

# MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

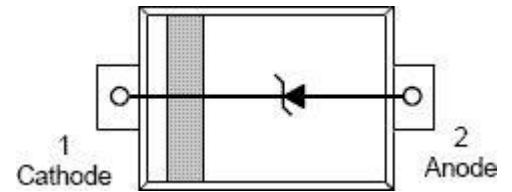
Product data sheet

**Applications**

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

**Features**

- Small Body Outline Dimensions
- Low Body Height
- Peak Power up to 200 Watts @ 8 x 20  $\mu$ 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.



SOD-523

**Electrical Characteristics** Ratings at 25°C ambient temperature unless otherwise specified. VF = 0.9V at IF = 10mA

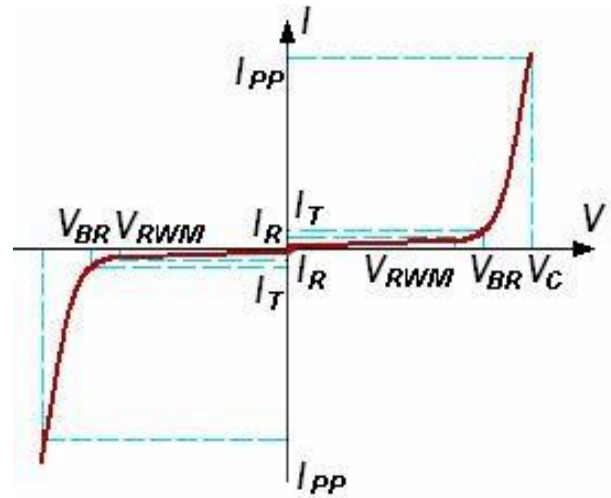
Device	V <sub>RWM</sub> (V)	I <sub>R</sub> ( $\mu$ A) @ V <sub>RWM</sub>	V <sub>BR</sub> (V)@ I <sub>T</sub> (Note 1)	I <sub>T</sub>	V <sub>c</sub> (V) @ I <sub>PP</sub> =5 A*	V <sub>c</sub> (V) @ Max I <sub>PP</sub> *	I <sub>PP</sub> (A)*	P <sub>PK</sub> (W)*	C (pF)
	Max	Max	Min	mA	Typ	Max	Max	Max	Typ
ESD3V3D5-MS	3.3	1.0	5.0	1.0	8.4	14.1	11.2	158	105
ESD5V0D5-MS	5.0	1.0	6.2	1.0	11.6	18.6	9.4	174	80
ESD7V0D5-MS	7.0	1.0	7.5	1.0	13.5	22.7	8.8	200	65
ESD12VD5-MS	12	1.0	13.5	1.0	25.5	30	5	150	55

**Absolute Ratings (T<sub>amb</sub>=25°C )**

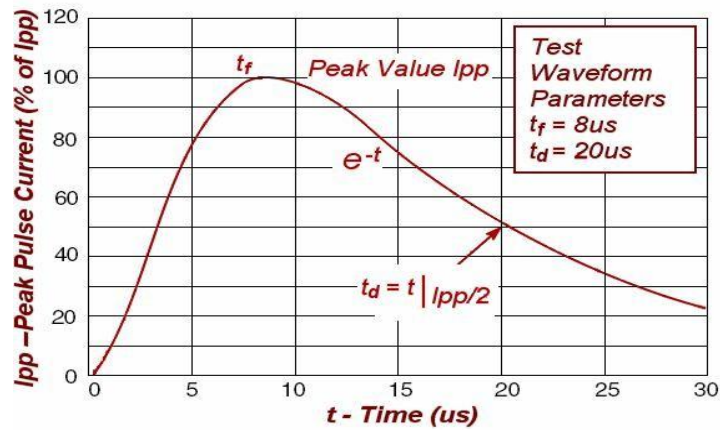
Symbol	Parameter	Value	Units	
P <sub>PP</sub>	Peak Pulse Power (t <sub>p</sub> = 8/20 $\mu$ s)	200	W	
T <sub>L</sub>	Maximum lead temperature for soldering during 10s	260	°C	
T <sub>stg</sub>	Storage Temperature Range	-55 to +150	°C	
T <sub>op</sub>	Operating Temperature Range	-40 to +125	°C	
T <sub>j</sub>	Maximum junction temperature	150	°C	
	IEC61000-4-2 (ESD)	air discharge contact discharge	$\pm$ 15 $\pm$ 8	KV
	IEC61000-4-4 (EFT)		40	A
	ESD Voltage	Per Human Body Model	16	KV

**Electrical Parameter**

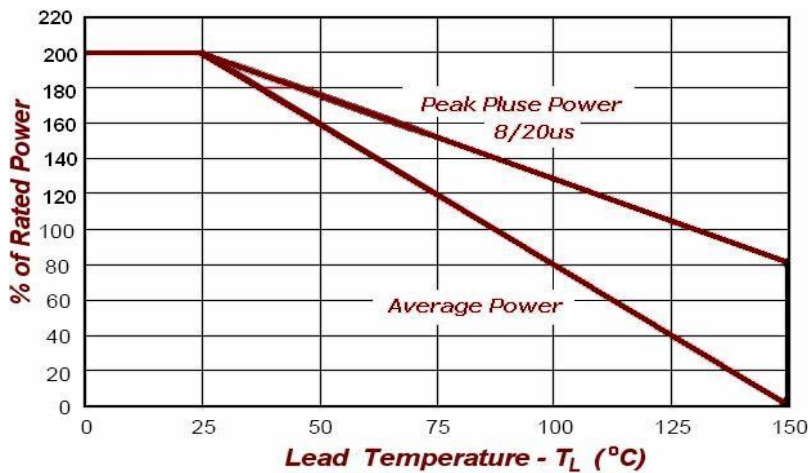
Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$I_T$	Test Current
$V_{BR}$	Breakdown Voltage @ $I_T$



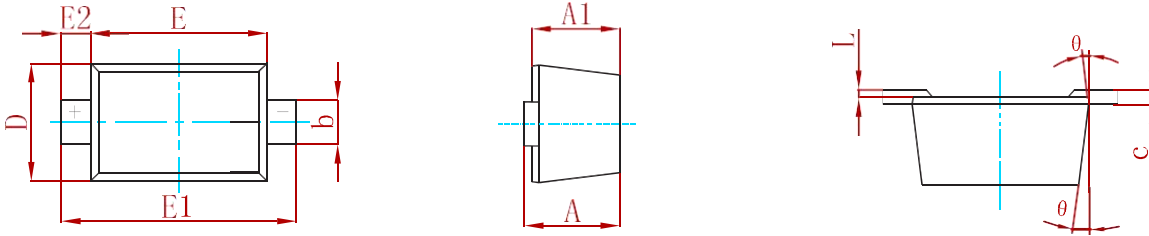
**FIG1: Pulse Waveform**



**FIG2: Power Derating**

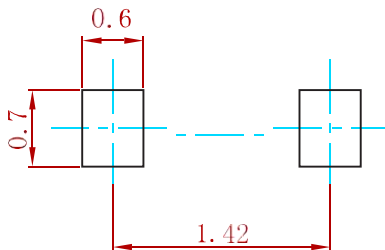


**PACKAGE MECHANICAL DATA**



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
θ	7° REF		7° REF	

**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
ESDXXXD5-MS	SOD-523	3000

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