

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

SD12-01FTG-MS

Product specification

Features

- 2-pinlead-lesspackage
- Junctioncapacitance(Maxvalue:30pF)
- PeakPulsecurrent(8/20μs)MAX:12A
- IEC61000-4-2(ESD)±30kV(air),±30kV(contact)
- Lowleakagecurrent
- Workingvoltages:12V
- RoHSCompliant

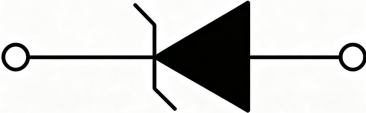
Mechanical Characteristics

- Package:SOD-323
- LeadFinish:MatteTin
- CaseMaterial:“Green”MoldingCompound.
- ULFlammabilityClassificationRating94V-0
- MoistureSensitivity:Level3perJ-STD-020
- TapeReel:3000pcs

Applications

- LEDLightingModules
- RS232/RS485
- CANandLINBus
- PortableInstrumentation
- GeneralPurposel/O
- Automotiveapplication

Reference News

SOD-323	Graphic symbol	Marking
	 Uni-directional	

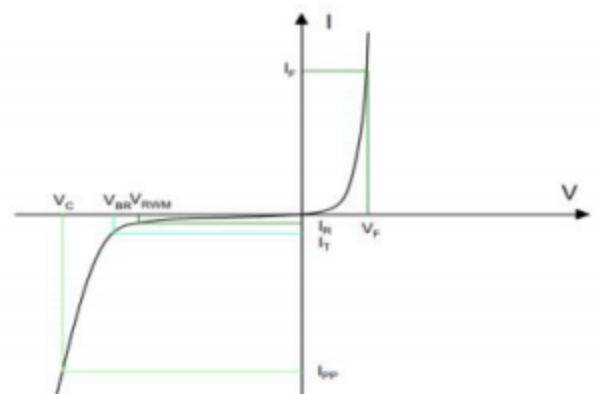
Absolute Maximum Ratings (T=25°C, RH=45%-75%, unless otherwise noted)

Parameters	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	P _{PP}	360	W
Peak Pulse Current (8/20μs)	I _{PP}	12	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V _{ESD}	±30 ±30	KV
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

Electrical Characteristics (T=25°C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V _{RWM}				12	V
Reverse Breakdown Voltage	V _{BR}	I _R = 1mA	13.3		16	V
Reverse Leakage Current	I _R	V _R = 12V			1	uA
Clamping voltage	V _C	I _{PP} = 1A, T _p =8/20us			16	V
Clamping voltage	V _C	I _{PP} = 12A, T _p =8/20us		25	30	V
Junction capacitance	C _j	V _R = 0V, f = 1MHz		30	60	pF

Symbol	Parameter
V _{RWM}	Peak Reverse Working Voltage
I _R	Reverse Leakage Current @V _{RWM}
V _{BR}	Breakdown Voltage @I _T
I _T	Test Current
I _{PP}	Maximum Reverse Peak Pulse Current
V _C	Clamping Voltage @I _{PP}
P _{PP}	Peak Pulse Power
C _J	Junction Capacitance
I _F	Forward Current
V _F	Forward Voltage @I _F



Typical Characteristics

FIG1: Power rating derating curve

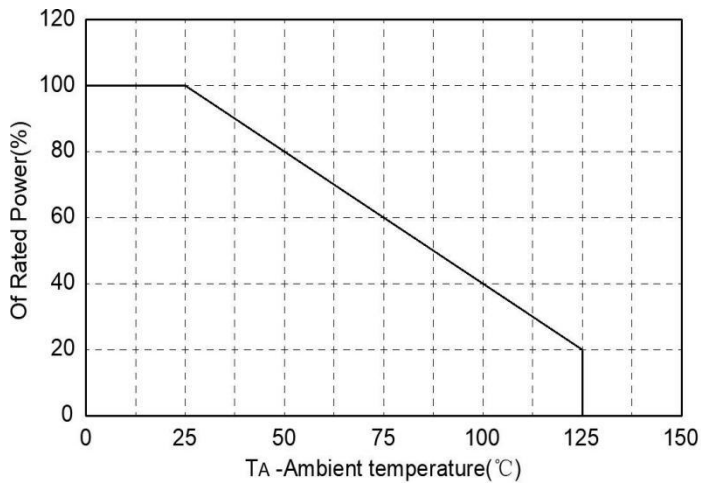


FIG2: pulse Waveform

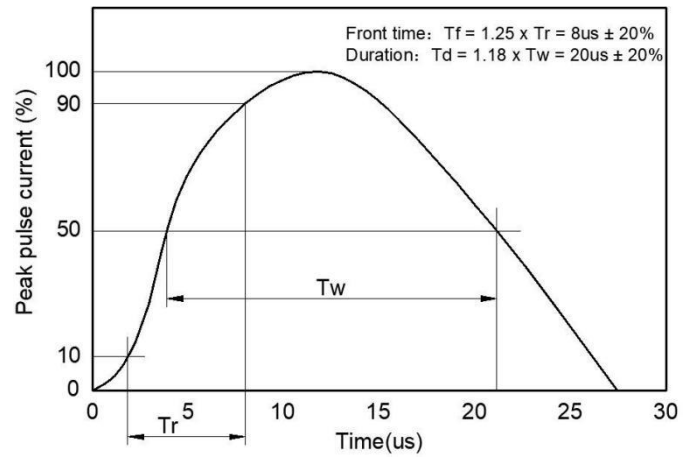


FIG3: Capacitance between teminals charateristics

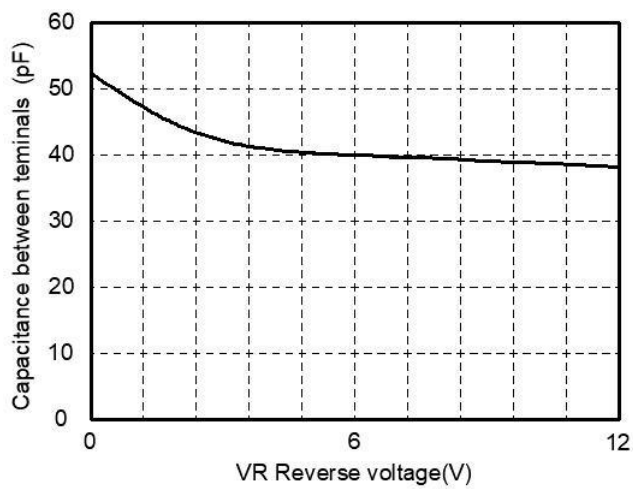
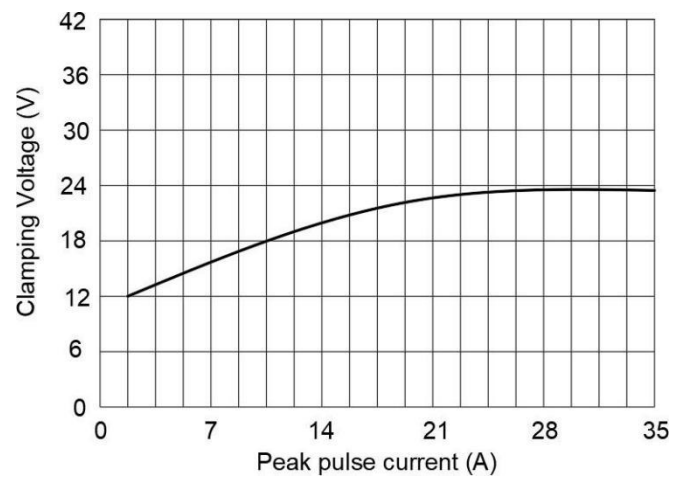
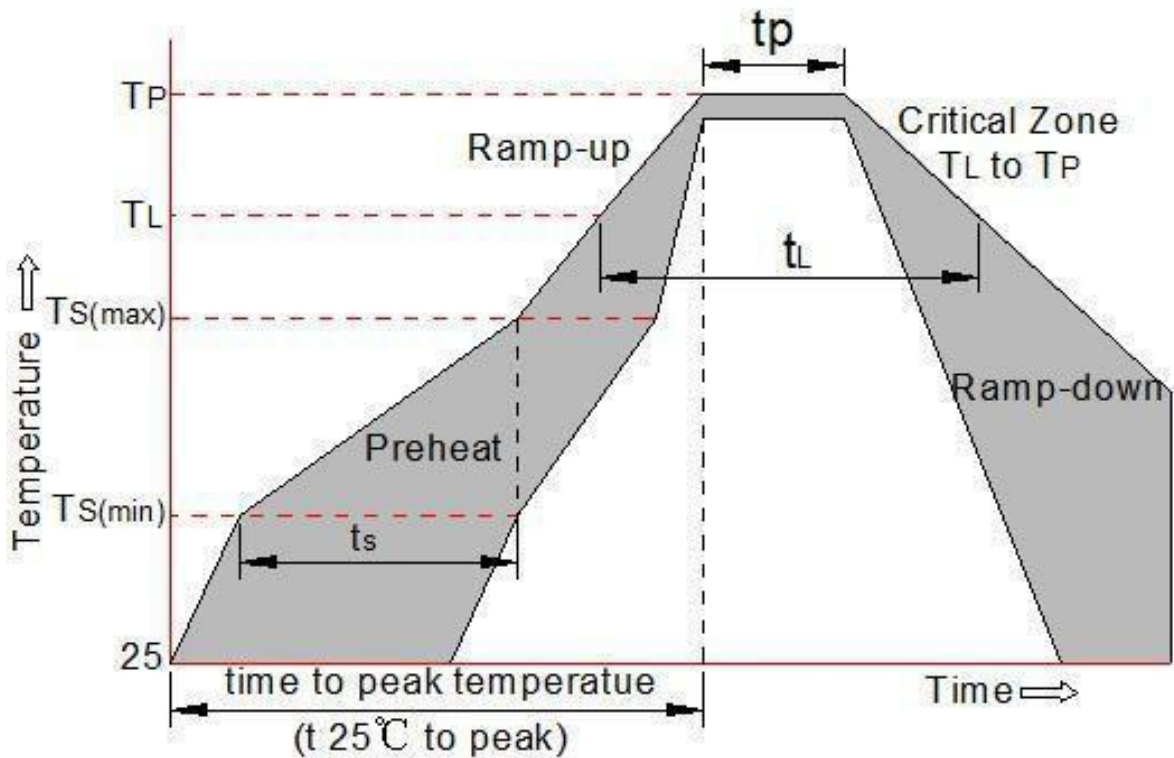


FIG4: Clamping Voltage vs. Peak Pulse Current

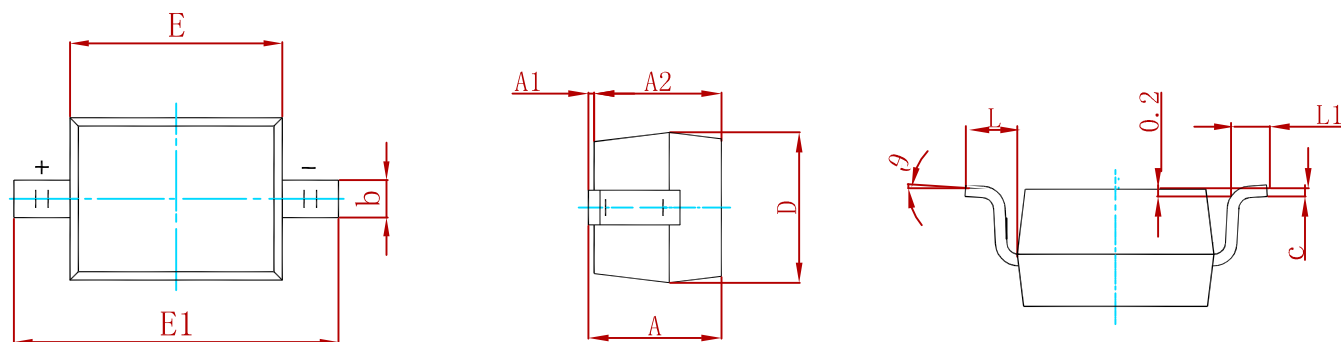


Soldering Parameters

Reflow Condition		Pb-Free assembly (see as bellow)
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 (Liquid us 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) (Liquid us)	+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)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_p)		8 min. Max
Do not exceed		+260°C

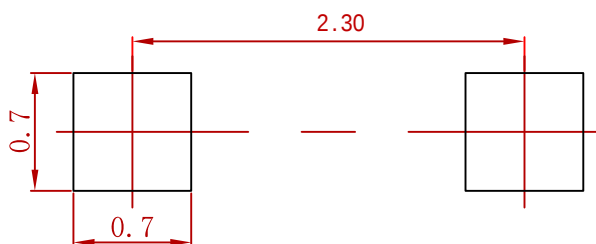


PACKAGE MECHANICAL DATA



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A		1.050		0.039
A1	0.000	0.100	0.000	0.004
A2	0.800	0.950	0.031	0.035
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	1.200	1.400	0.047	0.055
E	1.600	1.800	0.063	0.071
E1	2.550	2.750	0.100	0.108
L	0.475 REF.		0.019 REF.	
L1	0.250	0.450	0.010	0.016
θ	0°	8°	0°	8°

Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

REEL SPECIFICATION

P/N	PKG	QTY
SD12-01FTG-MS	SOD-323	3000

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