

SOT-23 ESD 静电保护二极管

■ Features 特点

Un-directional ESD Protection 单向静电保护

Low capacitance 低电容

■ Applications 应用

USB IEEE Interfaces 接口

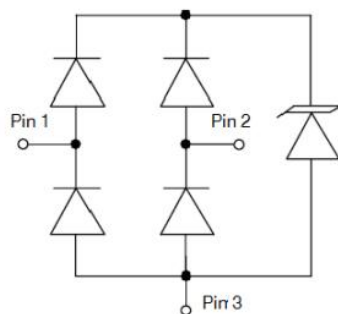
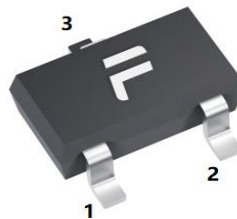
Notebooks 笔记本电脑

Communication System 通信系统

HDMI 高清多媒体

■ Internal Schematic Diagram 内部结构

■ Absolute Maximum Ratings 最大额定值



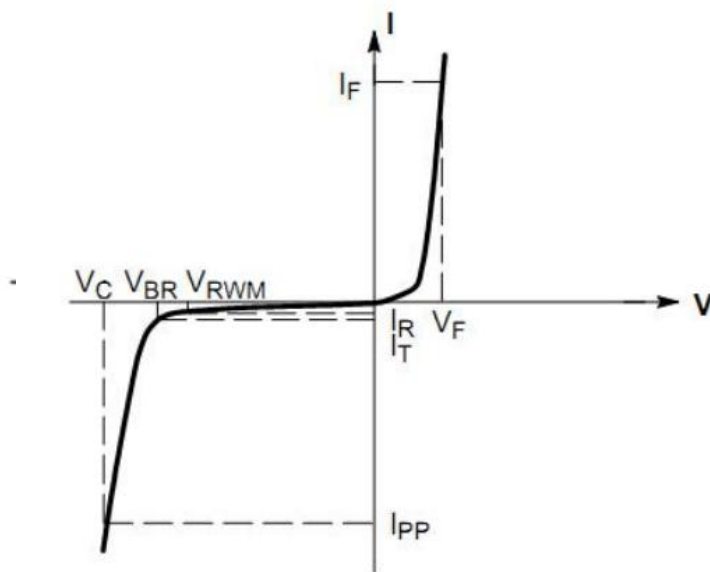
Characteristic 特性参数	Symbol 符号	Rat 额定值	Unit 单位
ESD (IEC61000-4-2 contact discharge) @25°C接触放电	V_{ESD}	± 15	KV
ESD (IEC61000-4-2 air discharge) @25°C 空气放电	V_{ESD}	± 20	KV
Peak Pulse Current @25°C峰值脉冲电流	I_{PP}	4	A
Peak Pulse Power @25°C峰值脉冲功率	P_{PK}	80	W
Lead Temperature 管脚温度	T_L	260	°C
Lead Solder Time 管脚焊接时间	T_L	10	S
Operating Temperature 工作温度	T_{op}	-40~85	°C
Junction Temperature 结温	T_J	-55~125	°C
Storage Temperature 储存温度	T_{stg}	-55~125	°C

■ Electrical Characteristics 电特性

($T_A=25^{\circ}\text{C}$ unless otherwise noted 如无特殊说明, 温度为 25°C)

Characteristic Parameters 特性参数	Symbol 符号	Min 最小值	Typ 典型值	Max 最大值	Unit 单位	Condition 条件
Reverse Stand-off Voltage 反向工作电压	V_{RWM}			5	V	
Reverse Breakdown Voltage 反向击穿电压	$V_{\text{R(BR)}}$	6			V	$I_{\text{T}}=1\text{mA}$
Reverse Leakage Current 反向漏电流	I_{R}			1	μA	$V_{\text{RWM}}=5\text{V}$
Clamping Voltage 钳位电压	V_{C}			13	V	$I_{\text{PP}}=1\text{A}, t_{\text{p}}=8/20\mu\text{s}$
Clamping Voltage 钳位电压	V_{C}			20	V	$I_{\text{PP}}=4\text{A}, t_{\text{p}}=8/20\mu\text{s}$
Junction Capacitance 结电容	C_{J}	I/O-GND I/O-I/O	0.5 0.3	0.8 0.5	pF	$V_{\text{R}}=0\text{V}, f=1\text{MHz}$

V_{RWM}	Reverse Working Voltage 反向工作电压
$V_{\text{R(BR)}}$	Reverse Breakdown Voltage 反向击穿电压@ $I_{\text{T}}=1\text{mA}$
I_{T}	Test Current 测试电流
I_{R}	Reverse Leakage Current 反向漏电流@ V_{RWM}
V_{C}	Clamping Voltage 钳位电压
I_{PP}	Reverse Peak Pulse Current 浪涌电流
C_{J}	Junction Capacitance 结电容 $V_{\text{IO}}=0\text{V}, V_{\text{P-P}}=30\text{mV}, f=1\text{MHz}$



■ Typical Characteristic Curve 典型特性曲线

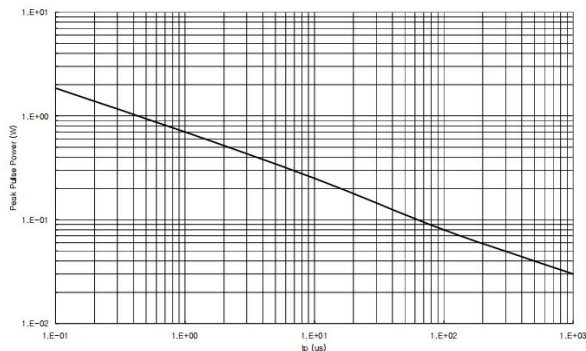


Figure 1. Peak Pulse Power Derating

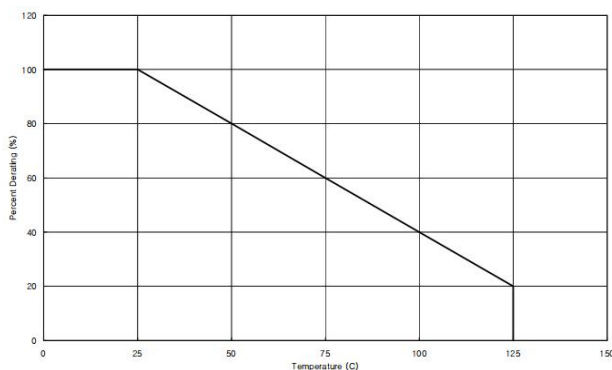


Figure 2. Peak Pulse Power Derating vs Temperature

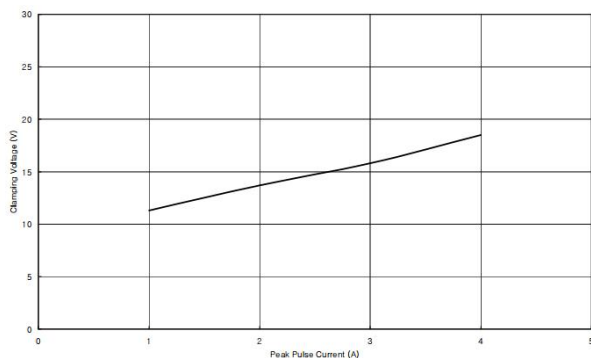


Figure 3. Peak Pulse Current vs Clamping Voltage

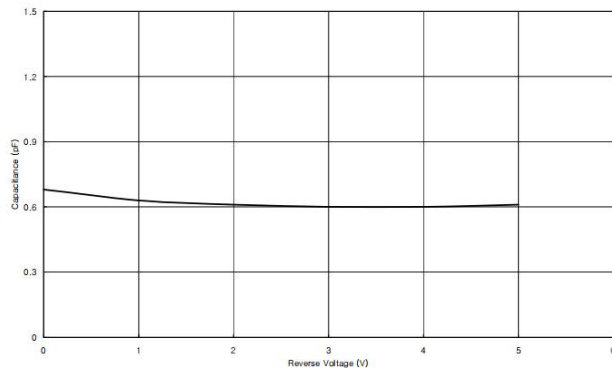
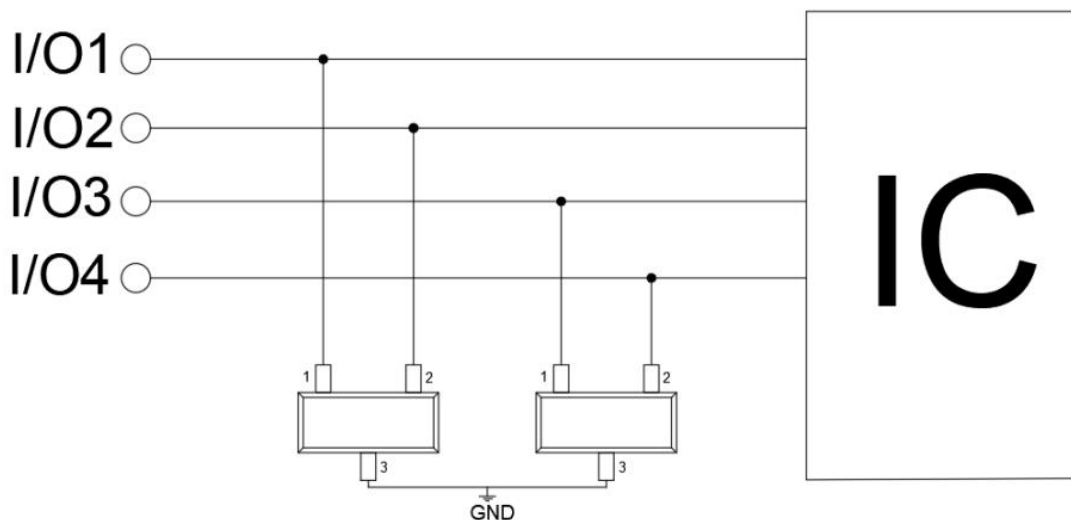
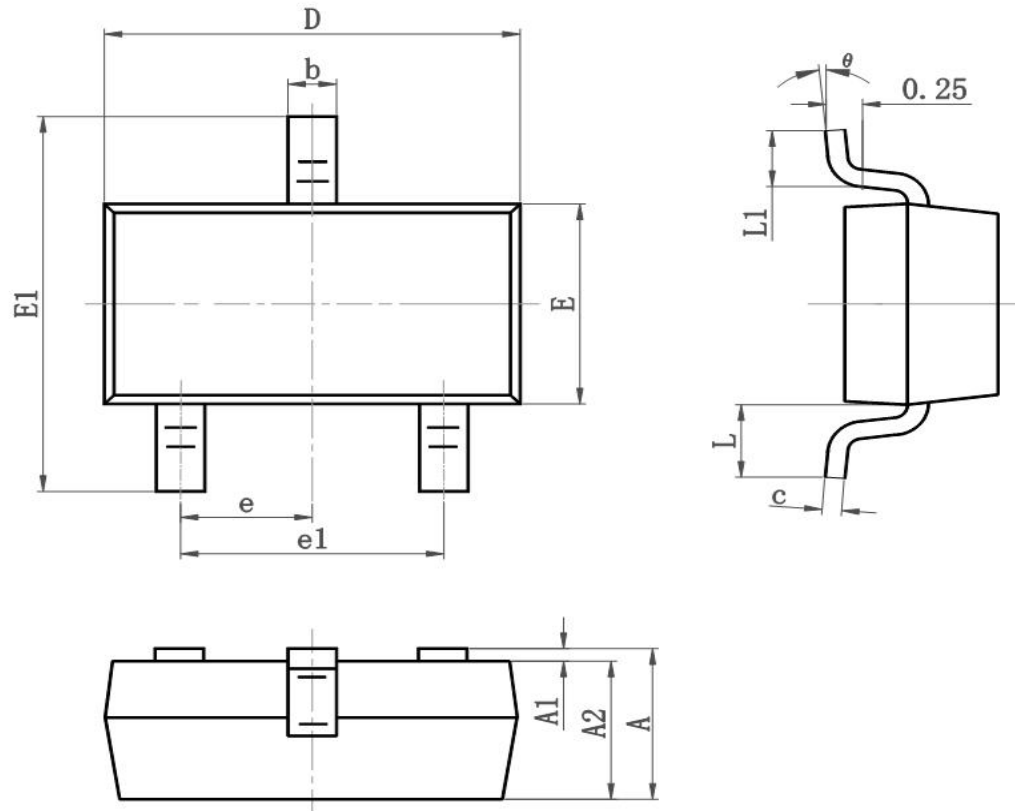


Figure 4. Reverse Voltage vs Capacitance

■ Typical Application 典型应用



■ Dimension 外形封装尺寸



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.050	0.055
E1	2.250	2.550	0.089	0.100
e	0.900	1.00	0.035	0.039
e1	1.800	2.000	0.071	0.079
L	0.500	0.600	0.020	0.024
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°