

# MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

Product data sheet

[www.msksemi.com](http://www.msksemi.com)

**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 Clamping Voltage
- 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 94 V-0
- LEAD FINISH: NiPdAu
- MOUNTING POSITION: Any
- QUALIFIED MAX REFLOW TEMPERATURE: 260°C
- Device Meets MSL 1 Requirements
- RoHS/WEEE Compliant



SOD-882

**Applications**

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

**Maximum Ratings**

Rating	Symbol	Value	Unit
IEC 61000-4-2 (ESD) Contact		±30	kV
Peak Power Per 8 x 20µs Waveform	P <sub>PK</sub>	70	W
Total Power Dissipation on FR-5 <sup>®</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**

(T<sub>A</sub> = 25°C unless otherwise noted)

**ELECTRICAL CHARACTERISTICS**

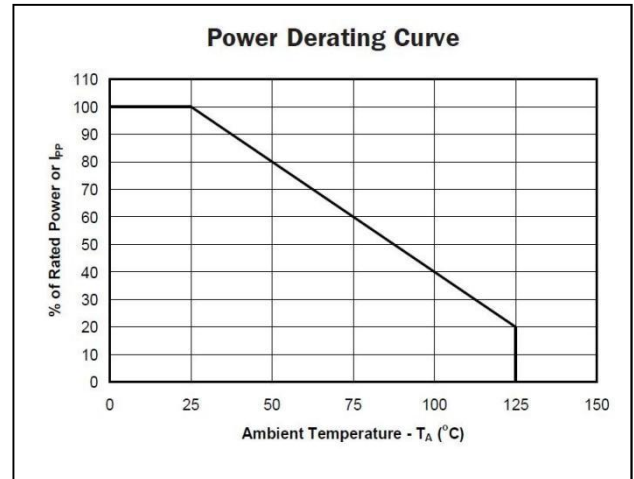
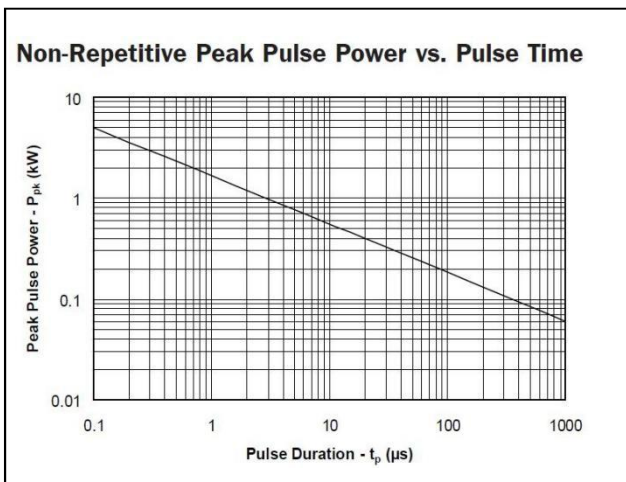
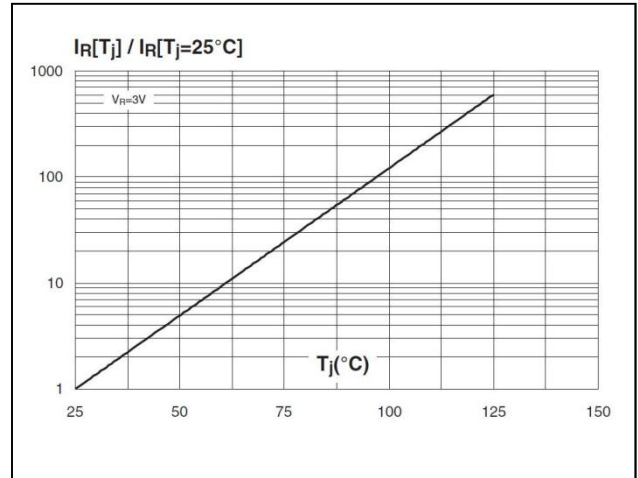
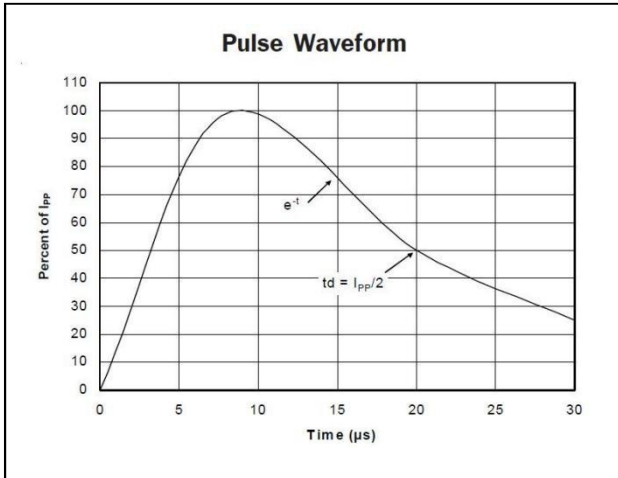
P/N	V <sub>RWM</sub> (V)	I <sub>R1</sub> (µA) @ V <sub>RWM</sub>	I <sub>R2</sub> (µA) @ V <sub>R</sub> =3.5V	V <sub>BR</sub> (V) @ I <sub>T</sub> (Note 2)		I <sub>T</sub>	V <sub>C</sub> (V) @ I <sub>PP</sub> = 1 A (Note 3)	V <sub>C</sub> (V) @ MAX I <sub>PP</sub> (Note 3)	I <sub>PP</sub> (A) (Note 3)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

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

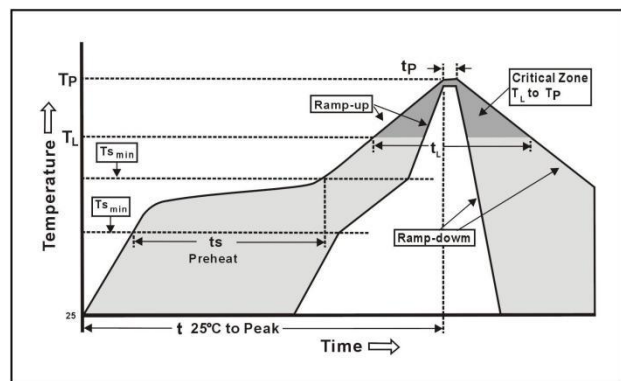
3. Surge current waveform per Figure 3.

Typical Characteristics@ Ta=25°C unless otherwise specified

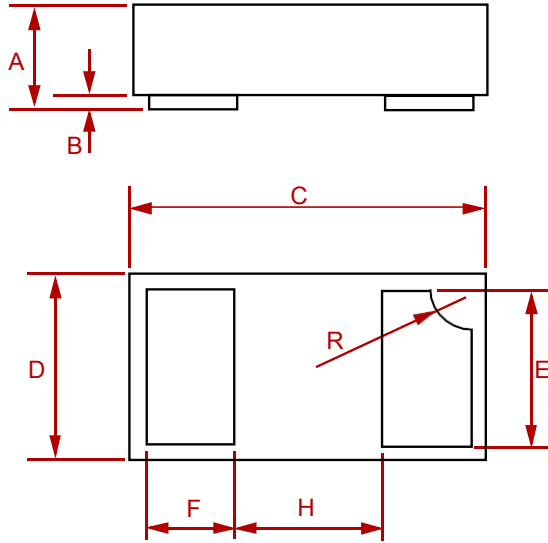


Soldering Parameters

Reflow Condition		Fb – Free assembly
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 (Liquidus) Temp ( $T_L$ ) to peak		3°C/second Max
$T_{s(Max)}$ to $T_L$ - Ramp-up Rate		3°C/second Max
Reflow	- Temperature ( $T_L$ ) (Liquidus)	217°C
	- Temperature ( $t_l$ )	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

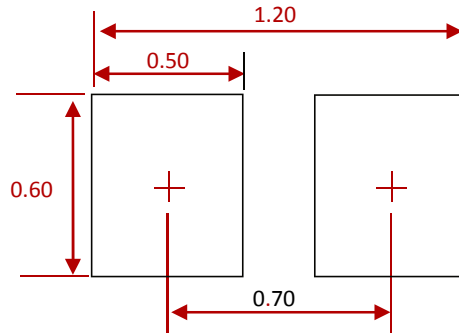


**PACKAGE MECHANICAL DATA**



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**



**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
MSESDAVLC6V1-1BM2	SOD-882	10000

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