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

■Absolute Maximum Ratings 最大额定值

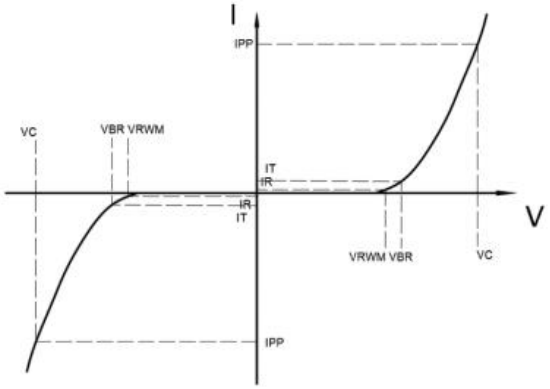
Characteristic 特性参数	Symbol 符号	Rat 额定值	Unit 单位
ESD (IEC61000-4-2 contact discharge) @25℃接触放电	V_{ESD}	±30	KV
ESD (IEC61000-4-2 air discharge) @25℃ 空气放电	V_{ESD}	±30	KV
Peak Pulse Current @25℃峰值脉冲电流	I_{PP}	20	A
Peak Pulse Power @25℃峰值脉冲功率	P_{PK}	350	W
Lead Temperature 管脚温度	T_L	260	℃
Lead Solder Time 管脚焊接时间	T_L	10	S
Operating Temperature 工作温度	T_{op}	-40~85	℃
Junction Temperature 结温	T_J	-55~125	℃
Storage Temperature 储存温度	T_{stg}	-55~150	℃

■Electrical Characteristics 电特性

(T_A=25℃ unless otherwise noted 如无特殊说明，温度为 25℃)

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	$V_{R(BR)}$	5.6		8	V	I_T=1mA
Reverse Leakage Current 反向漏电流	I_R			0.5	μA	V_{RWM}=±5V
Forward Voltage 反向电压	V_F	0.2	0.8	1.2	V	I_F=10mA
Clamping Voltage 钳位电压	V_C		8		V	I_{PP}=1A,tp=8/20μs
Clamping Voltage 钳位电压	V_C		16		V	I_{PP}=20A,tp=8/20μs
Junction Capacitance 结电容	C_J		50		pF	V_R=0V,f=1MHz

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

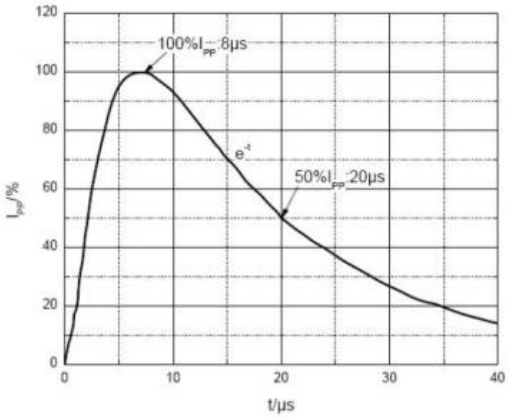


Figure 1: Pulse Waveform

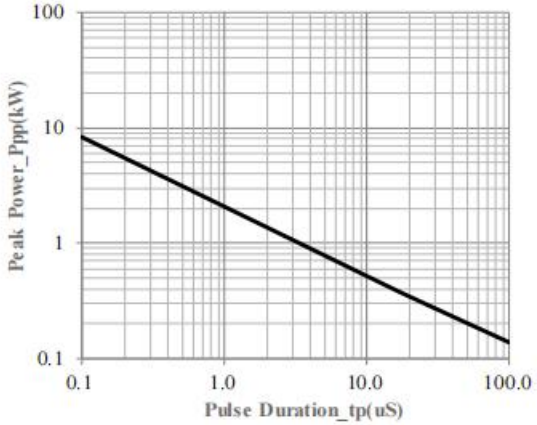


Figure 2: Peak Power Characteristics

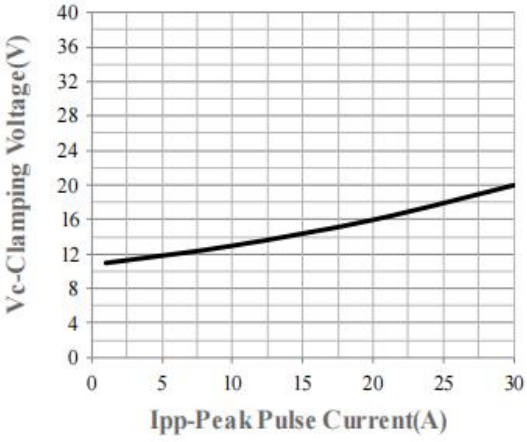


Figure 3: Clamp Voltage Characteristics

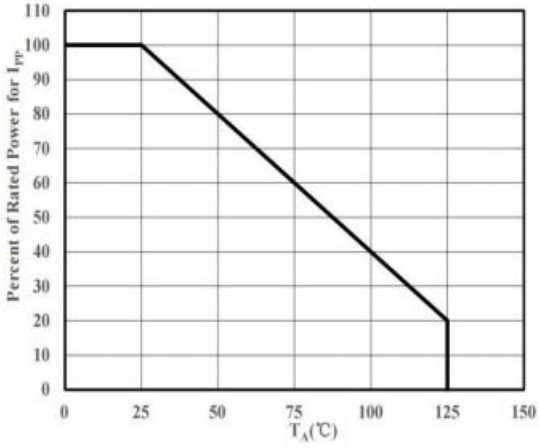


Figure 4: Power Characteristics

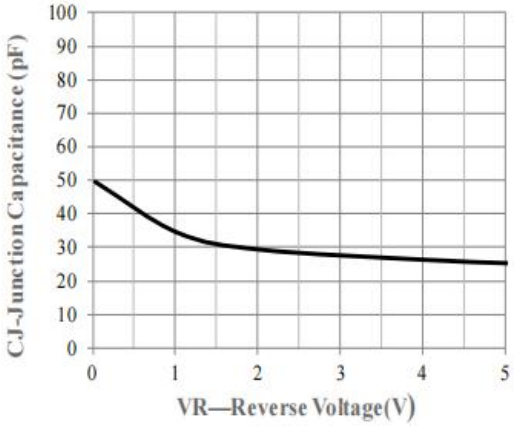
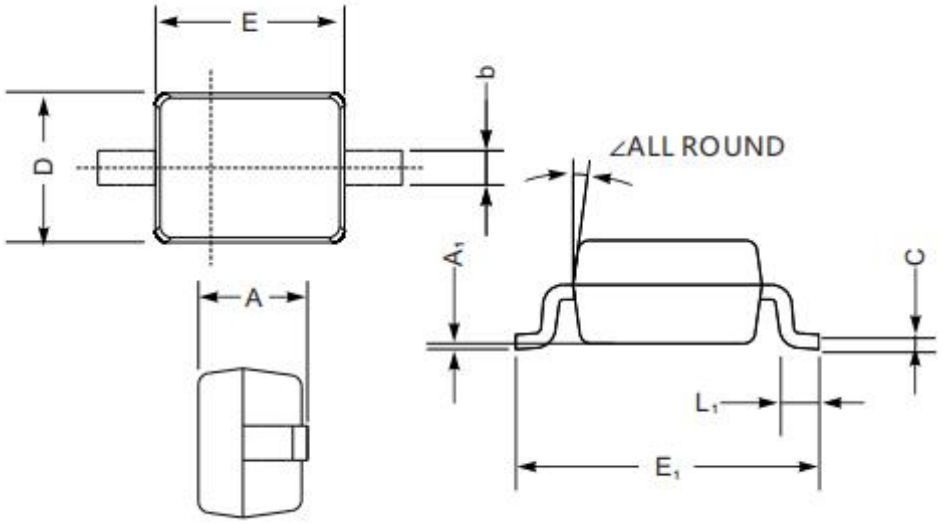


Figure 5: Capacitance Characteristics

■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	—	