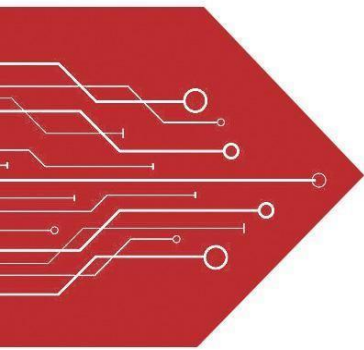


# MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT

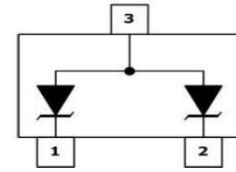


PLED

Product data sheet

## Features

- ◆ 80Watts peak pulse power ( $t_p = 8/20\mu s$ )
- ◆ Transient protection for high speed data lines to IEC 61000-4-2 (ESD)  $\pm 30kV$  (air),  $\pm 30kV$  (contact)  
IEC 61000-4-4 (EFT) 40A (5/50ns)
- ◆ Working voltages :3V,5V,12V,15V,24V
- ◆ Protects two bidirectional line
- ◆ Low operating and clamping voltages
- ◆ Solid-state silicon avalanche technology



**SOT-23**

## Applications

- ◆ Notebooks, Desktops, Servers and Video Graphics Cards
- ◆ USB Power & Data Line Protection
- ◆ Monitors and Flat Panel Displays
- ◆ I<sup>2</sup>C Bus Protection
- ◆ Portable Instrumentation
- ◆ Set Top Box

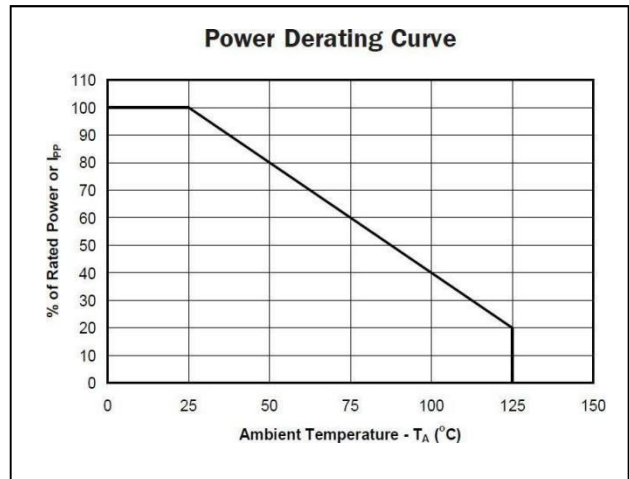
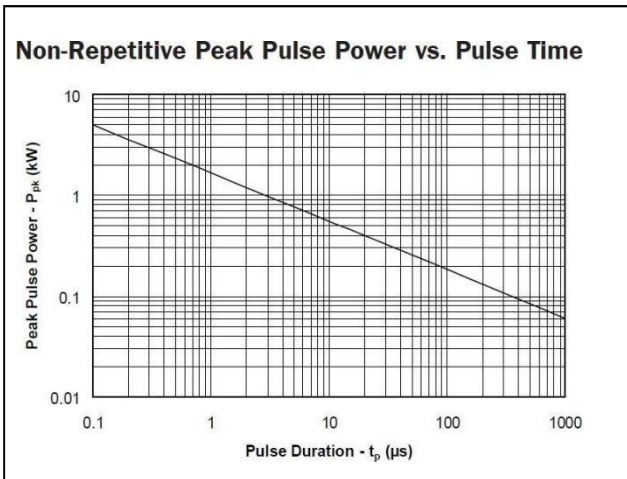
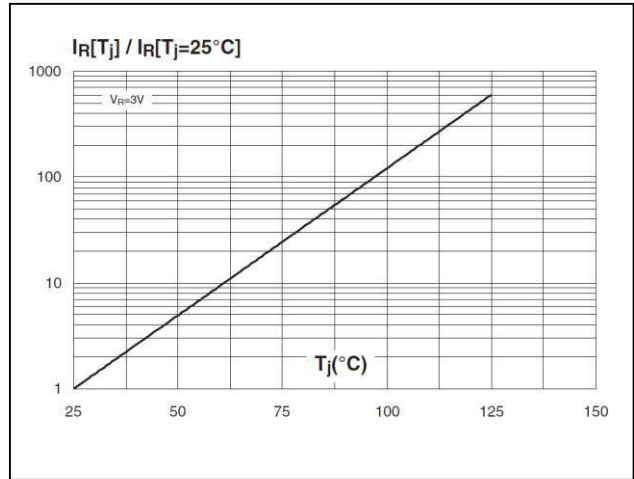
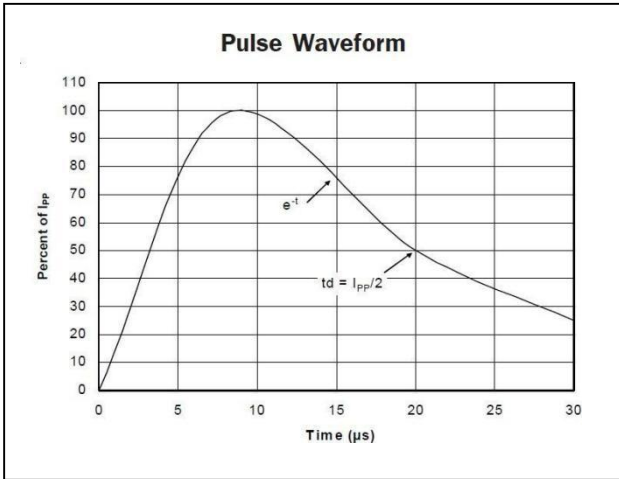
## Electrical Characteristics@ Ta=25°C unless otherwise

P/N	V <sub>RWM</sub> (V) (max.)	V <sub>B</sub> (V) (min.)	I <sub>T</sub> (mA)	V <sub>c@1A</sub> (V) (max.)	V <sub>c</sub> (V) (max.) (@A)		I <sub>R</sub> ( $\mu$ A) (max.)	C <sub>T</sub> (pF) (max.)
ESD3V3U1UT-MS	3.3	4	1	7.0	14	5	40	1.5
ESD5V0U1UT-MS	5	6	1	9.8	18	5	10	1.5
ESD12VU1UT-MS	12	13.3	1	19	32	5	1	1.5
ESD15VU1UT-MS	15	16.7	1	24	38	5	1	1.5
ESD24VU1UT-MS	24	26.7	1	43	52	3	1	1.5

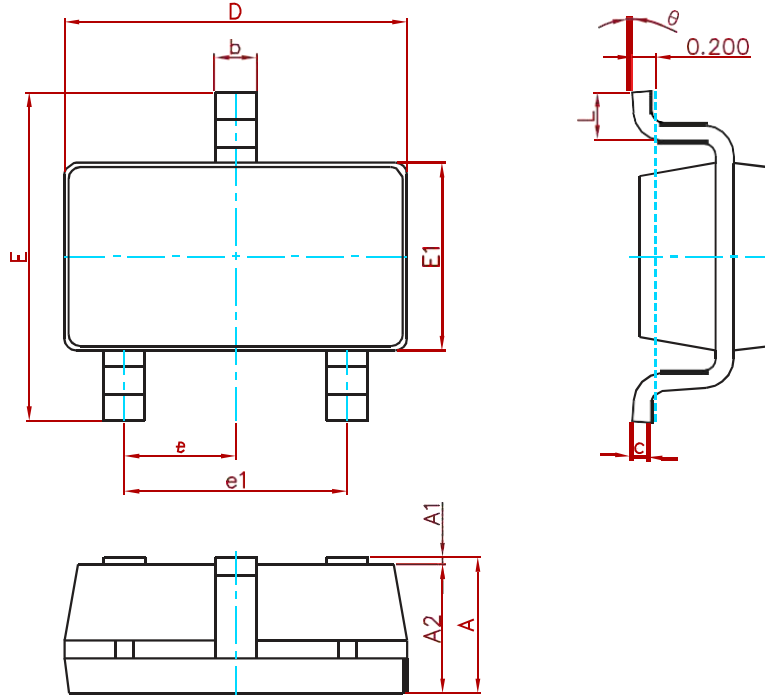
## Maximum Rating @ Ta=25 °C unless otherwise specified

Symbol	Parameter	Ratings	Units
P <sub>PK</sub>	Peak Pulse Power ( $t_p = 8/20\mu s$ )	80	Watts
T <sub>L</sub>	Lead Soldering Temperature	260(10sec.)	°C
T <sub>J</sub>	Operating Temperature	-55 to +125	°C
T <sub>STG</sub>	Storage Temperature	-55 to +150	°C

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

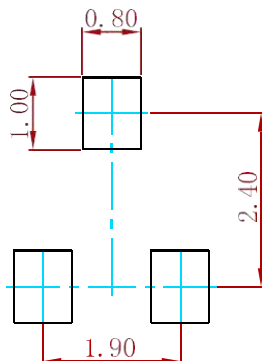


**PACKAGE MECHANICAL DATA**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

**Suggested Pad Layout**



Note:  
 1. Controlling dimension: in millimeters.  
 2. General tolerance: ± 0.05mm.  
 3. The pad layout is for reference purposes only.

**REEL SPECIFICATION**

P/N	PKG	QTY
ESDXXVU1UT-MS	SOT-23	3000

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