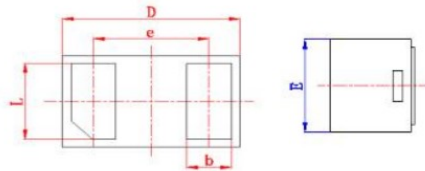


### 6. Soldering Parameters

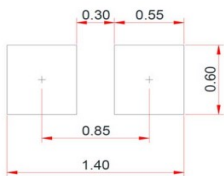


Reflow Condition		Lead-free
Pre Heat	Temp. min( $T_s$ (min))	150°C
	Temp. max( $T_s$ (min))	200°C
	Time(min to max)( $t_s$ )	60~120s
Aver. ramp up rate(Liquidus Temp.)( $T_L$ )to peak		3°C/s max
$T_s$ (max) to $T_L$ -Ramp-up Rate		3°C/s max
Reflow	Temp.( $T_L$ )(Liquidus)	217°C
	Temp.( $t_L$ )(Liquidus)	60~150s
Peak Temp.( $T_p$ )		260 <sup>+0/-5</sup> °C
Time within actual peak Temp.( $t_p$ )		30s max
Ramp-down Rate		6°C/s max
Time 25°C to peak Tempe.( $T_p$ )		8 minutes max
Do not exceed		260°C

### 7. Dimensions



Mounting PAD Layout



Symbol	Inches		Millimeters	
	Min	Max	Min	Max
A	0.016	0.020	0.40	0.52
A1	0.000	0.002	0.00	0.05
D	0.035	0.043	0.90	1.10
E	0.022	0.026	0.55	0.65
e	0.026		0.65	
b	0.007	0.013	0.18	0.32
L	0.013	0.022	0.34	0.55

### 8. Part Numbering System

### Part Marking System

Cathode Band



### 9. Package Information

Package	Part Number	Marking Code	Quantity(pcs)
DFN1006-2L	ESD3V301P1B	PB	3000



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