

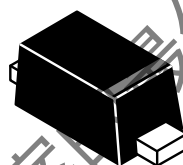
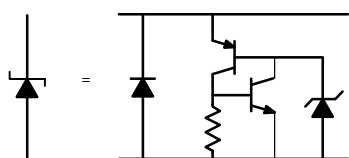
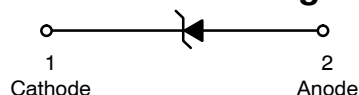
Features

- 30W Peak Pulse Power Per Line(8/20us)
- 3.3V Working Peak Reverse Voltage
- Maximum Reverse Peak Pulse Current:5A
- ESD per IEC 61000-4-2(Contact):15KV
- ESD per IEC 61000-4-2(Air):15KV
- Clamping Voltage @IPP=5A:5.7
- Junction Capacitance:0.3PF
- Package:SOD-923(0402)
- Polarity: Unidirectional

Mechanical Characteristics

- Mechanical Characteristics
- Lead Finish: NiPdAu
- Case Material: “ Green ” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Marking Information: See Below

Schematic And Configuration



**SOD-923
CASE 514AB**

Absolute Maximum Ratings (Ta=25°C,RH=45%-75%,unless otherwise noted)

Parameter	Symbol	Value	Unit
Operating Temperature Range	Tj	-55~+125	°C
Storage Temperature Range	Tstg	-55~+150	°C

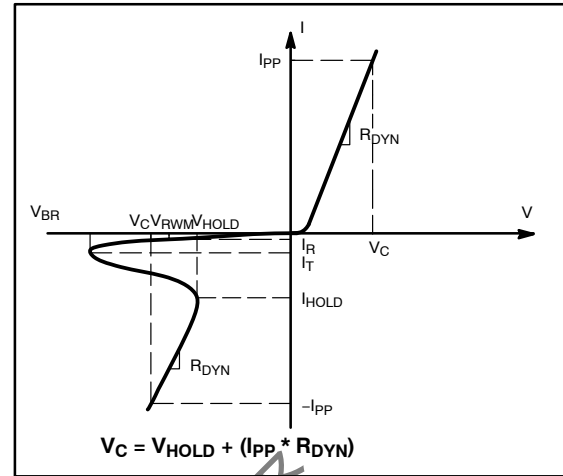
Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Min	Type	Max	Unit	Test Condition
Reverse Working Voltage	Vrwm			3.3	V	
Breakdown Voltage	Vbr	5.5	7	7.8	V	It=1mA
Reverse Leakage Current	Ir			500	nA	Vrwm=5V
Clamping Voltage	Vc		5.7	6.5	V	Ipp=5A(8×20us pulse)
Juntion Capacitance	Cj		0.35	0.5	pF	Vr=0V,f=1MHz

Electrical Characteristics

(T_A = 25°C unless otherwise noted)

Symbol	Parameter
V _{RWM}	Working Peak Voltage
I _R	Maximum Reverse Leakage Current @ V _{RWM}
V _{BR}	Breakdown Voltage @ I _T
I _T	Test Current
V _{HOLD}	Holding Reverse Voltage
I _{HOLD}	Holding Reverse Current
R _{DYN}	Dynamic Resistance
I _{PP}	Maximum Peak Pulse Current
V _C	Clamping Voltage @ I _{PP} $V_C = V_{HOLD} + (I_{PP} * R_{DYN})$



Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse Working Voltage	V _{RWM}	I/O Pin to GND			3.3 3.7	V
Breakdown Voltage	V _{BR}	I _T = 1 mA, I/O Pin to GND	5.5	7.0	7.8	V
Reverse Leakage Current	I _R	V _{RWM} = 3.3 V, I/O Pin to GND V _{RWM} = 3.7 V, I/O Pin to GND			500 1.0	nA μA
Holding Reverse Voltage	V _{HOLD}	I/O Pin to GND		1.15		V
Holding Reverse Current	I _{HOLD}	I/O Pin to GND		20		mA
Clamping Voltage TLP (Note 2) See Figures 1 through 11	V _C	I _{PP} = 8 A } IEC 61000-4-2 Level 2 equivalent (±4 kV Contact, ±4 kV Air) I _{PP} = 16 A } IEC 61000-4-2 Level 4 equivalent (±8 kV Contact, ±15 kV Air)		5.7 8.3	6.5 10	V
Clamping Voltage (Note 3)	V _C	I _{PP} = 5 A } t _p = 8 x 20 μs		5.7	6.5	V
Dynamic Resistance	R _{DYN}	Pin1 to Pin2 Pin2 to Pin1		0.44 0.37		Ω
Junction Capacitance	C _J	V _R = 0 V, f = 1 Mhz V _R = 0 V, f = 2.5 Ghz		0.37 0.35	0.55 0.45	pF

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

- For test procedure see Figures 8 and 9 and application note AND8307/D.
- ANSI/ESD STM5.5.1 – Electrostatic Discharge Sensitivity Testing using Transmission Line Pulse (TLP) Model.
TLP conditions: Z₀ = 50 Ω, t_p = 100 ns, t_r = 4 ns, averaging window; t₁ = 30 ns to t₂ = 60 ns.
- Non-repetitive current pulse at T_A = 20°C, per IEC 61000-4-5 waveform.

Typical Performance Characteristics (Ta=25°C, unless otherwise noted)

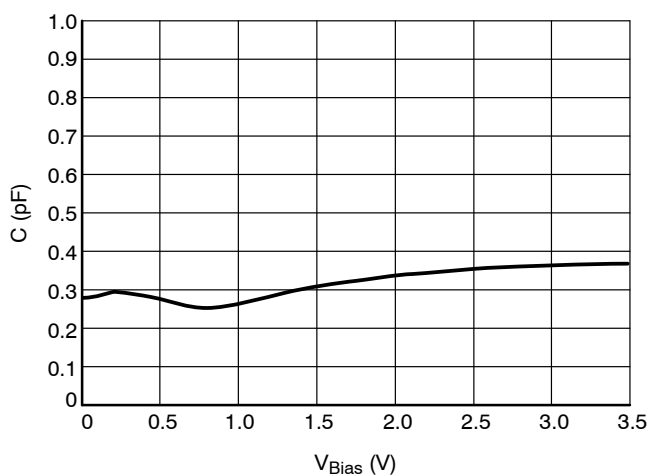


Figure 1. CV Characteristics

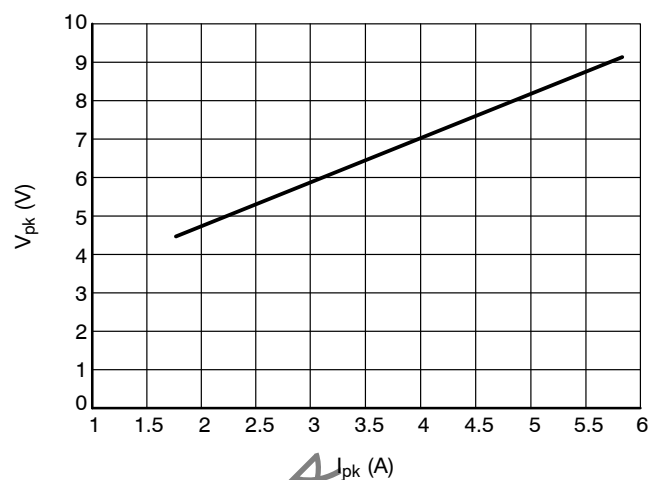
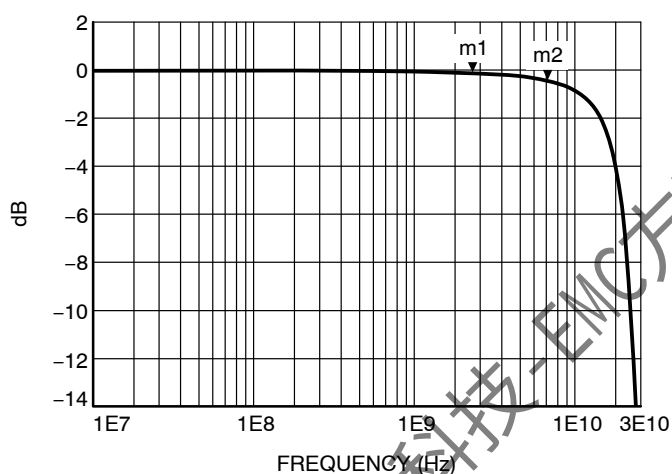
Figure 2. Clamping Voltage vs Peak Pulse Current ($t_p = 8/20 \mu s$)

Figure 3. RF Insertion Loss

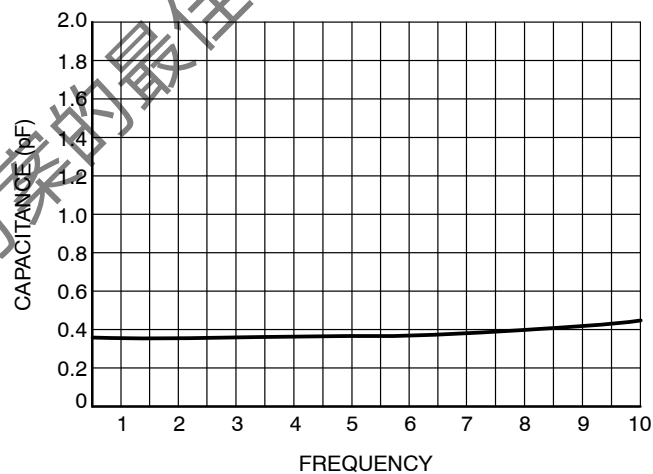


Figure 4. Capacitance over Frequency

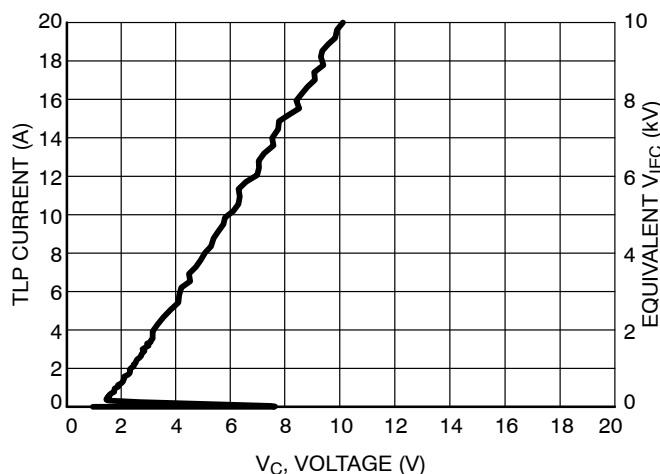


Figure 5. Positive TLP I-V Curve

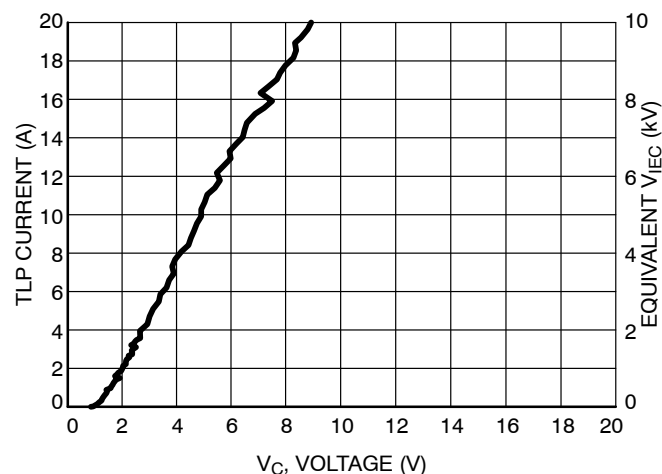
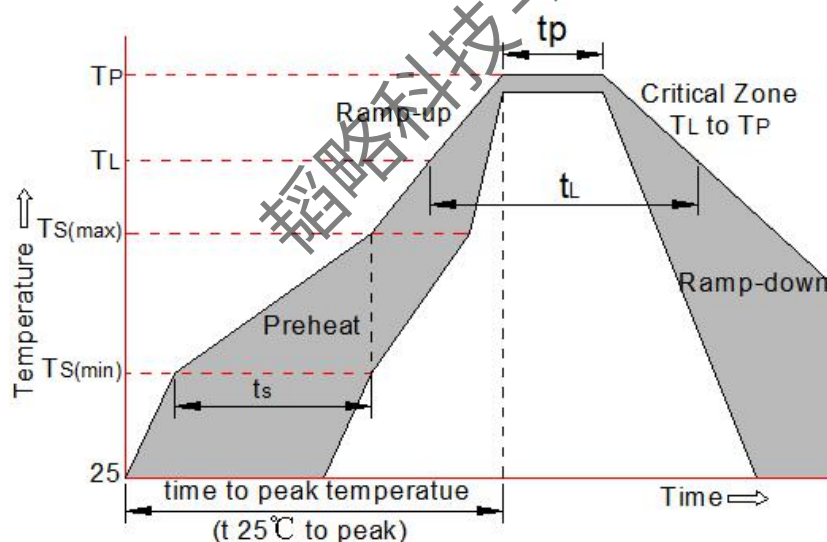


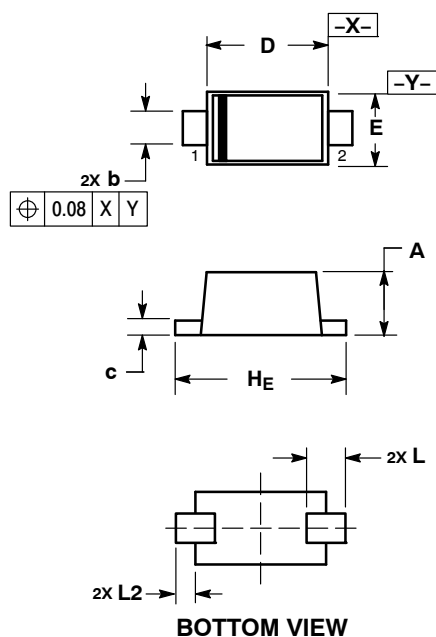
Figure 6. Negative TLP I-V Curve

Soldering Parameters

Reflow Condition		Pb-Free Assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (t_s)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L) (Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C

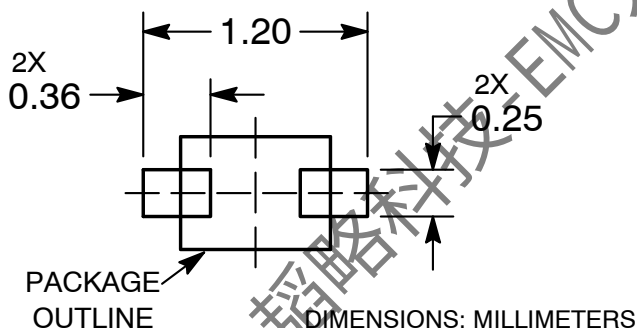


Package Mechanical Data



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.34	0.37	0.40	0.013	0.015	0.016
b	0.15	0.20	0.25	0.006	0.008	0.010
c	0.07	0.12	0.17	0.003	0.005	0.007
D	0.75	0.80	0.85	0.030	0.031	0.033
E	0.55	0.60	0.65	0.022	0.024	0.026
L	0.19 BSC			0.007 BSC		
HE	0.95	1.00	1.05	0.037	0.039	0.041
L2	0.05	0.10	0.15	0.002	0.004	0.006

Suggested Land Pattern



Contact Information

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