

## Features

- Small Body Outline Dimensions:  
0.039" x 0.024" (1.0 mm x 0.60 mm)
- 80 Watts peak pulse power ( $t_p = 8/20\mu s$ )
- Protects one line
- Replacement for MLV(0402)
- Low clamping voltage
- Working voltage: 5V
- Low leakage current
- Solid-state silicon-avalanche technology



## IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD)  $\pm 30kV$  (air),  $\pm 30kV$  (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 5A (8/20 $\mu s$ )

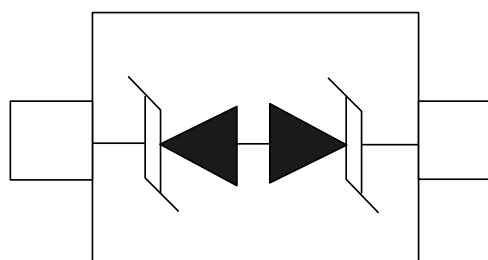
## Mechanical Characteristics

- JEDEC SOD-923 package
- Molding compound flammability rating: UL 94V-0
- Marking : Marking Code
- Packaging : Tape and Reel per EIA 481
- RoHS Compliant

## Applications

- Cellular Handsets & Accessories
- Personal Digital Assistants (PDAs)
- Notebooks & Handhelds
- Portable Instrumentation
- Digital Cameras
- MP3 players

## Schematic & PIN Configuration

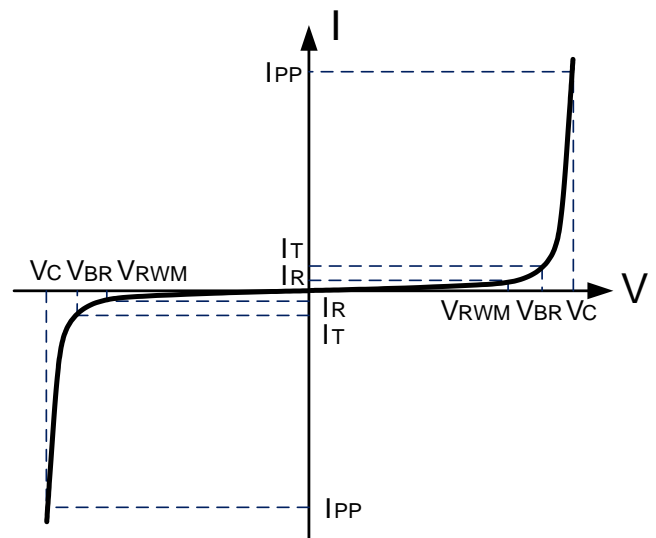


SOD-923 (Top View)

Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p=8/20\mu s$ )	P <sub>PP</sub>	80	Watts
Maximum Peak Pulse Current ( $t_p=8/20\mu s$ )	I <sub>PP</sub>	5	A
Operating Temperature	T <sub>J</sub>	-55 to + 125	°C
Storage Temperature	T <sub>STG</sub>	-55 to +150	°C

Electrical Parameters (T=25°C)

Symbol	Parameter
I <sub>PP</sub>	Reverse Peak Pulse Current
V <sub>C</sub>	Clamping Voltage @ I <sub>PP</sub>
V <sub>RWM</sub>	Working Peak Reverse Voltage
I <sub>R</sub>	Reverse Leakage Current @ V <sub>RWM</sub>
V <sub>BR</sub>	Breakdown Voltage @ I <sub>T</sub>
I <sub>T</sub>	Test Current



Electrical Characteristics

WE05D9-B						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V <sub>RWM</sub>				5.0	V
Reverse Breakdown Voltage	V <sub>BR</sub>	I <sub>T</sub> =1mA	6.0			V
Reverse Leakage Current	I <sub>R</sub>	V <sub>RWM</sub> =5V, T=25°C			0.2	µA
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> =1A, t <sub>p</sub> =8/20µs		9	10	V
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> =5A, t <sub>p</sub> =8/20µs		9.5	12	V
Dynamic Resistance <sup>1,2</sup>	R <sub>DYN</sub>	T <sub>lp</sub> =0.2/100ns		0.3		Ω
Junction Capacitance	C <sub>j</sub>	V <sub>R</sub> = 0V, f = 1MHz		8	9.6	pF

Notes :

- 1、 TLP Setting : t<sub>p</sub>=100ns, t<sub>r</sub>=0.2ns, I<sub>TLP</sub> and V<sub>TLP</sub> sample window:t<sub>1</sub>=70ns to t<sub>2</sub>=90ns.
- 2、 Dynamic resistance calculated from I<sub>PP</sub>=4A to I<sub>PP</sub>=16A using "Best Fit".

Typical Characteristics

Figure 1: Peak Pulse Power Vs Pulse Time

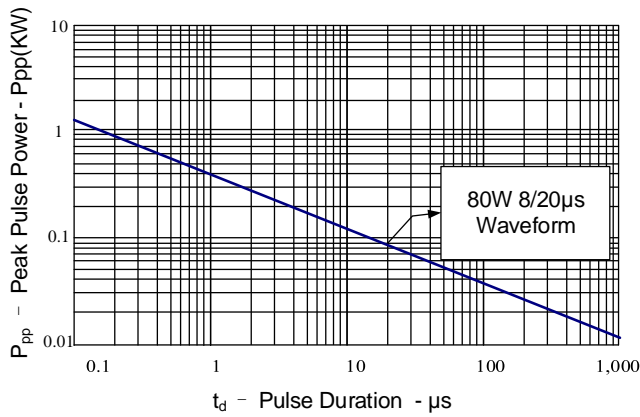


Figure 2: Power Derating Curve

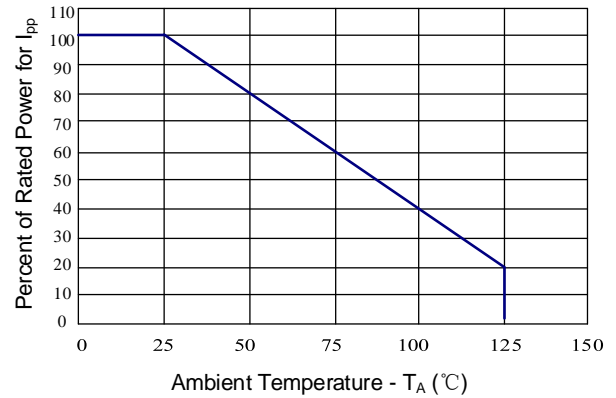


Figure 3: Clamping Voltage vs. Peak Pulse Current

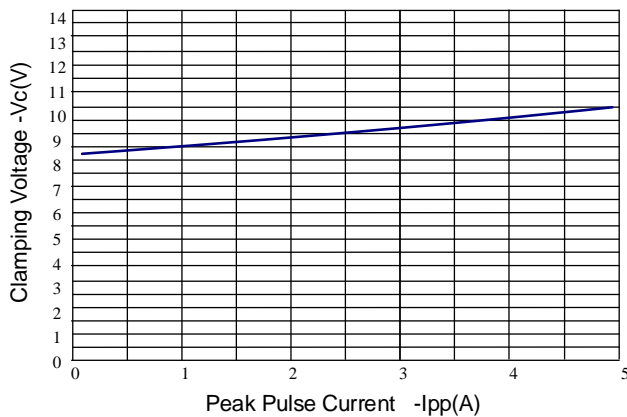


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

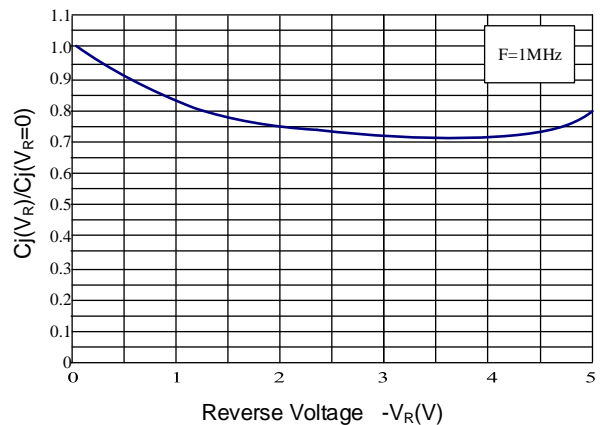


Figure 5: TLP Positive I-V Curve

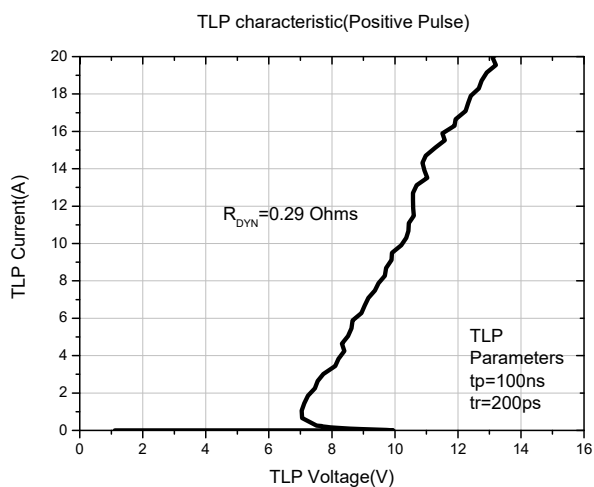
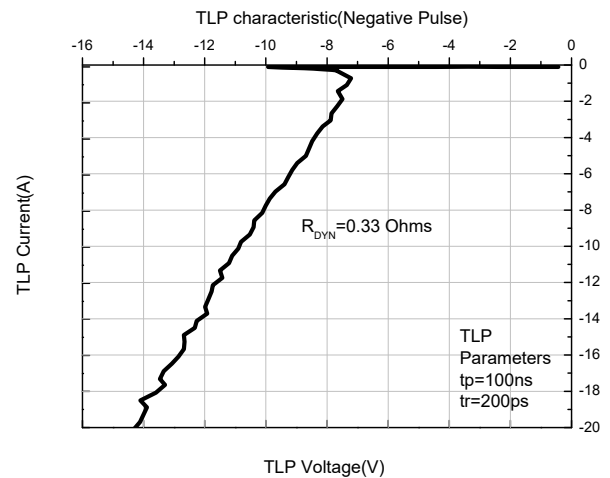


Figure 6: TLP Negative I-V Curve



Outline Drawing – SOD-923

**PACKAGE OUTLINE**

⊕	0.08 (0.0032)	X	Y
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DIMENSIONS: MILLIMETERS

**SOD-923**

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.39	0.45	0.015	0.018
b	0.15	0.30	0.006	0.012
C	0.06	0.20	0.002	0.008
D	0.70	0.90	0.028	0.035
E	0.55	0.65	0.026	0.028
H <sub>E</sub>	0.90	1.10	0.035	0.043
L	0.05	0.15	0.002	0.006

DIMENSIONS: MILLIMETERS

**Notes**

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL

Marking Codes

Part Number	WE05D9-B
Marking Code	<p style="font-size: small; margin-top: 5px;">C=Specific Device Code E=Month Code</p>

Package Information

Qty: 8k/Reel

CONTACT INFORMATION

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Specifications are subject to change without notice.  
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.  
Users should verify actual device performance in their specific applications.

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