

MSKSEMI

SEMICONDUCTOR



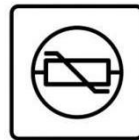
ESD



TVS



TSS



MOV



GDT

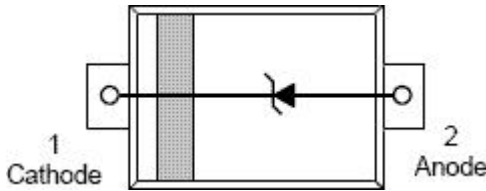


PLED

Product data sheet



SOD-523



Applications

- Cellular phones
- Portable devices
- Digital cameras
- Power supplies

Features

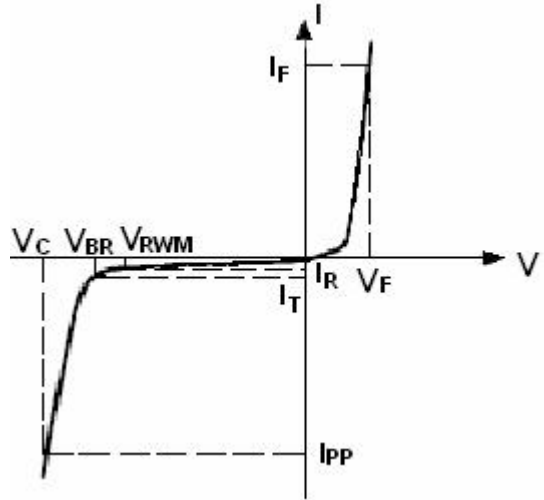
- Small Body Outline Dimensions
- Low Body Height
- Stand-off Voltage: 2.5 V – 12 V
- Peak Power up to 200 Watts @ 8 x 20 μ s Pulse
- Low Leakage
- Response Time is Typically < 1 ns
- ESD Rating of Class 3 (> 16 kV) per Human Body Model
- IEC61000-4-2 Level 4 ESD Protection
- IEC61000-4-4 Level 4 EFT Protection
- We declare that the material of product compliance with RoHS requirements.
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

Absolute Ratings (T_{amb}=25°C)

Symbol	Parameter	Value	Units	
P _{pp}	Peak Pulse Power (t _p = 8/20 μ s)	200	W	
T _L	Maximum lead temperature for soldering during 10s	260	°C	
T _{stg}	Storage Temperature Range	-55 to +150	°C	
T _{op}	Operating Temperature Range	-40 to +125	°C	
T _j	Maximum junction temperature	150	°C	
	IEC61000-4-2 (ESD)	air discharge contact discharge	± 15 ± 8	KV
	IEC61000-4-4 (EFT)		40	A
	ESD Voltage	Per Human Body Model	16	KV

Electrical Parameter

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
I_T	Test Current
V_{BR}	Breakdown Voltage @ I_T
I_F	Forward Current
V_F	Forward Voltage @ I_F



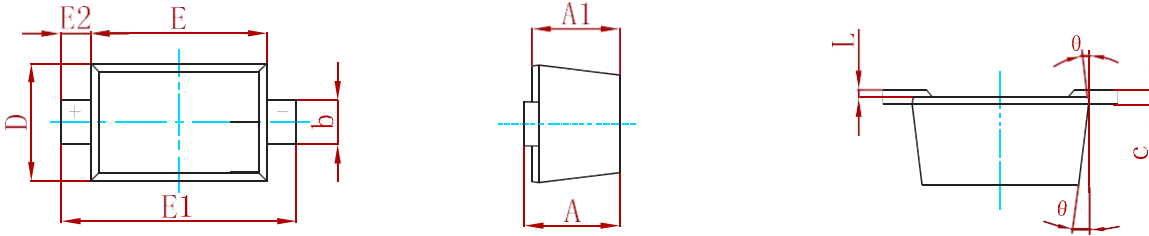
Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified. $V_F = 0.9V$ at $I_F = 10mA$

P/N	Marking	V_{RWM}	$I_R(\mu A)$	$V_{BR}(V)@ I_T$	I_T	$V_C(V)$	$V_C(V)$	I_{PP}	P_{PK}	C
		(V)	@ V_{RWM}	(Note 1)		@ $I_{PP}=5 A^*$	@ Max I_{PP}^*	(A)*	(W)*	(pF)
		Max	Max	Min	mA	Typ	Max	Max	Max	Typ
ESD5Z2.5T1G-MS	ZD	2.5	6.0	4.0	1.0	6.5	10.9	11.0	120	145
ESD5Z3.3T1G-MS	ZE	3.3	1.0	5.0	1.0	8.4	14.1	11.2	158	105
ESD5Z5.0T1G-MS	ZF	5.0	1.0	6.2	1.0	11.6	18.6	9.4	174	80
ESD5Z6.0T1G-MS	ZG	6.0	1.0	6.8	1.0	12.4	20.5	8.8	181	70
ESD5Z7.0T1G-MS	ZH	7.0	1.0	7.5	1.0	13.5	22.7	8.8	200	65
ESD5Z12T1G-MS	ZM	12	1.0	13.5	1.0	17	25	9.6	240	55

*Surge current waveform per Figure 1.

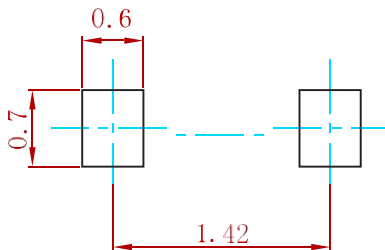
1. V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C.

PACKAGE MECHANICAL DATA



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001	0.003
0	7° REF		7° REF	

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
ESD5ZXXXT1G-MS	SOD-523	3000

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