



安徽富信半导体科技有限公司

ANHUI FOSAN SEMICONDUCTOR TECHNOLOGY CO., LTD.

ES05D1HA03

SOD-323 ESD 静电保护二极管

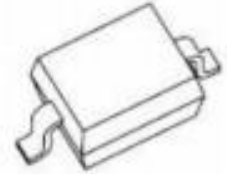
■ Features 特点

Bi-directional ESD Protection 双向静电保护
Low reverse clamping voltage 低反向钳位电压
Low leakage current 低漏电流
Fast response time 快速响应时间
Marking 印字: 05C

■ Applications 应用

Computer 计算机
High speed data lines 高速数据线
Communication System 通信系统

SOD-323



■ 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}	± 30	KV
ESD (IEC61000-4-2 air discharge) @25°C 空气放电	V_{ESD}	± 30	KV
Peak Pulse Current @25°C峰值脉冲电流	I_{PP}	20	A
Peak Pulse Power @25°C峰值脉冲功率	P_{PK}	350	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}	-55~150	°C

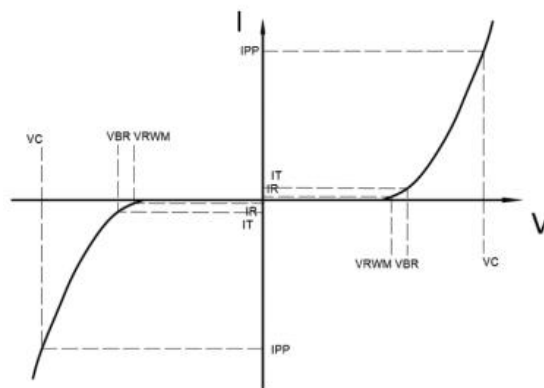


■ Electrical Characteristics 电特性

($T_A=25^{\circ}\text{C}$ 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	$V_{\text{R(BR)}}$	5.6		8	V	$I_{\text{T}}=1\text{mA}$
Reverse Leakage Current 反向漏电流	I_{R}			0.5	μA	$V_{\text{RWM}}=\pm 5\text{V}$
Forward Voltage 正向电压	V_{F}	0.2	0.8	1.2	V	$I_{\text{F}}=10\text{mA}$
Clamping Voltage 钳位电压	V_{C}		8		V	$I_{\text{PP}}=1\text{A}, t_{\text{p}}=8/20\mu\text{s}$
Clamping Voltage 钳位电压	V_{C}		16		V	$I_{\text{PP}}=20\text{A}, t_{\text{p}}=8/20\mu\text{s}$
Junction Capacitance 结电容	C_{J}		50		pF	$V_{\text{R}}=0\text{V}, f=1\text{MHz}$

Symbol	Parameters
V_{RWM}	Peak Reverse Working Voltage
I_{R}	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_{T}
I_{T}	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_{C}	Clamping Voltage @ I_{PP}
I_{F}	Forward Current
V_{F}	Forward Voltage @ I_{F}



■ Typical Characteristic Curve 典型特性曲线

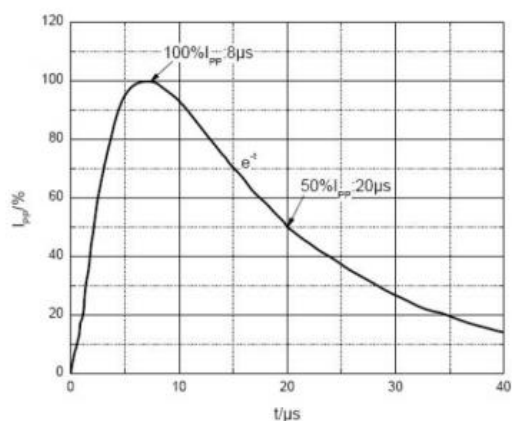


Figure 1: Pulse Waveform

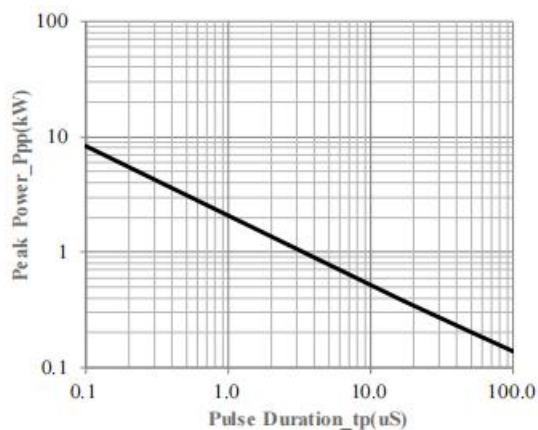


Figure 2: Peak Power Characteristics

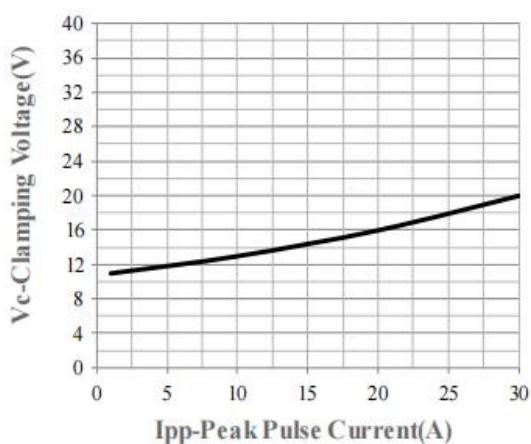


Figure 3: Clamp Voltage Characteristics

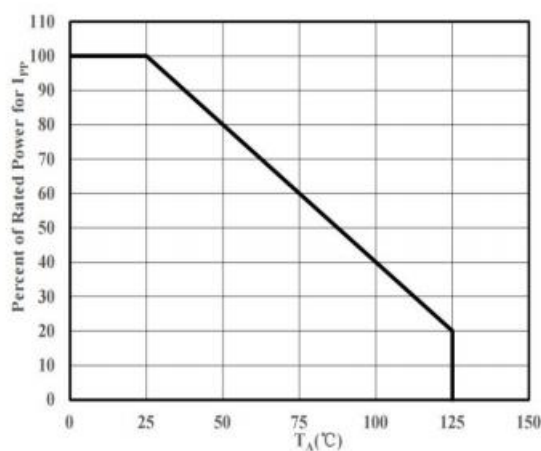


Figure 4: Power Characteristics

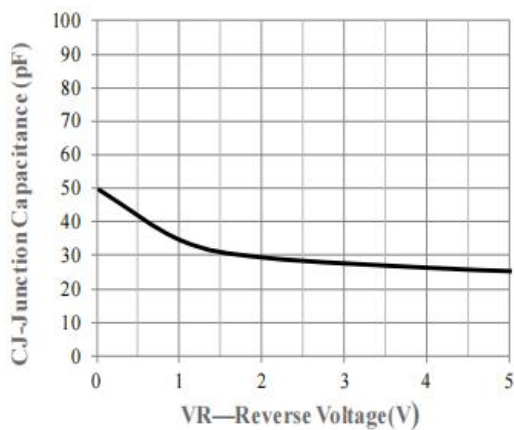
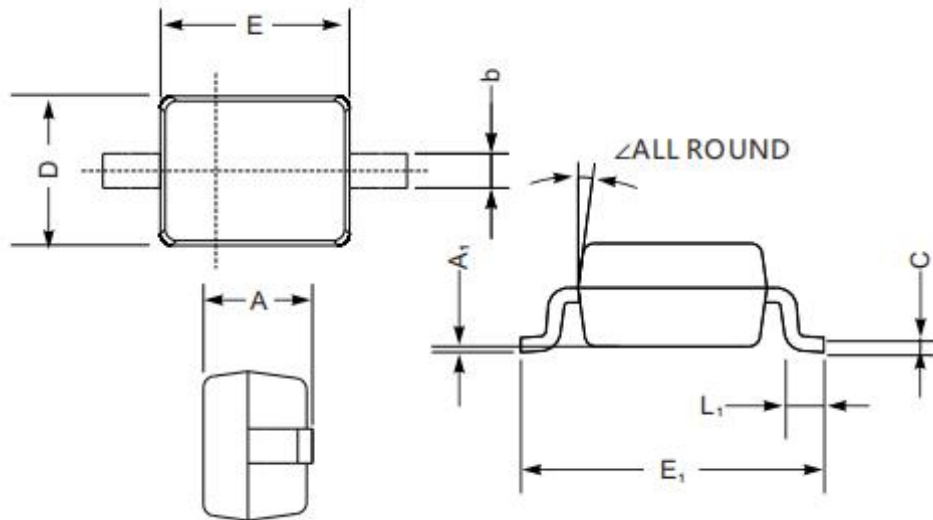


Figure 5: Capacitance Characteristics

■Dimension 外形封装尺寸



SOD-323 mechanical data

UNIT		A	C	D	E	E ₁	b	L ₁	A ₁	∠
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2	9°
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—	
mil	max	43	5.9	55	70	108	16	16	8	
	min	32	3.1	47	63	100	9.8	7.9	—	