

# MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

## **MSESDAVLC6V1-1BM2**

**Product specification**

**Features**

- Small Body Outline Dimensions:  
nom 0.039" x 0.024" (1.0x0.6 mm)
- Low Body Height: nom 0.0 19" (0.5 mm)
- Low Capacitance 8 pF
- Low ClampingVoltage
- Reverse Working (Stand-off) Voltage: 6 V
- Low Leakage
- Response Time is Typically < 1 ns
- IEC61000-4-2 Level 4 ESD Protection
- This is a Pb-Free Device

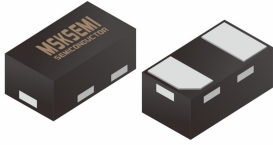
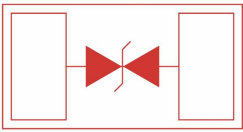
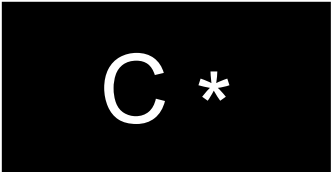
**Mechanical Characteristics**

- CASE: Void-free, transfer-molded, thermosetting plastic Epoxy Meets UL 94V-0
- LEAD FINISH: NiPdAu
- MOUNTING POSITION: Any
- QUALIFIED MAX REFLOW TEMPERATURE: 260 °C
- Device Meets MSL 1 Requirements
- RoHS/ WEEE Compliant

**Applications**

- Cellular Handsets & Accessories
- Personal Digital Assistants (PDAs)
- Notebooks & Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- MP3 Players

**Reference News**

PACKAGE OUTLINE	Pin Configuration	Marking
		
<p>SOD-882</p>		

## Maximum Ratings

Rating	Symbol	Value	Unit
IEC 61000-4-2 (ESD) Contact		±30	kV
Peak Power Per 8 x 20 μs Waveform	P <sub>PK</sub>	70	W
Total Power Dissipation on FR-5 <sup>①</sup> Board @ TA = 25°C	P <sub>D</sub>	300	mW
Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	-55 to + 150	°C
Lead Solder Temperature - Maximum ( 10 Second Duration)	T <sub>L</sub>	260	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Note1: FR-5 =1.0\*0.75\*0.062inch (25.4\*19.05\*1.58mm)

## ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted)

P/N	V <sub>RWM</sub> (V)	I <sub>R1</sub> (μA) @ V <sub>RWM</sub>	I <sub>R2</sub> (μA) @ V <sub>R</sub> =3.5V	V <sub>BR</sub> (V) @ I <sub>T</sub> (Note 2)		I <sub>T</sub>	V <sub>c</sub> (V) @ I <sub>PP</sub> = 1 A (Note 3)	V <sub>c</sub> (V) @ MAX I <sub>PP</sub> (Note 3)	I <sub>PP</sub> (A) (Note 3)	P <sub>PK</sub> (W) (Note 3)	C (pF)
	Max	Max	Max	Min	Max	A	Max	Max	Max	Max	Max
<b>MSESDAVLC6V1-1BM2</b>	<b>6.0</b>	<b>0.5</b>	<b>0.3</b>	<b>5.6</b>	<b>8.0</b>	<b>1.0</b>	<b>9.8</b>	<b>12.5</b>	<b>5.5</b>	<b>69</b>	<b>8</b>

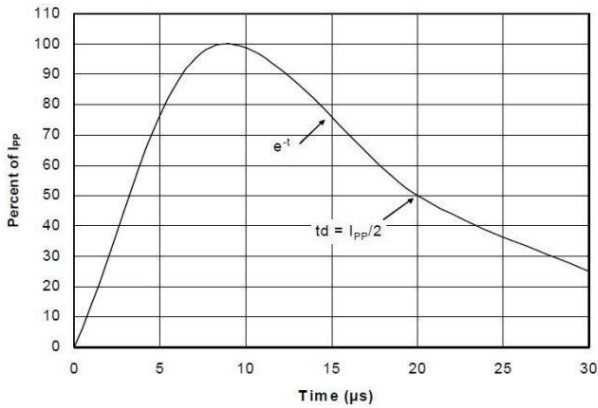
1. Other voltage available upon request.

2. V<sub>BR</sub> is measured with a pulse test current I<sub>T</sub> at an ambient temperature of 25°C

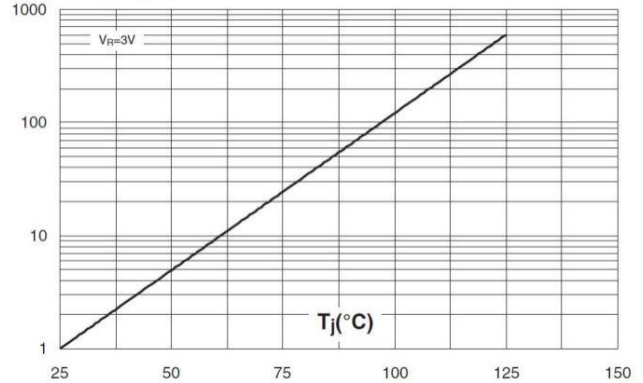
3. Surge current waveform per Figure 3.

**Typical Characteristics** @  $T_a=25^\circ\text{C}$  unless otherwise specified

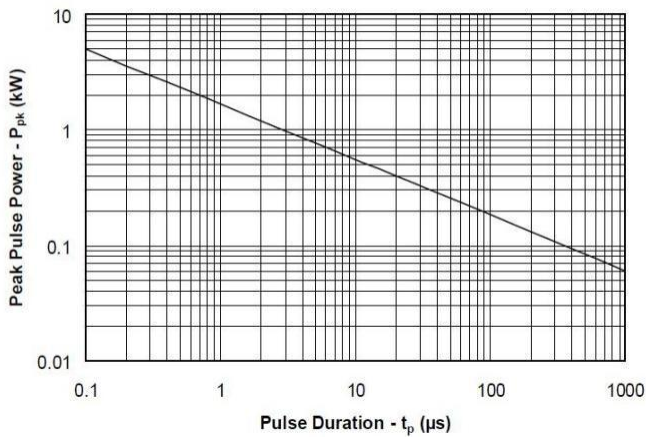
**Pulse Waveform**



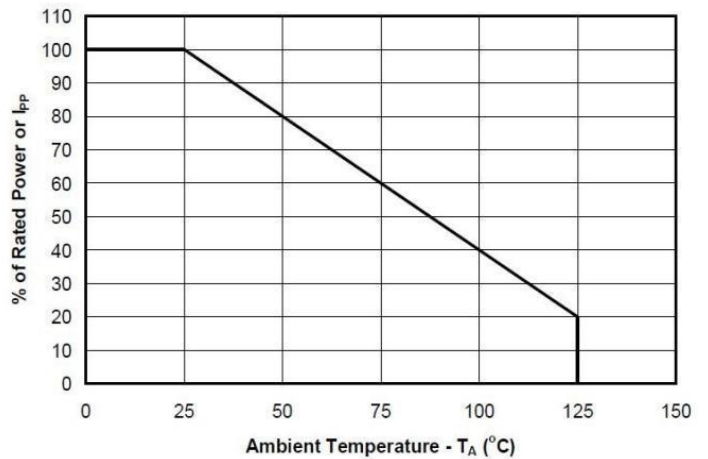
$I_R[T_j] / I_R[T_j=25^\circ\text{C}]$



**Non-Repetitive Peak Pulse Power vs. Pulse Time**

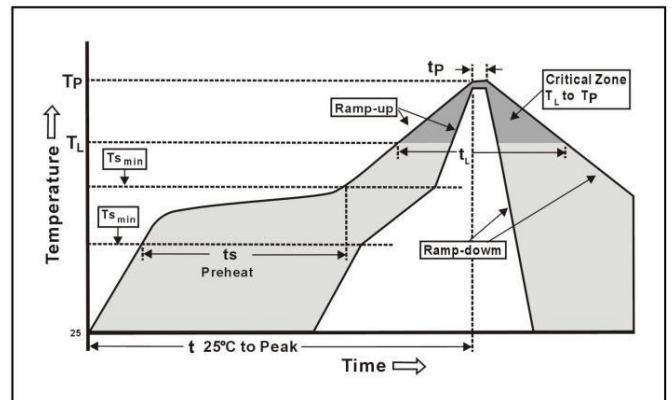


**Power Derating Curve**

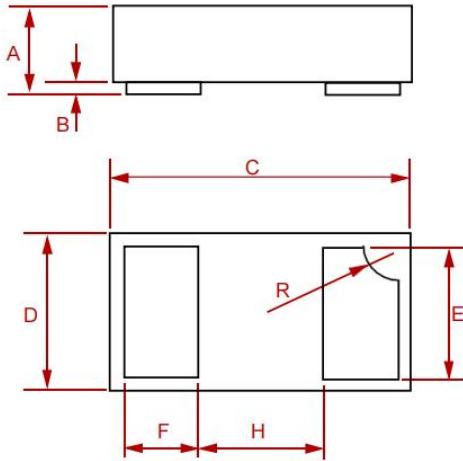


**Soldering Parameters**

Reflow Condition		Fb – Free assembly
Pre Heat	- Temperature Min ( $T_{s(\text{Min})}$ )	150°C
	- Temperature Max ( $T_{s(\text{Max})}$ )	200°C
	- Time (Min to max) ( $t_s$ )	60 – 180 secs
Average ramp up rate (Liquidus) Temp ( $T_L$ ) to peak		3°C/second Max
$T_{s(\text{Max})}$ to $T_L$ - Ramp-up Rate		3°C/second Max
Reflow	- Temperature ( $T_L$ ) (Liquidus)	217°C
	- Temperature ( $t_t$ )	60 – 150 seconds
Peak Temperature ( $T_p$ )		250 <sup>+0/-5</sup> °C
Time within 5°C of actual peak Temperature ( $t_p$ )		20 – 40 seconds
Ramp-down Rate		6°C/second Max
Time 25°C to peak Temperature ( $T_p$ )		8 minutes Max.
Do not exceed		260°C

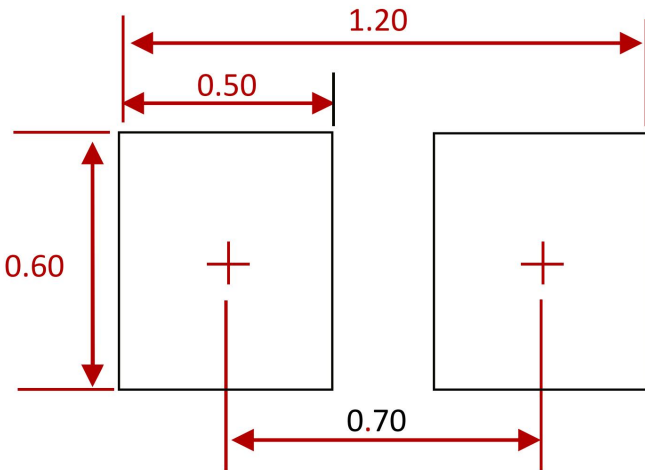


**PACKAGE MECHANICAL DATA**



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**



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
MSESDAVLC6V1-1BM2	SOD-882	10000

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