



1. Features

- 2-pin lead-less package
- Junction capacitance (Max value: 50pF)
- 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,SOD323.
- Epoxy:UL 94V-0 rate flame retardant.
- Terminals:Plated Leads Solderable per MIL-STD-750, Method-2026.
- Marking:12B
- Marking:marked on body.

SOD323



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}	1260	W
Peak Pulse Current (8/20μs)	I_{PP}	35	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}		-	-	12	V
Reverse Breakdown Voltage	V_{BR}	$I_R = 1\text{mA}$	13.3	-	16.5	V
Reverse Leakage Current	I_R	$V_R = 12\text{V}$	-	-	1	uA
Clamping voltage	V_C	$I_{PP} = 5\text{A}, T_P = 8/20\mu\text{s}$	-	-	20	V
Clamping voltage	V_C	$I_{PP} = 15\text{A}, T_P = 8/20\mu\text{s}$	-	-	30	V
Clamping voltage	V_C	$I_{PP} = 35\text{A}, T_P = 8/20\mu\text{s}$	-	-	36	V
Junction capacitance	C_J	$V_R = 0\text{V}, f = 1\text{MHz}$	-	-	50	pF



5. Rating And Characteristic Curves

Fig.1 Power rating derating curve

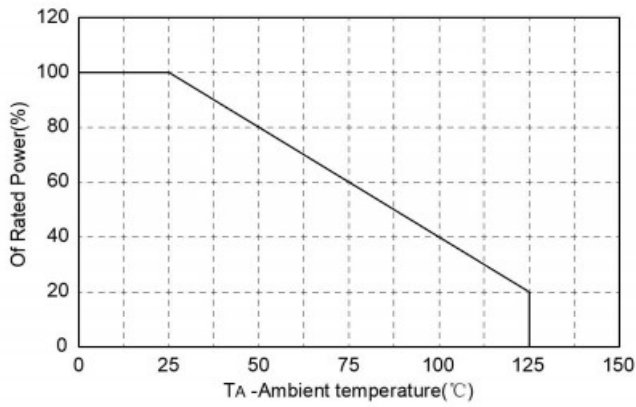


Fig.2 pulse Waveform

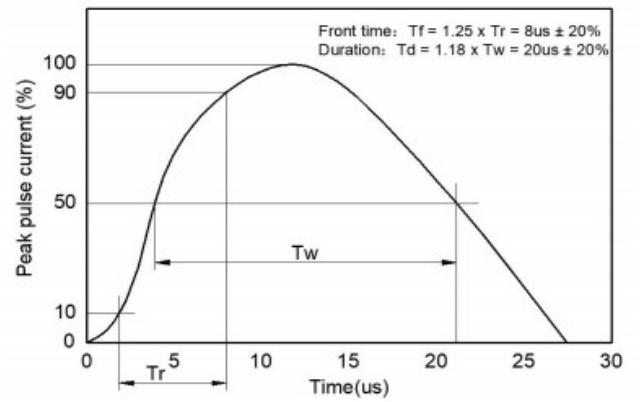


Fig.3 Capacitance between terminals characteristics

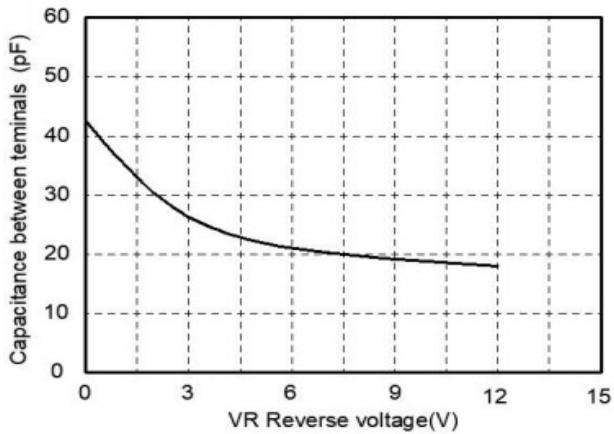
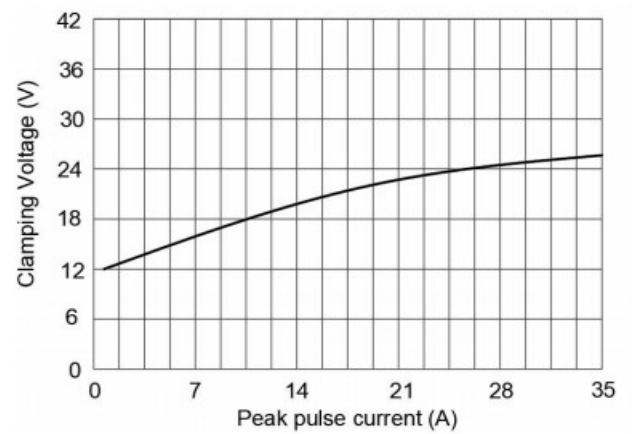
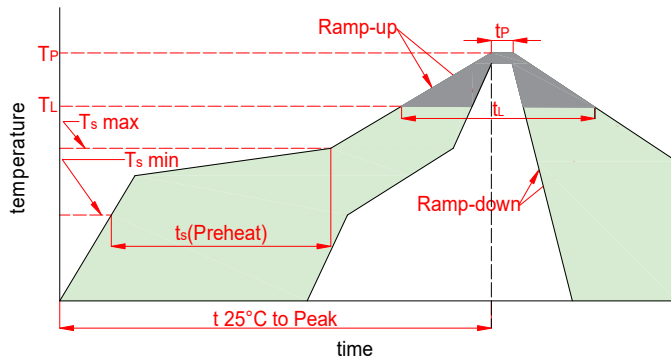


Fig.4 Clamping Voltage vs. Peak Pulse Current



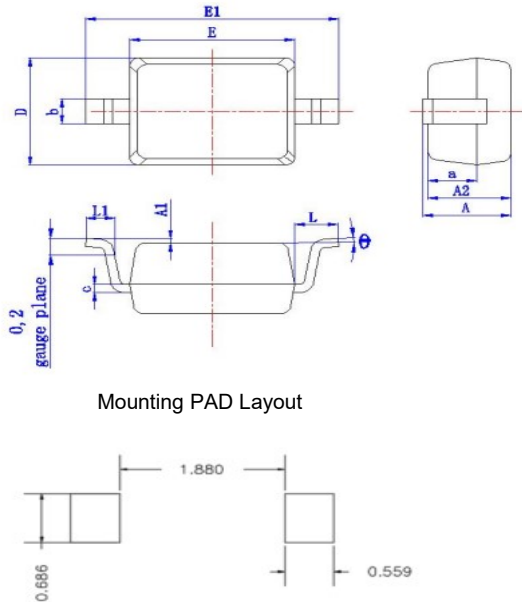


6. Soldering Parameters



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 ^{+0/-5} °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



Symbol	Inches		Millimeters	
	Min	Max	Min	Max
A	0.031	0.045	0.80	1.15
A1	0.000	0.004	0.00	0.10
A2	0.031	0.039	0.80	1.00
a	0.020		0.50	
D	0.045	0.057	1.15	1.45
E	0.063	0.073	1.60	1.85
E1	0.098	0.110	2.50	2.80
b	0.010	0.016	0.25	0.40
c	0.003	0.006	0.08	0.15
L	0.019		0.48	
L1	0.010	0.018	0.25	0.45
θ	0°	8°	0°	8°

8. Part Marking System

Cathode Band



9. Package Information

Package	Part Number	Marking Code	Quantity(pcs)
SOD323	ESDHLC1201D3B	12B	3000



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