ESDSHLC1201P1

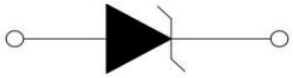
ESD Diode

1. Features

DFN1006-2L

- 2-pin lead-less package
- Junction capacitance (Max value: 500pF)
- Peak Pulse current (8/20μs) Max:35A
- IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- Low clamping voltage
- Low leakage current
- Working voltages:12V
- 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:12S
- Marking:marked on body.

3. Maximum Ratings

Electrical Characteristics Rating at 25℃ ambient temperature unless otherwise specified.

Characteristic	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	P_{PP}	840	W
Peak Pulse Current (8/20μs)	I_{PP}	30	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±30 ±30	KV
Junction Temperature	T_j	-55～+125	℃
Storage Temperature	T_{stg}	-55～+150	℃

4. Electrical Characteristics (T_A=25℃ unless otherwise noted)

Characteristics	Symbol	Condition	Min	TYP	Max	Unit
Reverse Working Voltage	V_{RWM}		-	-	12	V
Reverse Breakdown Voltage	V_{BR}	I_R = 1mA	13	-	-	V
Reverse Leakage Current	I_R	V_R =12V	-	-	1	uA
Clamping voltage	V_C	I_{PP} = 30A,T_P=8/20us	-	24	28	V
Junction capacitance	C_J	V_R =0V,f =1MHz	-	300	500	pF

5. Rating And Characteristic Curves

FIG1：Power rating derating curve

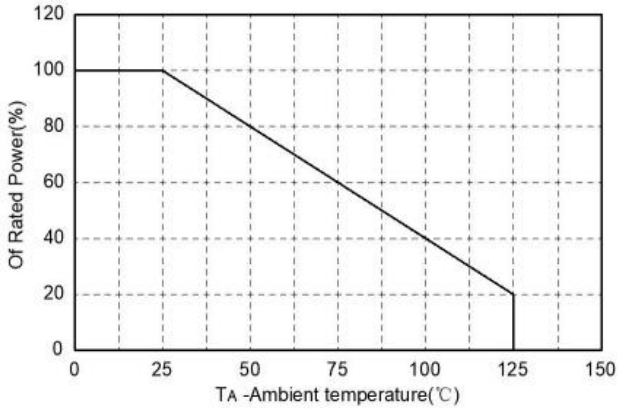


FIG2： pulse Waveform

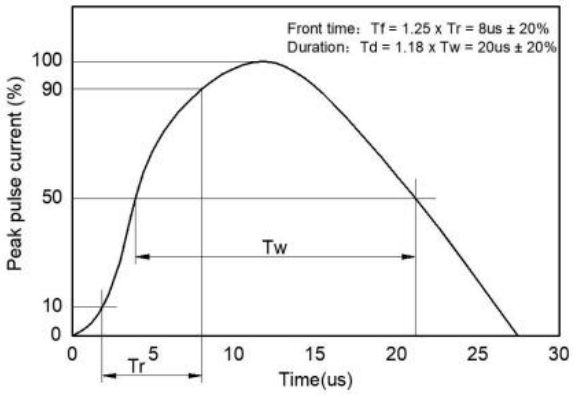


FIG3：Capacitance between terminals characteristics

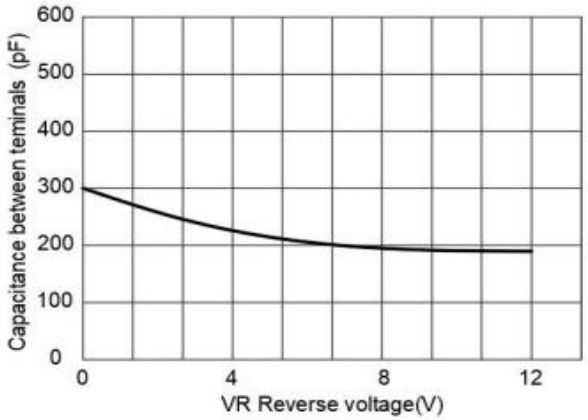
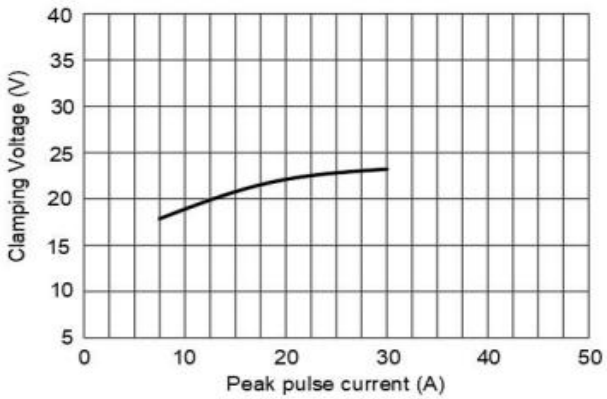
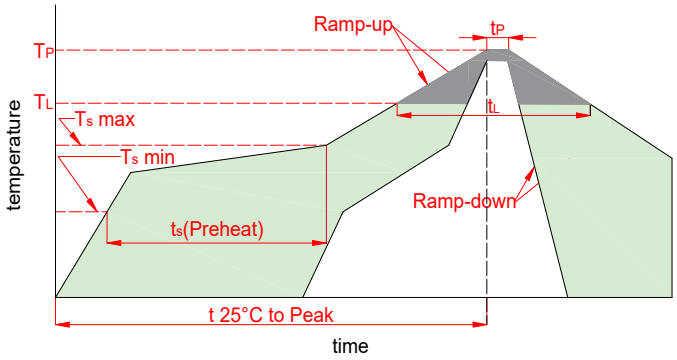


FIG4: Clamping Voltage vs. Peak Pulse Current

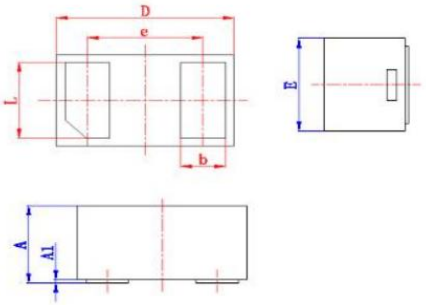


6. Soldering Parameters



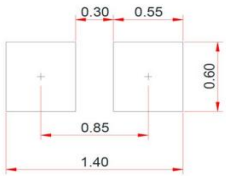
Reflow Condition		Lead-free
Pre Heat	Temp. min(T_s(min))	150℃
	Temp. max(T_s(min))	200℃
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3℃/s max
T_S(max) to T_L-Ramp-up Rate		3℃/s max
Reflow	Temp.(T_L)(Liquidus)	217℃
	Temp.(t_L)(Liquidus)	60~150s
Peak Temp.(T_P)		$260^{+0/-5}$℃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

7. Dimensions



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

Mounting PAD Layout



8. Part Numbering System

Part Marking System

Cathode Band

9. Package Information

Package	Part Number	Marking Code	Quantity(pcs)
DFN1006-2L	ESDSHLC1201P1	12S	10000

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