

# MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

## **RCLAMP0502B-MS**

Product specification

## Features

- 45 Watts peak pulse power ( $t_p = 8/20\mu s$ )
- Unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance ( $C_j = 0.7 \text{ pF typ.}$ )
- Protection two data lines
- IEC 61000-4-2  $\pm 20\text{kV}$  contact  $\pm 15\text{kV}$  air
- IEC 61000-4-4 (EFT) 40A(5/50ns)
- IEC 61000-4-5 (Lightning) 3.5A (8/20 $\mu s$ )

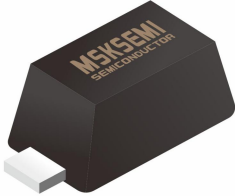

## Mechanical Data

- SOT-523 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

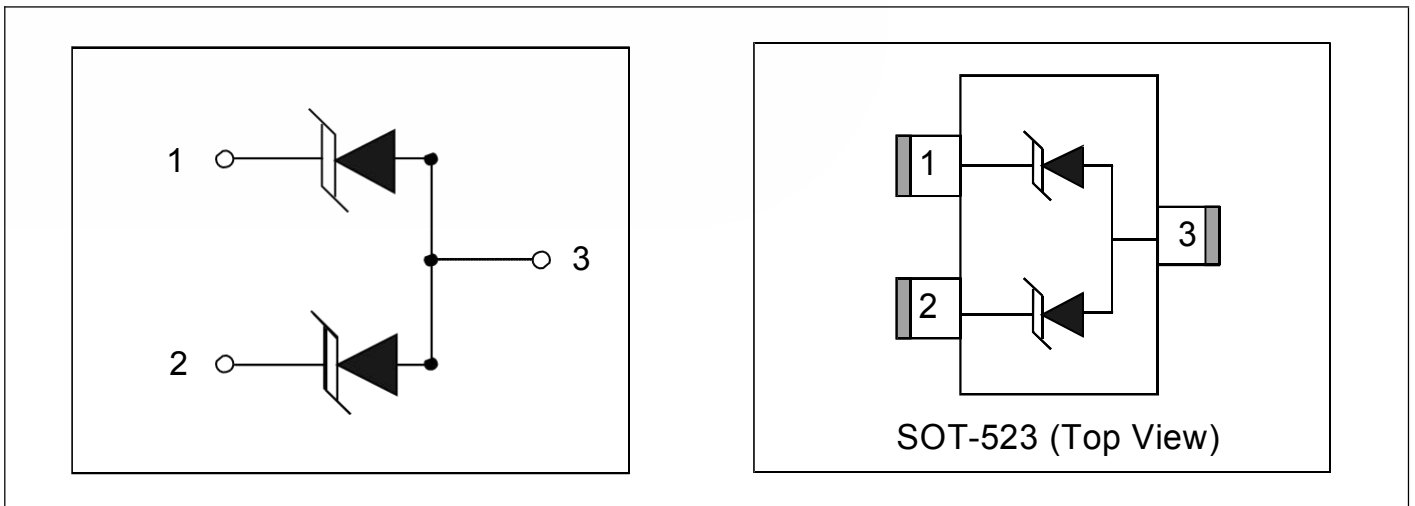
## Applications

- Dataline
- Automatic Teller Machines
- Net works
- Power line

## Reference News

SOT-523	Marking
	

## Schematic & PIN Configuration



Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p=8/20\mu s$ )	$P_{PP}$	45	Watts
Peak Pulse Current ( $t_p=8/20\mu s$ )(note1)	$I_{pp}$	3.5	A
ESD per IEC 61000-4-2(Air) ESD per IEC 61000-4-2 (Contact)	$V_{ESD}$	20 15	kV
Lead SolderingTemperature	$T_L$	260(10seconds)	$^{\circ}C$
JunctionTemperature	$T_J$	-55 to + 125	$^{\circ}C$
StorageTemperature	$T_{stg}$	-55 to + 125	$^{\circ}C$

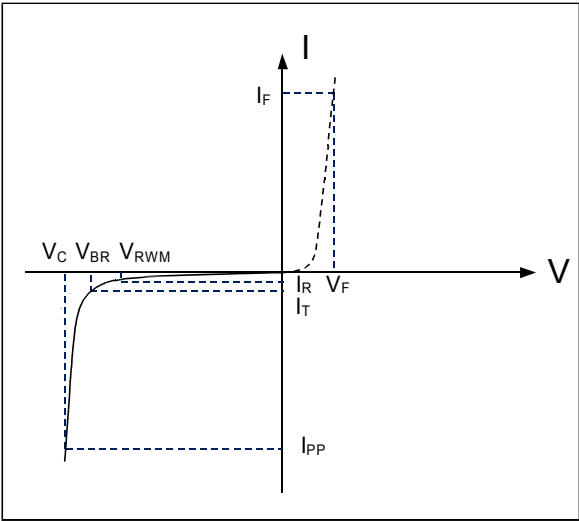
Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-OffVoltage	$V_{RWM}$				5	V
Reverse BreakdownVoltage	$V_{BR}$	$I_T=1mA$	6			V
Reverse LeakageCurrent	$I_R$	$V_{RWM}=5V, T=25^{\circ}C$			1	$\mu A$
Peak Pulse Current	$I_{PP}$	$t_p=8/20\mu s$			3.5	A
Clamping Voltage	$V_C$	$I_{PP}=3.5A, t_p=8/20\mu s$			25	V
JunctionCapacitance	$C_j$	$V_R=0V, f=1MHz$		0.7	0.8	pF

Electrical Parameters (TA = 25°C unless otherwisenoted)

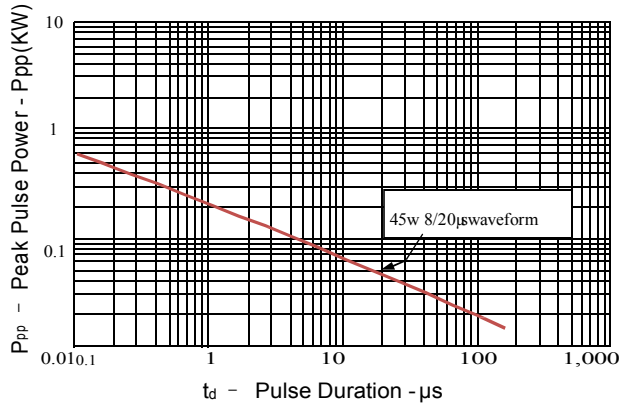
Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current

Note.: 8/20μs pulswaveform.

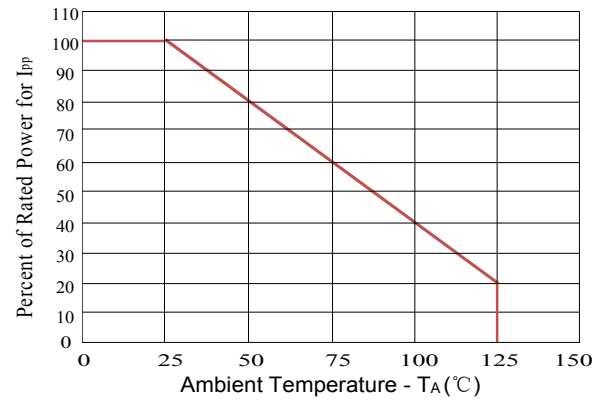


## Typical Characteristics

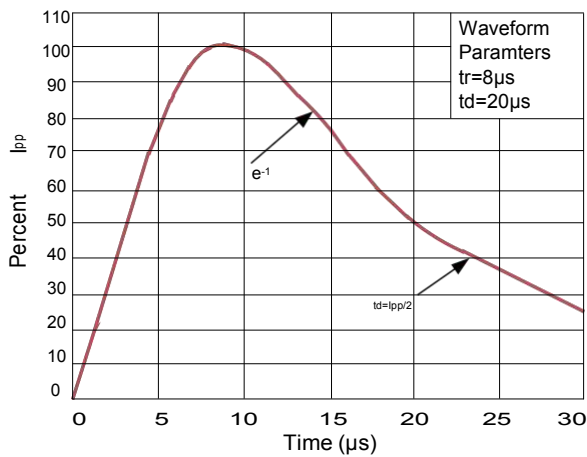
**Figure 1: Peak Pulse Power vs. Pulse Time**



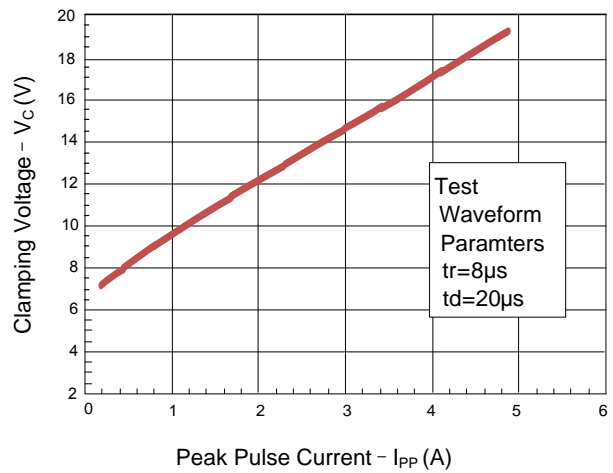
**Figure 2: Power Derating Curve**



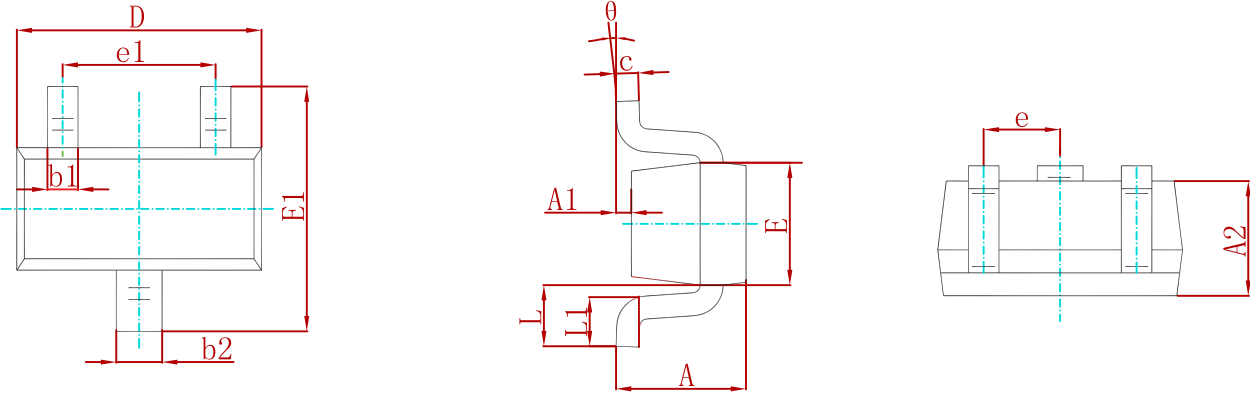
**Figure3: Pulse Waveform**



**Figure 4: Clamping Voltage vs. Ipp**

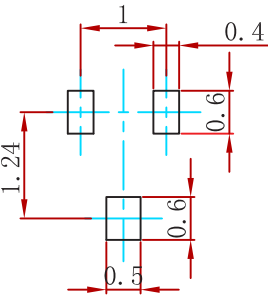


PACKAGE MECHANICAL DATA



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

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.

Order information

Orderable Device	Package	Packing Option
RCLAMP0502B-MS	SOT-523	3000PCS

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