

描述 / Descriptions

SOD-923 塑封封装 ESD 保护二极管。
SOD-923 Plastic Package ESD Protection Diode.

特征 / Features

超小封装，低电容 $C_J = 0.5\text{pF}$ ，ESD 能力符合 IEC61000-4-2 标准。
Ultra small package, Low diode capacitance $C_J = 0.5\text{ pF}$, ESD according to IEC61000-4-2.

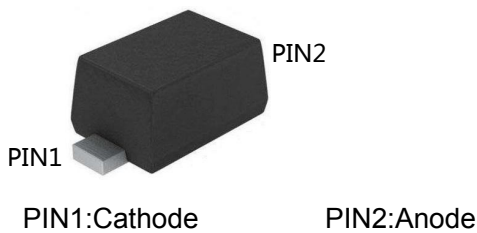
用途 / Applications

适用于手机音频、MDDI、显示屏、HDMI、DVI 端口、USB2.0/3.0 电源和数据线保护、MP3 播放器、数码相机、便携式设备、移动电话等用户端。
Suitable for cellular phones audio, MDDI, Display, HDMI, DVI ports, USB2.0/3.0 power and data line protection, MP3 players, Digital cameras, Portable devices, mobile telephone and other users.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



放大及印章代码 / h_{FE} Classifications & Marking

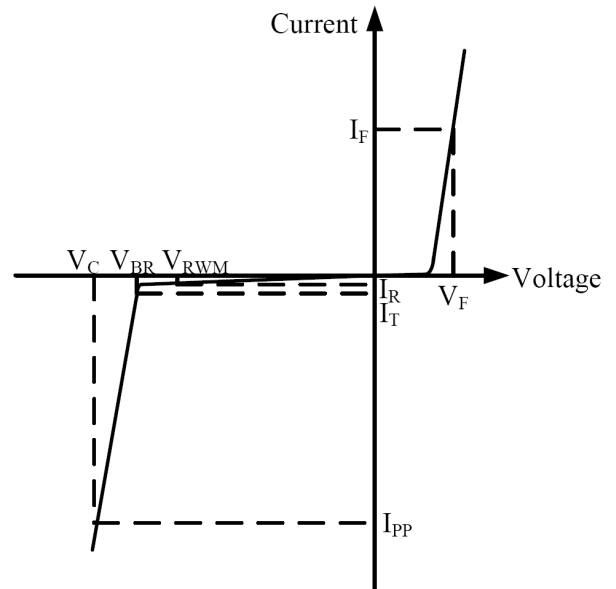
见印章说明。See Marking Instructions.

极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 25	KV
ESD according to IEC61000-4-2 contact discharge		± 20	
Operating Temperature Range	T_J	-55~+125	°C
Storage Temperature Range	T_{STG}	-55~+150	°C

电性能参数 / Electrical Characteristics(Ta=25°C)

符号 Symbol	参数 Parameter
V_{RWM}	Nominal Reverse working voltage
I_R	Reverse leakage current @ V_{RWM}
V_{BR}	Reverse breakdown voltage @ I_T
I_T	Test current for reverse breakdown
V_C	Clamping voltage @ I_{PP}
I_{PP}	Maximum peak pulse current
C_J	Junction Capacitance
V_R	Reverse voltage
f	Small signal frequency
I_F	Forward current
V_F	Forward voltage @ I_F



Uni-Directional TVS

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Reverse maximum working voltage	V_{RWM}				5.0	V
Reverse leakage current	I_R	$V_{RWM} = 5V$		0.1	1.0	μA
Reverse breakdown voltage ¹⁾	V_{BR}	$I_T = 1mA$	6.0	8.0	9.0	V
Clamping voltage ²⁾	V_C	$I_{PP} = 1A$ $t_p = 8/20\mu s$			10	V
Junction Capacitance	C_J	$V_R = 0V$ $f = 1MHz$		0.5	0.8	pF

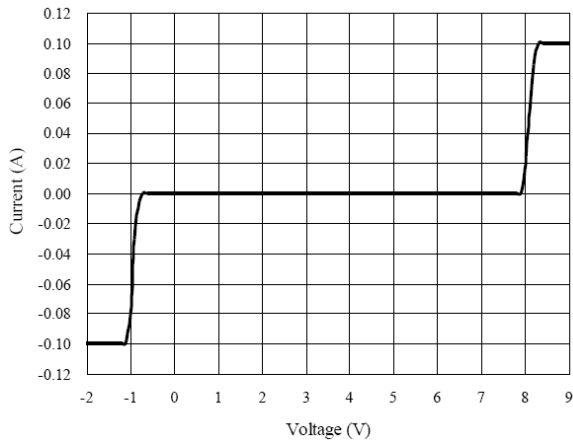
Notes:

Stresses exceeding Maximum Ratings may damage the device. Maximum Rating are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

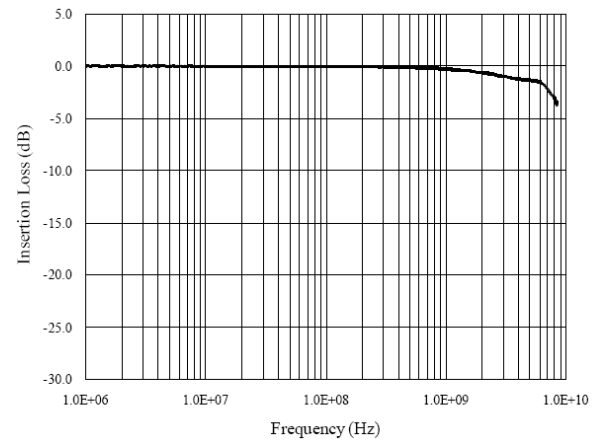
1. V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C

电参数曲线图 / Electrical Characteristic Curve

Voltage Sweeping of I/O to GND

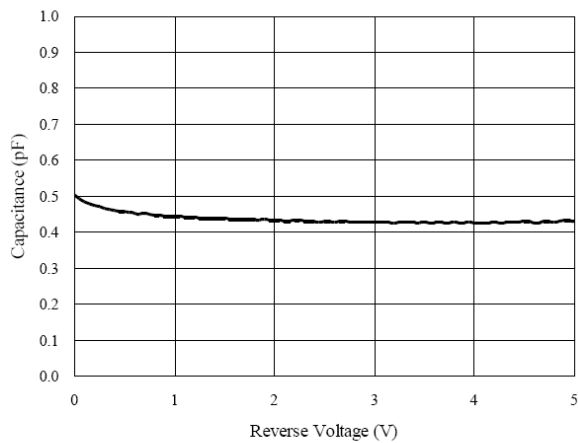


Insertion Loss S21 of I/O to GND

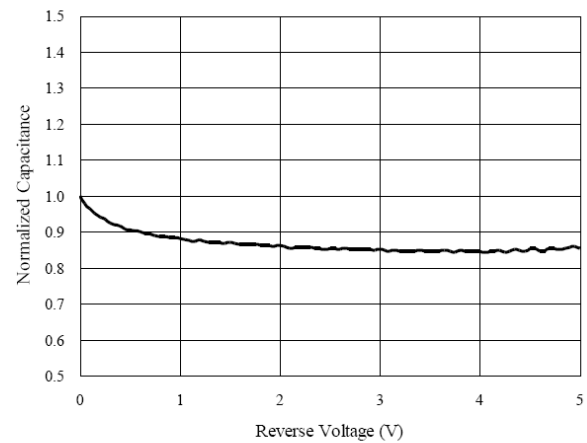


Capacitance vs. Voltage of I/O to GND (f = 1MHz)

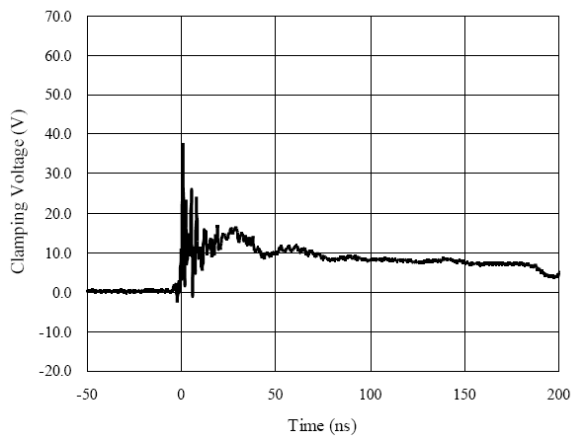
Capacitance vs. Reverse Voltage



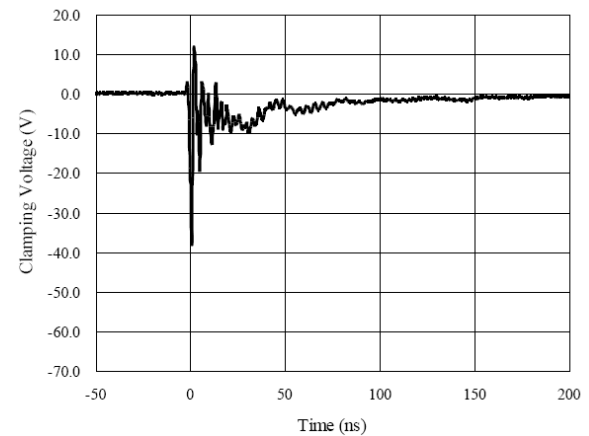
Normalized Capacitance vs. Reverse Voltage



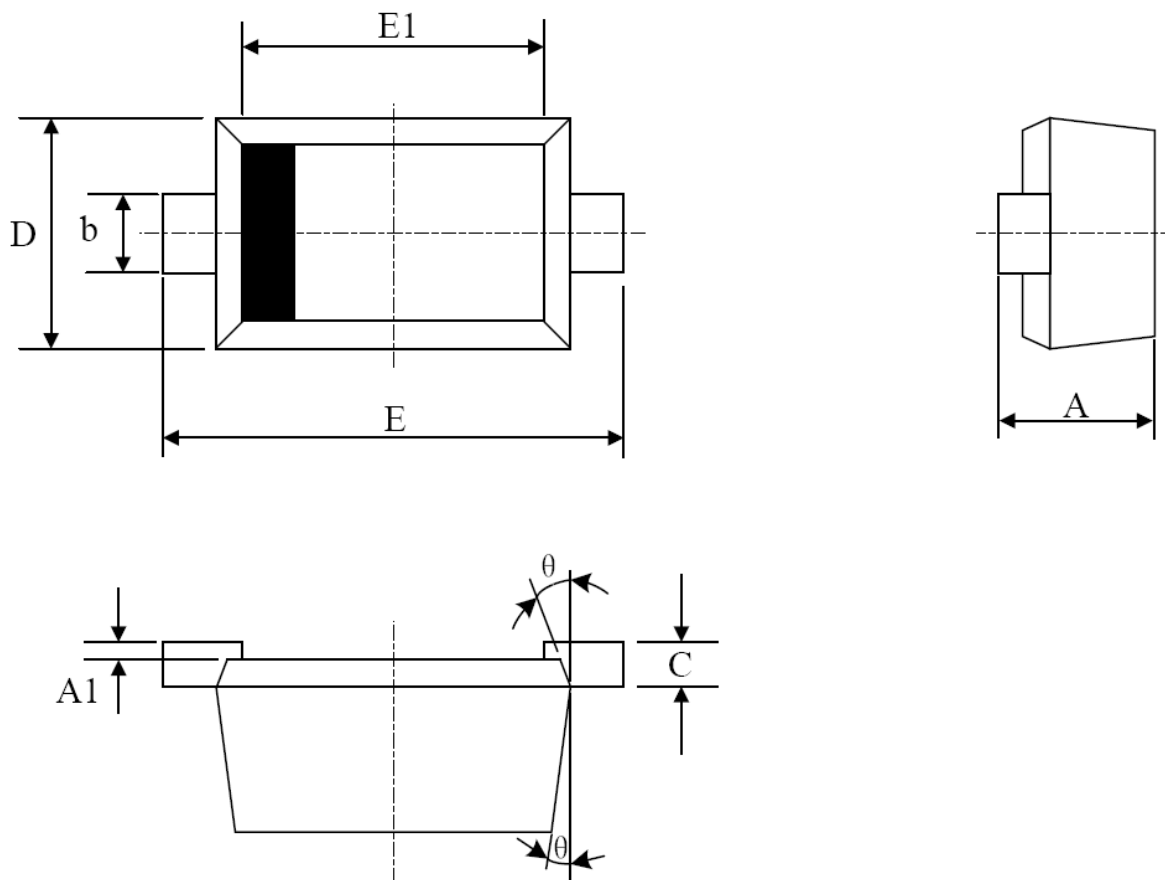
ESD Clamping of I/O to GND
(+8kV Contact per IEC 61000-4-2)



ESD Clamping of I/O to GND
(-8kV Contact per IEC 61000-4-2)



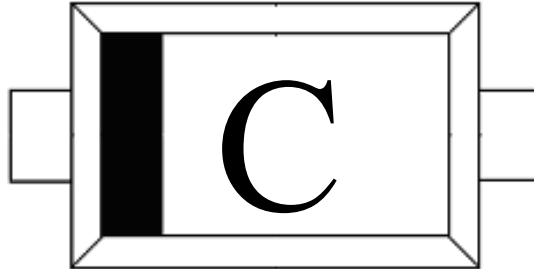
外形尺寸图 / Package Dimensions



Package Dimensions (Controlling dimensions are in millimeters)

Symbol	Dimensions (mm)		Dimensions (Inches)	
	Minimum	Maximum	Minimum	Maximum
A	0.350	0.430	0.014	0.017
A1	0.000	0.050	0.000	0.002
b	0.170	0.270	0.007	0.011
C		0.150		0.006
D	0.550	0.650	0.022	0.026
E	0.900	1.100	0.035	0.043
E1	0.750	0.850	0.030	0.033
θ	7° REF.		7° REF.	

印章说明 / Marking Instructions



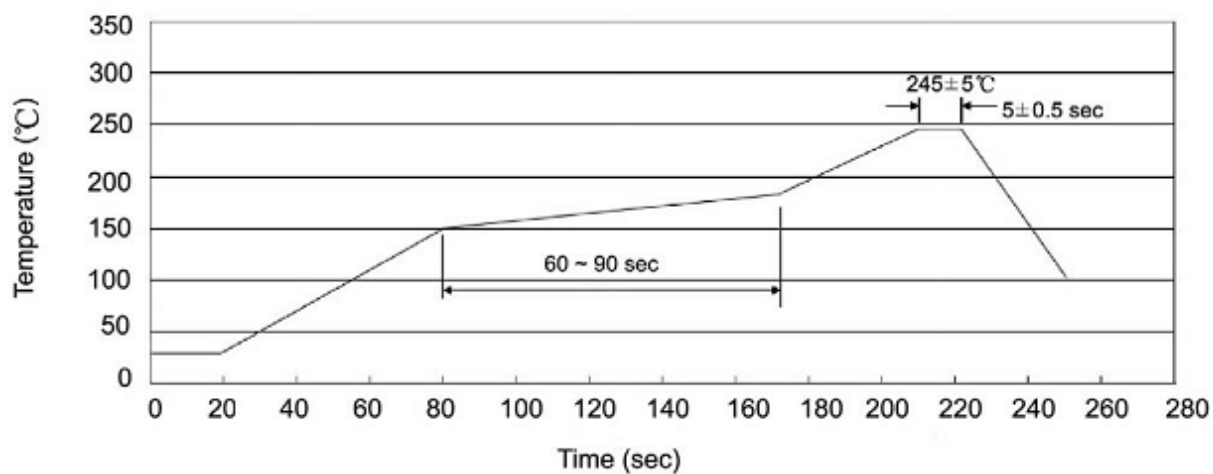
说明：

C：为型号代码

Note：

C：Product Type.

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)



说明：

- 1、预热温度 150 ~ 180°C，时间 60 ~ 90sec;
- 2、峰值温度 245±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2 ~ 10°C/sec.

Note:

- 1.Preheating:150~180°C, Time:60~90sec.
- 2.Peak Temp.:245±5°C, Duration:5±0.5sec.
- 3.Cooling Speed: 2~10°C/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：260±5°C

时间：10±1 sec.

Temp.:260±5°C

Time:10±1 sec

包装规格 / Packaging SPEC.

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量	Dimension 包装尺寸 (unit: mm ³)
	Units/Reel 只/卷盘	Reel
SOD-923	10,000	7" x8

使用说明 / Notices