

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

RCLAMP0502BATCT-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) $40 \text{ A}(5/50 \text{ ns})$
- IEC 61000-4-5 (Lightning) $3.5 \text{ A}(8/20\mu s)$

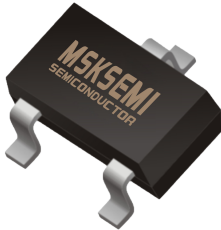
Mechanical Data

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

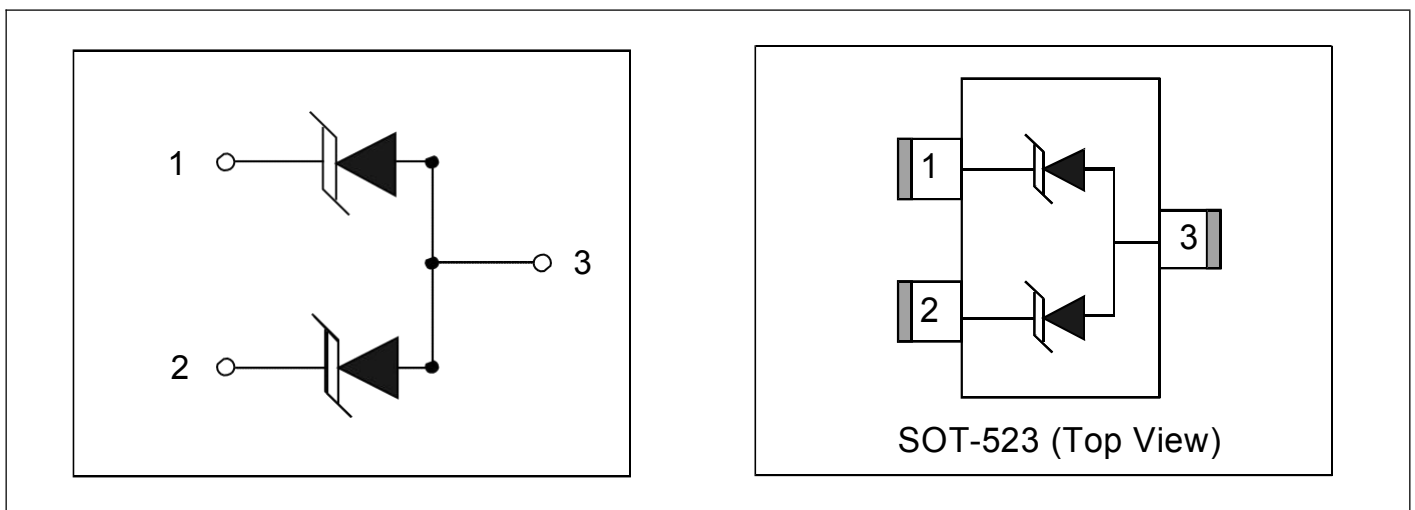
Applications

- 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	$^{\circ}C$

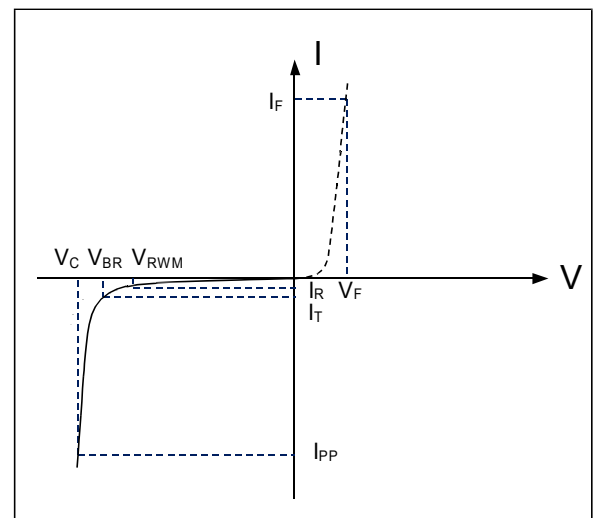
Electrical Characteristics

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	μA
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)

Symbo l	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.: 8/20 μs pulse waveform.



Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

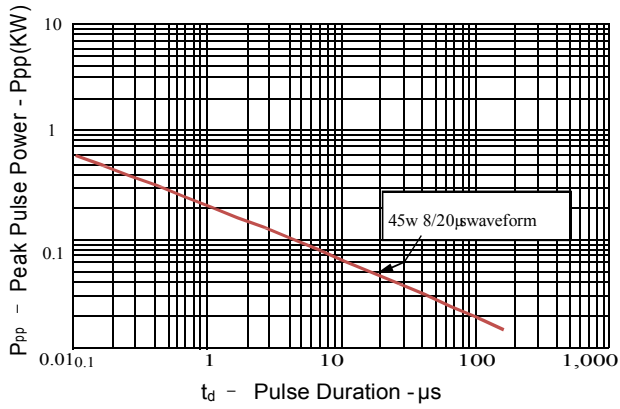


Figure 2: Power Derating Curve

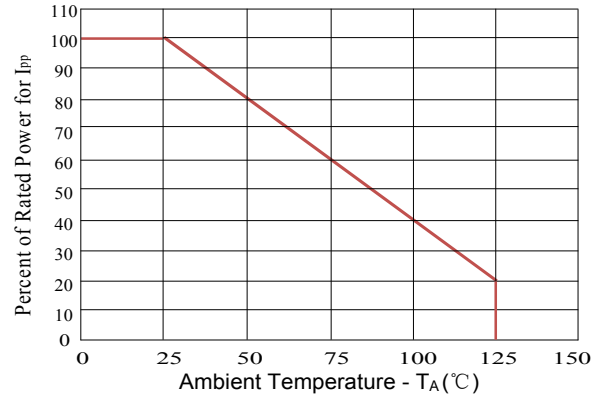


Figure3: Pulse Waveform

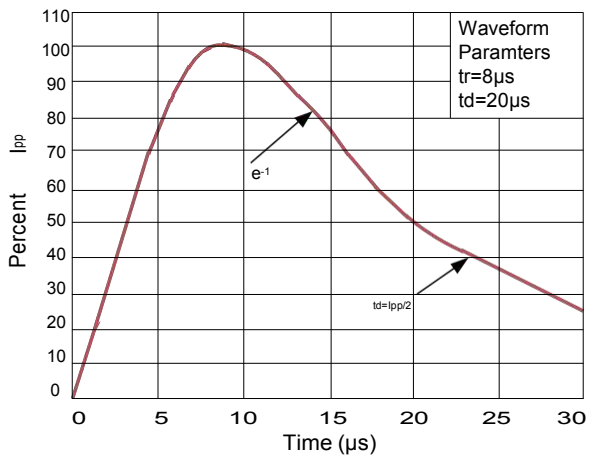
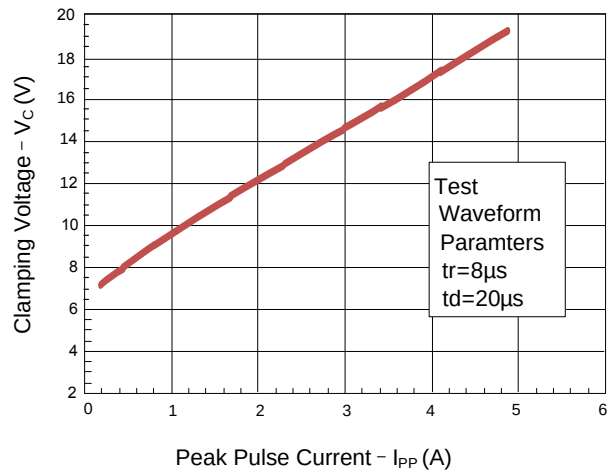
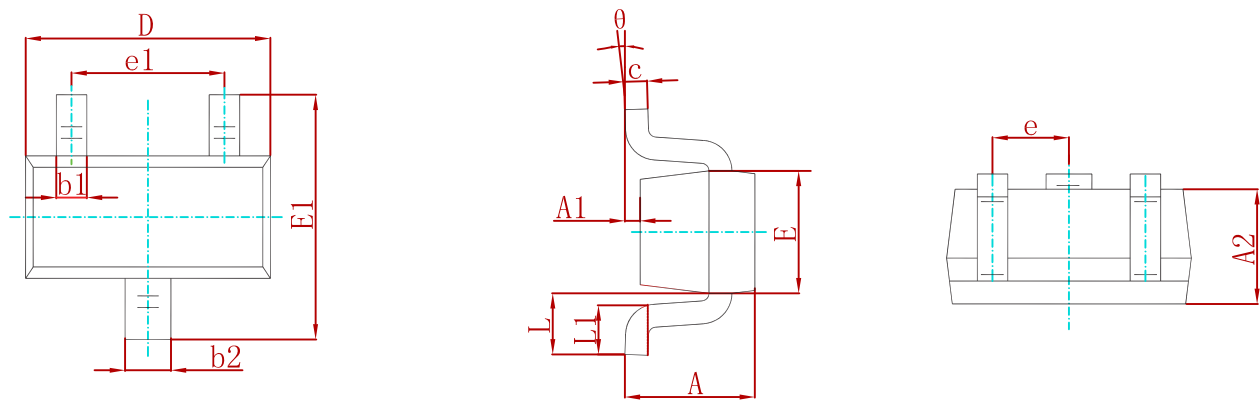


Figure 4: Clamping Voltage vs. Ipp

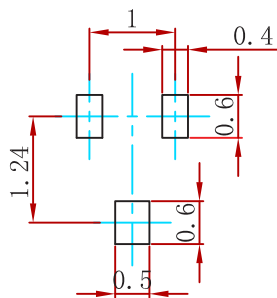


PACKAGE MECHANICAL DATA



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
RCLAMP0502BATCT-MS	SOT-523	3000PCS

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