



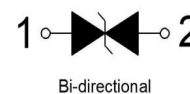
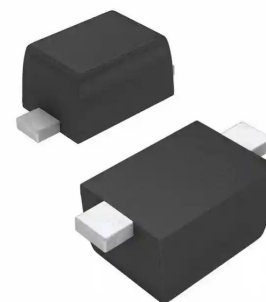
## 1. Features

- 2-pin lead-less package
- Junction capacitance (Max value: 11pF)
- Peak Pulse current (8/20 $\mu$ s) Max:7.5A
- IEC61000-4-2 (ESD)  $\pm$ 20kV (air),  $\pm$ 15kV (contact)
- Low clamping voltage
- Low leakage current
- Working voltages:5V
- RoHS Compliant

## 2. Mechanical Data

- Case:Molded Plastic,SOD-523.
- Epoxy:UL 94V-0 rate flame retardant.
- Terminals:Plated Leads Solderable per MIL-STD-750, Method-2026.
- Marking:5C
- Marking:marked on body.

SOD523



Bi-directional

## 3. Maximum Ratings

Electrical Characteristics Rating at 25°C ambient temperature unless otherwise specified.

Characteristic	Symbol	Value	Unit
Peak Pulse Power (tp=8/20 $\mu$ s waveform)	P <sub>PP</sub>	75	W
Peak Pulse Current (8/20 $\mu$ s)	I <sub>PP</sub>	7.5	A
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	$\pm$ 20	KV
ESD per IEC 61000-4-2 (Contact)		$\pm$ 15	
Junction Temperature	T <sub>j</sub>	-55~+125	°C
Storage Temperature	T <sub>stg</sub>	-55~+150	°C

## 4. Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

Characteristics	Symbol	Condition	Min	TYP	Max	Unit
Reverse Working Voltage	V <sub>RWM</sub>		-	-	5	V
Reverse Breakdown Voltage	V <sub>BR</sub>	I <sub>R</sub> = 1mA	6	-	8	V
Reverse Leakage Current	I <sub>R</sub>	V <sub>R</sub> = 5V	-	-	0.2	uA
Clamping voltage	V <sub>C</sub>	I <sub>PP</sub> = 1A, T <sub>p</sub> =8/20us	-	-	9	V
Clamping voltage	V <sub>C</sub>	I <sub>PP</sub> = 7.5A, T <sub>p</sub> =8/20us	-	-	10	V
Junction capacitance	C <sub>J</sub>	V <sub>R</sub> =0V, f =1MHz	-	9	11	pF



5. Rating And Characteristic Curves

Fig.1 Power rating derating curve

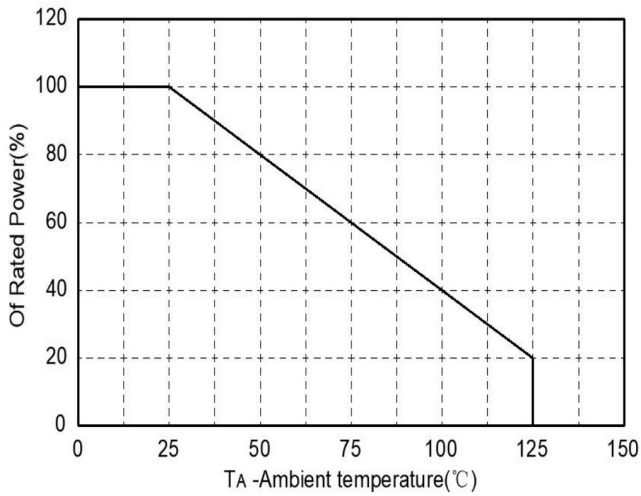


Fig.2 pulse Waveform

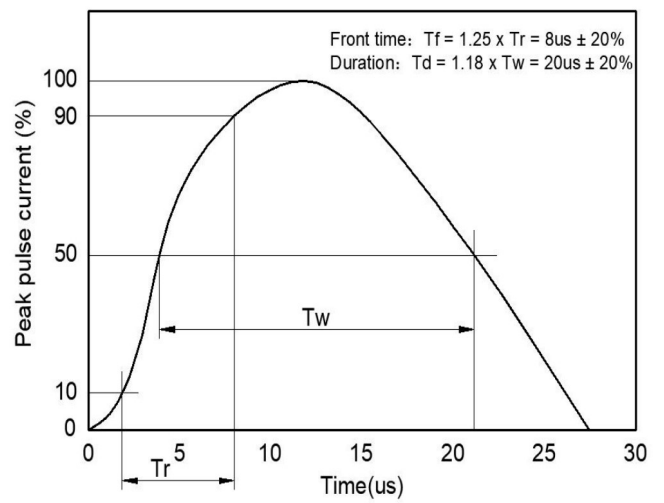


Fig.3 Capacitance between terminals characteristics

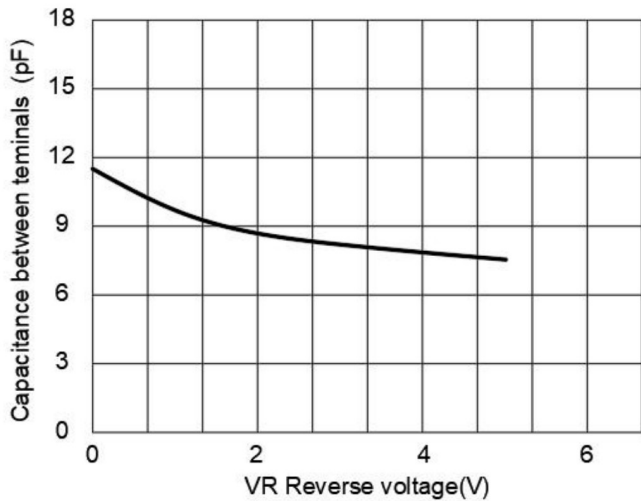
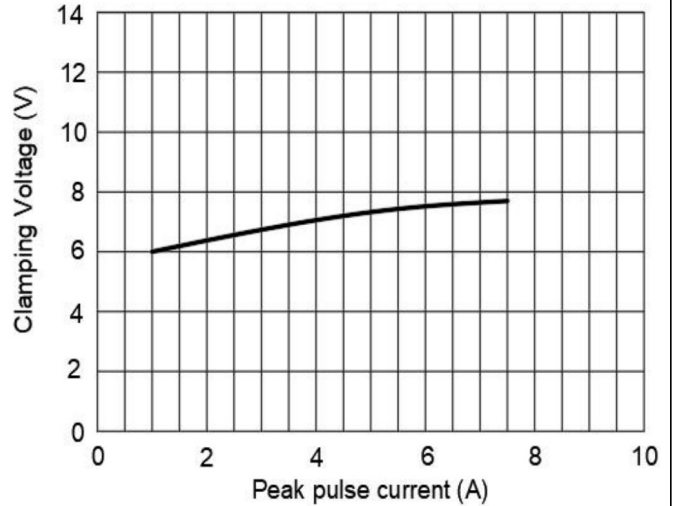
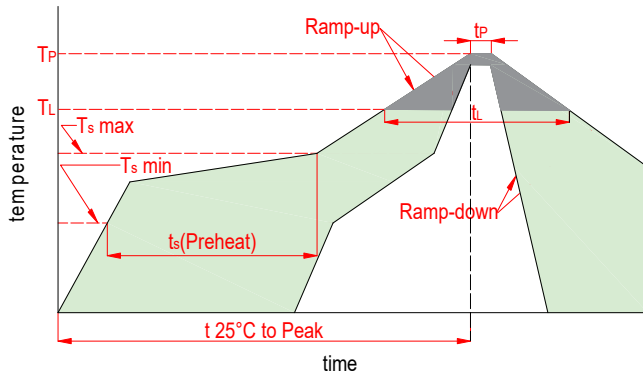


Fig.4 Clamping Voltage vs. Peak Pulse Current



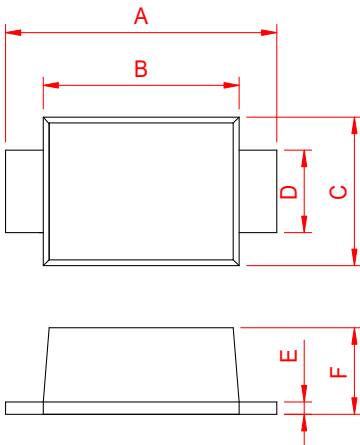


## 6. Soldering Parameters



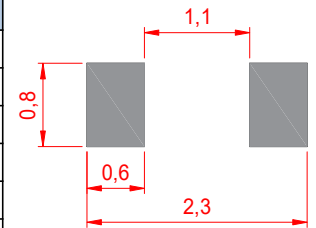
Reflow Condition		Lead-free
Pre Heat	Temp. min( $T_s$ (min))	150℃
	Temp. max( $T_s$ (min))	200℃
	Time(min to max)( $t_s$ )	60~120s
Aver. ramp up rate(Liquidus Temp.)( $T_L$ )to peak		3℃/s max
$T_s$ (max) to $T_L$ -Ramp-up Rate		3℃/s max
Reflow	Temp.( $T_L$ )(Liquidus)	217℃
	Temp.( $t_L$ )(Liquidus)	60~150s
Peak Temp.( $T_P$ )		260 <sup>+0/-5</sup> ℃
Time within actual peak Temp.( $t_p$ )		30s max
Ramp-down Rate		6℃/s max
Time 25℃ to peak Tempe.( $T_p$ )		8 minutes max
Do not exceed		260℃

## 7. Dimensions



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.059	0.067	1.50	1.70
B	0.045	0.049	1.15	1.25
C	0.030	0.033	0.75	0.85
D	0.012	0.016	0.30	0.40
E	0.004	0.006	0.10	0.14
F	0.024	0.028	0.60	0.70

Mounting PAD Layout



## 8. Part Numbering System

## Part Marking System

1	2	3	4	5	6	7
ESD	XX(X)	XXX	XX	XX	X	X
				功率版本		
				极性Polarity		
				PKG		
				通道Channel		
				电压		
				结电容		
ESD系列						

Cathode Band



## 9. Package Information

Package	Part Number	Marking Code	Quantity(pcs)
SOD523	ESD5V001D5B	5C	3000



### Important Notice and Disclaimer

- Reproducing and modifying information of the document is prohibited without from XINNUO.
- XINNUO reserves the right to make changes to this document and its products and specifications.
- XINNUO disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- XINNUO does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the here in document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. XINNUO makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown her are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify XINNUO for any damages resulting from such improper use or sale.
- Since XINNUO uses lot number as the tracking base, please provide the lot number for tracking when complaining.