

MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



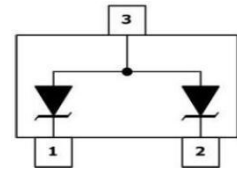
PLED

Product data sheet

www.msksemi.com

Features

- ◆ 300 Watts peak pulse power (tp = 8/20µs)
- ◆ Transient protection for high speed data lines to IEC 61000-4-2 (ESD) ±30kV (air), ±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
- ◆ I²C Bus Protection
- ◆ Portable Instrumentation
- ◆ Set Top Box

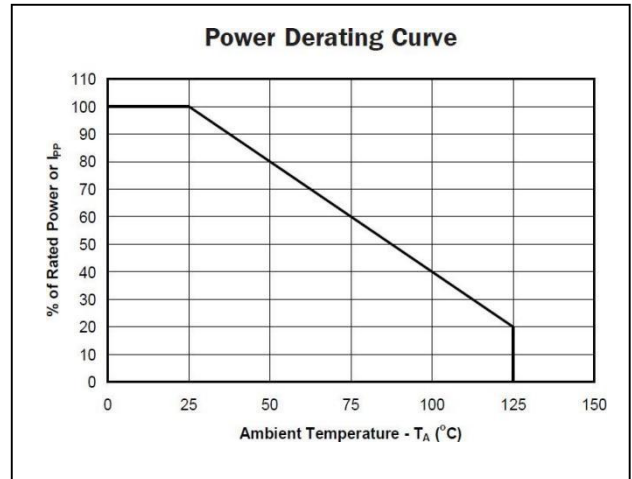
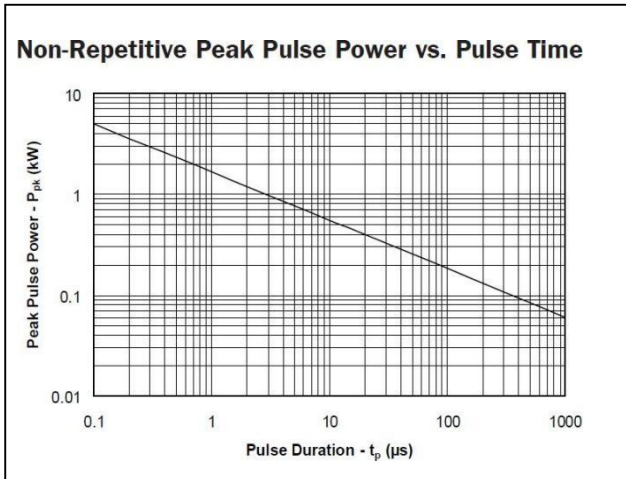
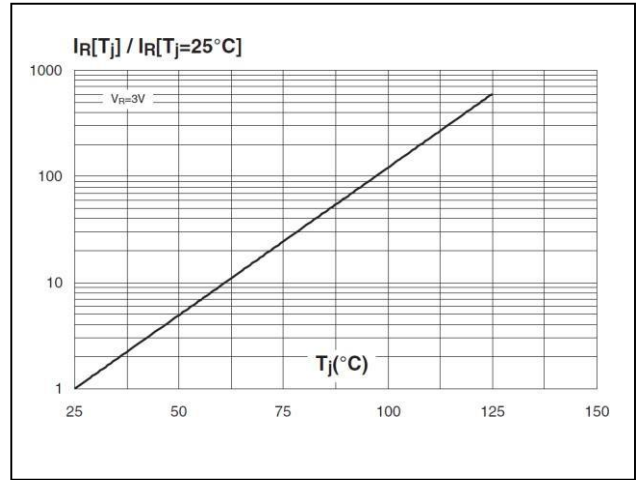
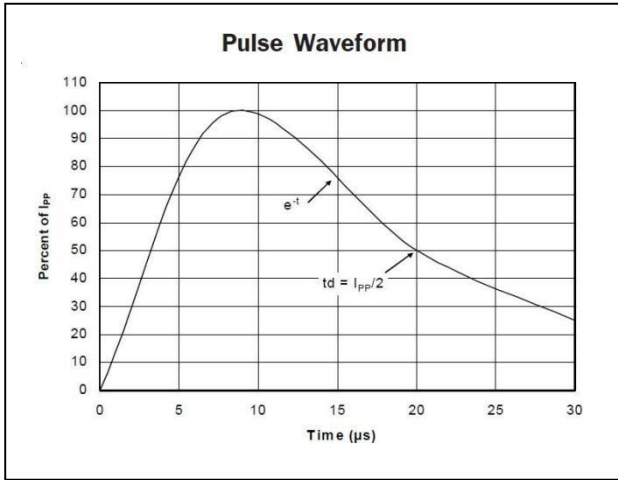
Maximum Rating @ Ta=25°C unless otherwise specified

Symbol	Parameter	Ratings	Units
P _{PK}	Peak Pulse Power (tp = 8/20µs)	300	Watts
T _L	Lead Soldering Temperature	260(10sec.)	°C
T _J	Operating Temperature	-55 to +125	°C
T _{STG}	Storage Temperature	-55 to +150	°C

Electrical Characteristics @ Ta=25°C unless otherwise

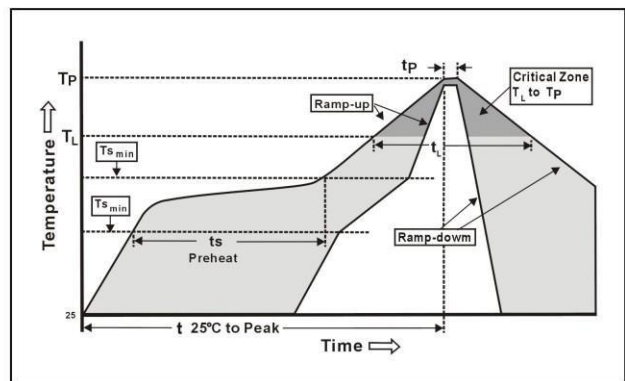
P/N	V _{RWM} (V) (max.)	V _B (V) (min.)	I _T (mA)	V _{C@1A} (V) (max.)	V _C (V) (max.) (@A)	I _R (µA) (max.)	C _T (pF) (max.)
ESD3V3S2UT-MS	3.3	4	1	7.0	14 20	40	450
ESD5V2S2UT-MS	5	6	1	9.8	18 17	10	300
ESD12VS2UT-MS	12	13.3	1	19	32 11	1	130
ESD15VS2UT-MS	15	16.7	1	24	38 10	1	120
ESD24VS2UT-MS	24	26.7	1	43	52 7	1	80

Typical Characteristics @ Ta=25°C unless otherwise specified

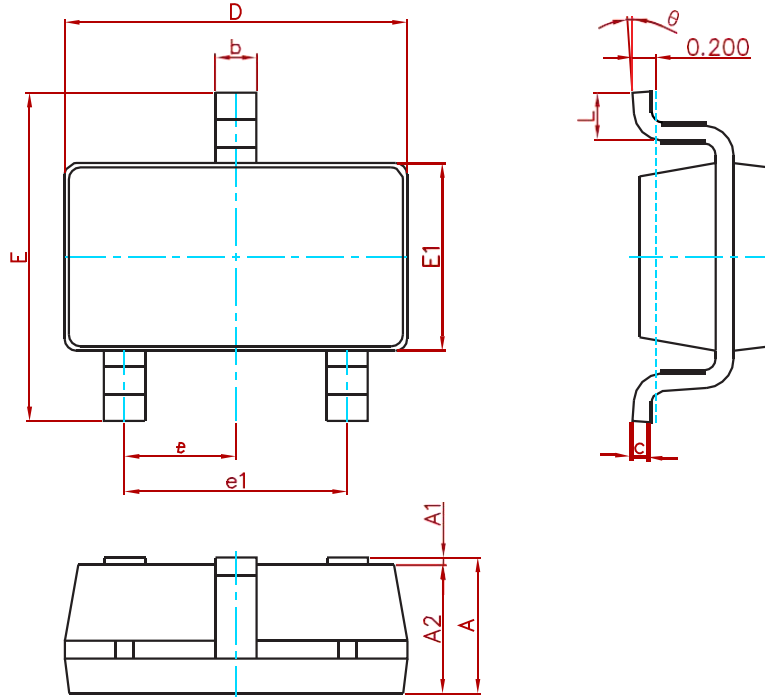


Soldering Parameters

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_j) (Liquidus)	217°C
	- Temperature (t_t)	60 – 150 seconds
Peak Temperature (T_p)		250 ^{+0/-5} °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

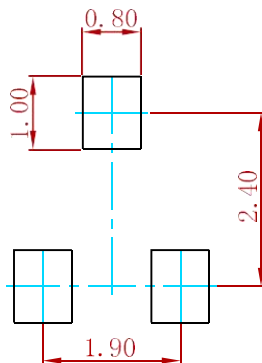


PACKAGE MECHANICAL DATA



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
0	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
ESDXXXS2UT-MS	SOT-23	3000

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