

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

SP1005-01ETG-MS

Product specification

Features

- 2-pin lead-less package
- Junction capacitance (Max value: 15pF)
- Peak Pulse Current (8/20μs): 8A
- IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- Low clamping voltage
- Low leakage current
- Working voltages:5V
- RoHS Compliant

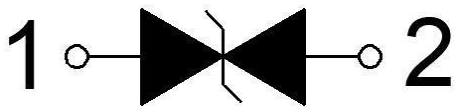
Mechanical Characteristics

- Package: SOD-882
- Lead Finish:Matte Tin
- Case Material: “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020

- **Applications**

- Cellular Handsets and Accessories
- Notebooks and Handhelds, Audio
- Players, Peripherals
- Personal Digital Assistants, Portable Instrumentation
- Keypads, Side Keys, LCD Displays

Reference News

SOD-882	Graphic symbol	Marking
	 Bi-directional	

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

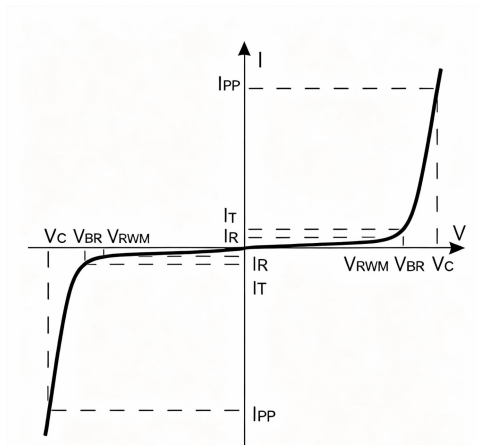
Parameters	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	P _{PP}	96	W
Peak Pulse Current (8/20μs)	I _{PP}	8	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V _{ESD}	±30 ±30	KV
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

Electrical characteristics (TA=25°C)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V _{RWM}				5	V
Reverse Breakdown Voltage	V _{BR}	I _R = 1mA	6		8	V
Reverse Leakage Current	I _R	V _R = 5V			0.1	uA
Clamping voltage	V _C	I _{PP} = 1A, T _p =8/20us			8.5	V
Clamping voltage	V _C	I _{PP} = 8A, T _p =8/20us			12	V
Junction capacitance	C _J	V _R = 0V, f = 1MHz		12	15	pF

Electronics Parameter

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



Typical Characteristics

FIG1: Power rating derating curve

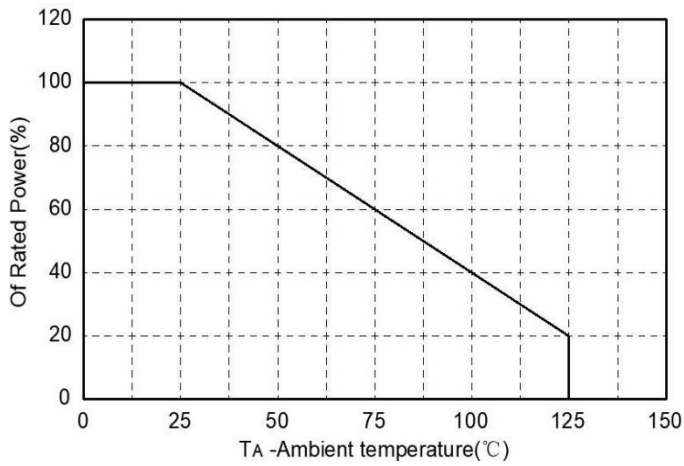


FIG2: pulse Waveform

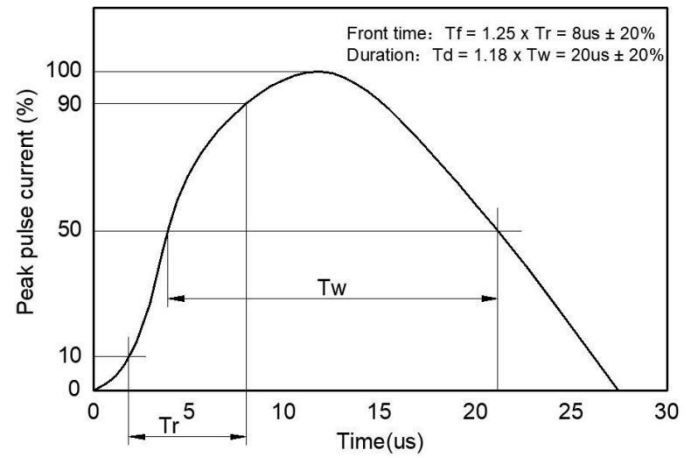


FIG3: Capacitance between terminals characteristics

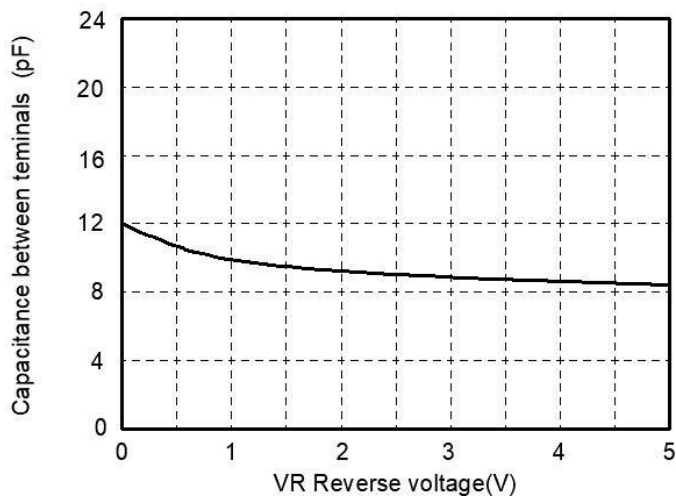
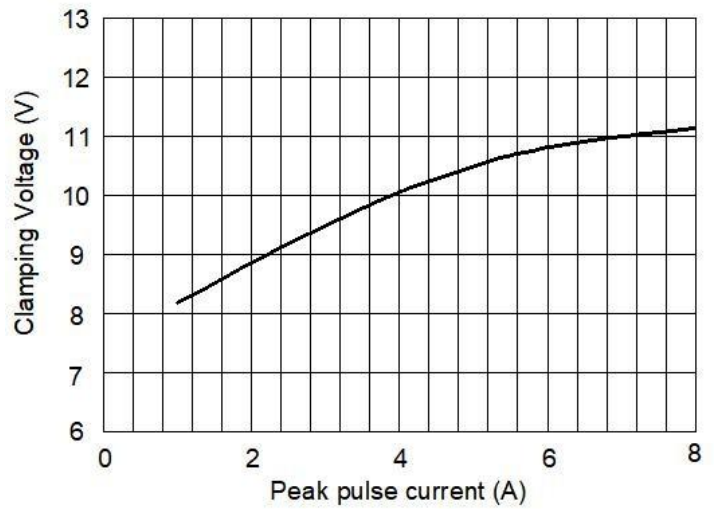
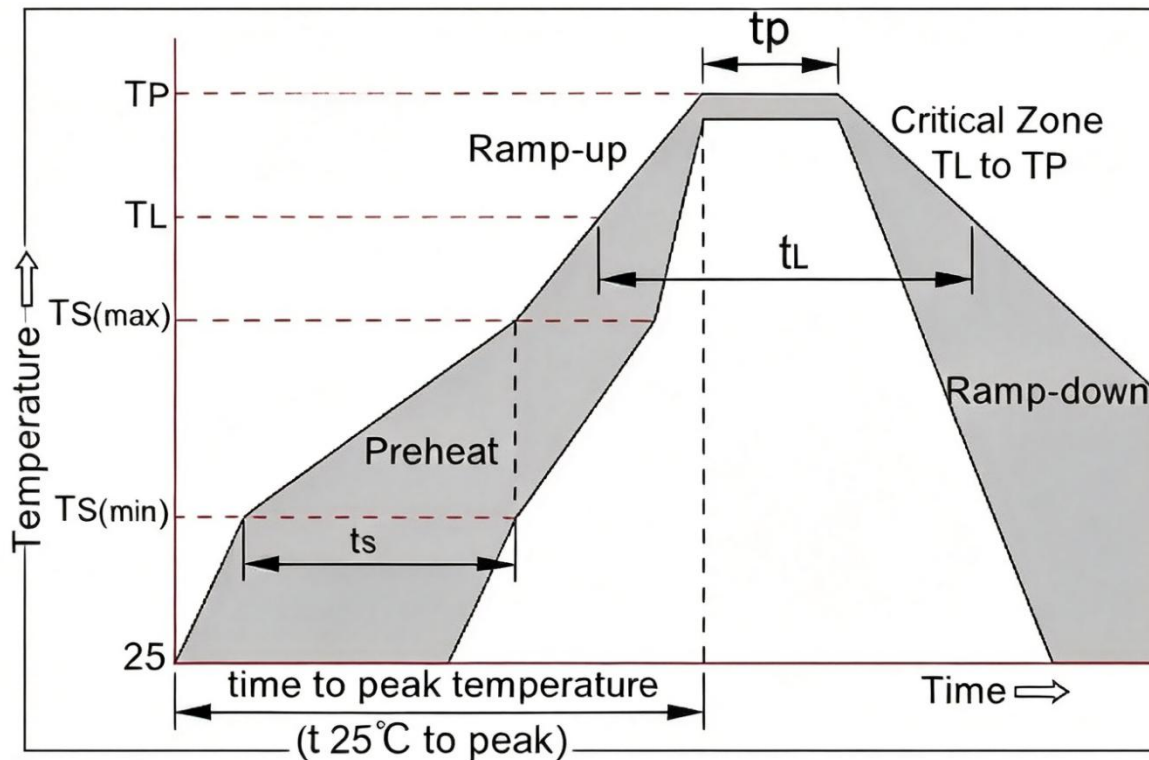


FIG4: Clamping Voltage vs. Peak Pulse Current

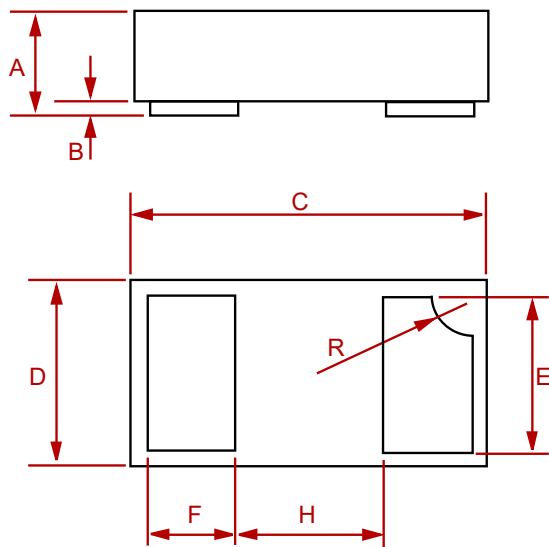


Soldering Parameters

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

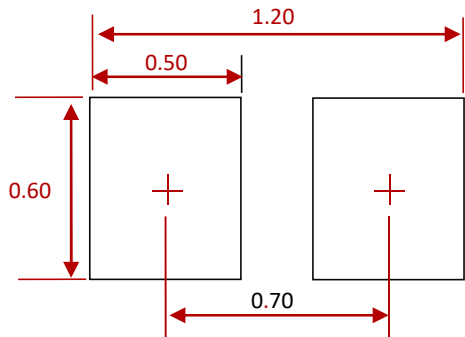


PACKAGE MECHANICAL DATA



Dim	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.0125	0.02	0.32	0.52
B	0.000	0.002	0.00	0.05
C	0.037	0.043	0.95	1.080
D	0.022	0.027	0.55	0.680
E	0.016	0.024	0.40	0.60
F	0.008	0.012	0.20	0.30
H	0.015Typ.		0.40Typ.	
R	0.001	0.005	0.05	0.15

Suggested Pad Layout



- NOTES:
1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
 2. THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY.
CONSULT YOUR MANUFACTURING GROUP TO ENSURE YOUR
COMPANY'S MANUFACTURING GUIDELINES ARE MET.

REEL SPECIFICATION

P/N	PKG	QTY
SP1005-01ETG-MS	SOD-882	10000

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