静电防护二极管 ：TExSD52 系列

SOD-523 封装

■ 特性

1. 符合RoHS与无卤要求
2. 低限制电压
3. 低漏流
4. 满足 61000-4-2 (ESD) 15~30KV (air), 8~30KV (contact)

■ 用途

1. 手提电话及配件
2. 便携式仪器
3. 串口
4. 笔记本、台式机、服务器

■ 机械数据

1. 封装型式: SOD523, 封装塑料符合防火等级UL94-V0
2. 满足MSL level 1, per J-STD-020

■ 编码规则

T	E	D	S	D	5	2	0	5	2	5	0	B
1	2	3	4	5	6	7	8	9	10	11	12	13

产品类型	
TE	兴勤 静电防护二极管

电容型式	
D	标准电容 >10pF
L	低电容 >1pF, ≦10pF
U	超低电容 ≦1pF

封装形式	
SD52	SOD-523, 2pins

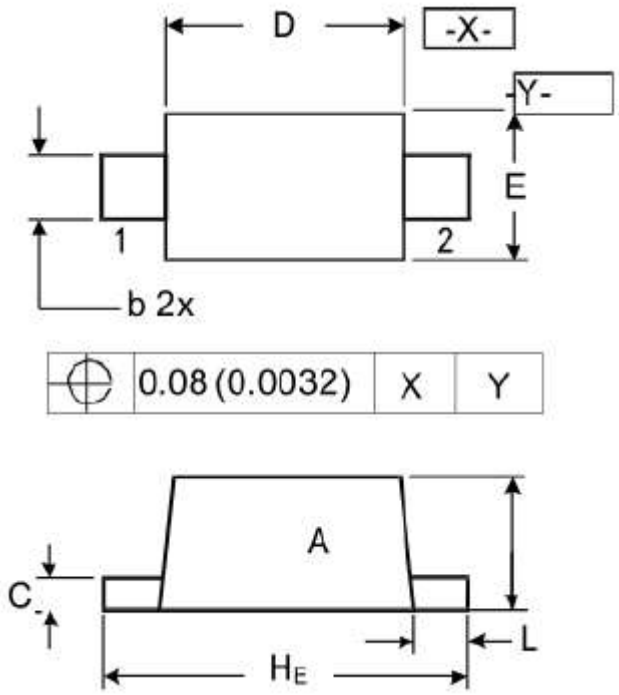
反向截止电压 (V_{RWM})	
3R	3.3V
05	5V
12	12V

结电容(Cj)	
0R5	0.5pF
0R6	0.6pF
02H	2.7pF
030	3pF
080	8 pF
010	10pF
130	13pF
150	15pF
250	25pF
400	40pF
550	55pF
800	80pF

极性型式	
U	单极性
B	双极性,

SOD-523 封装

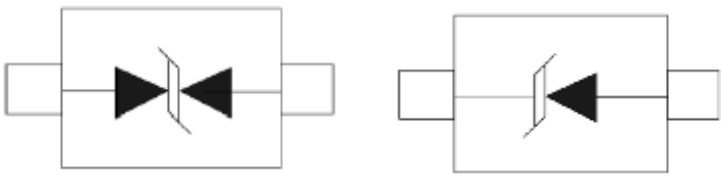
■ 结构与尺寸



单位：mm

Symbol	SOD-523	
	Min	Max
A	0.5	0.7
b	0.25	0.35
C	0.07	0.2
D	1.1	1.3
E	0.7	0.9
H_E	1.5	1.7
L	0.15	0.25

■ 图标概要与配置



■ 电气特性 (T_A=25℃)

兴勤料号	最大反向截止电压	反向漏电流	产品极性单/双向	印字	峰值脉冲功率	峰值脉冲电流	接触放电	空气放电	工作温度	存储温度
	V_{RWM}（V）	I_R （uA）	Uni/Bi（单/双）		P_{PK}（W）	I_{PP} （A）	KV	KV	T_J（℃）	T_{stg}（℃）
	Max	Max								
TEDSD523R130B	3.3	500	Bi	CT	100	10	25	25	−55 to +150	−55 to +150
TEDSD523R800U	3.3	0.5	Uni	ZE	250	15	30	30	−55 to +150	−55 to +150
TEUSD52050R5B	5.0	0.5	Bi	5S	60	3	15	20	−55 to +125	−55 to +125
TEUSD52050R6U	5.0	0.5	Uni	5D	45	3.5	10	15	−55 to +125	−55 to +125
TELSD520502HB	5.0	0.1	Bi	5B	40	3	10	15	−55 to +125	−55 to +125
TELSD5205080B	5.0	0.2	Bi	5XB	75	5	25	25	−55 to +150	−55 to +150
TEDSD5205150B	5.0	1	Bi	5C	48	4	±8	±15	−55 to +150	−55 to +150
TEDSD5205400B	5.0	1	Bi	倒 C	400	16	15	30	−55 to +150	−55 to +150
TEDSD5205800U	5.0	0.5	Uni	5H	250	15	30	30	−55 to +150	−55 to +150
TELSD5212100B	12	0.5	Bi	AXB	120	5	30	30	−55 to +150	−55 to +150
TEDSD5212550U	12	1	Uni	ZM	350	10	8	15	−55 to +150	−55 to +150

■ 电气特性 (T_A=25℃)

TEDSD523R130B						
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			3.3	V	
Breakdown Voltage	V_{BR}	4.0			V	IT = 1mA
Reverse Leakage Current	I_R			500	uA	VR = VRWM
Clamping Voltage	V_C			10	V	IPP = 10A (8/20μs pulse)
Junction Capacitance	C_J		13	15	pF	VR = 0V, f = 1MHz

TEDSD523R800U						
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			3.3	V	
Breakdown Voltage	V_{BR}	4.5			V	IT = 1mA
Reverse Leakage Current	I_R			0.5	uA	VR = VRWM
Clamping Voltage	V_C		12	18	V	IPP = 15A (8/20μs pulse)
Junction Capacitance	C_J		80		pF	VR = 0V, f = 1MHz

TEUSD52050R5B						
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5.0	V	
Breakdown Voltage	V_{BR}	6.0	8.5		V	IT = 1mA
Reverse Leakage Current	I_R		0.1	0.5	uA	VR = VRWM
Clamping Voltage	V_C			20	V	IPP = 3A (8/20μs pulse)
Junction Capacitance	C_J		0.5	0.9	pF	VR = 0V, f = 1MHz

TEUSD52050R6U						
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5.0	V	
Breakdown Voltage	V_{BR}	6.0	7.5		V	IT = 1mA
Reverse Leakage Current	I_R		0.1	0.5	uA	VR = VRWM
Clamping Voltage	V_C			13	V	IPP = 3.5A (8/20μs pulse)
Junction Capacitance	C_J		0.6	0.9	pF	VR = 0V, f = 1MHz

TELSD520502HB						
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5.0	V	
Breakdown Voltage	V_{BR}	5.5	6.5		V	IT = 1mA
Reverse Leakage Current	I_R			0.1	uA	VR = VRWM
Clamping Voltage	V_C			13	V	IPP = 3A (8/20μs pulse)
Junction Capacitance	C_J		2.7	3.5	pF	VR = 0V, f = 1MHz

TELSD5205080B						
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5.0	V	
Breakdown Voltage	V_{BR}	6.0			V	IT = 1mA
Reverse Leakage Current	I_R			0.2	uA	VR = VRWM
Clamping Voltage	V_C			15	V	IPP = 5A (8/20μs pulse)
Junction Capacitance	C_J		8	10	pF	VR = 0V, f = 1MHz

TEDSD5205150B						
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5.0	V	
Breakdown Voltage	V_{BR}	5.6		7.8	V	IT = 1mA
Reverse Leakage Current	I_R			1	uA	VR = VRWM
Clamping Voltage	V_C			12	V	IPP = 4A (8/20μs pulse)
Junction Capacitance	C_J		15		pF	VR = 0V, f = 1MHz

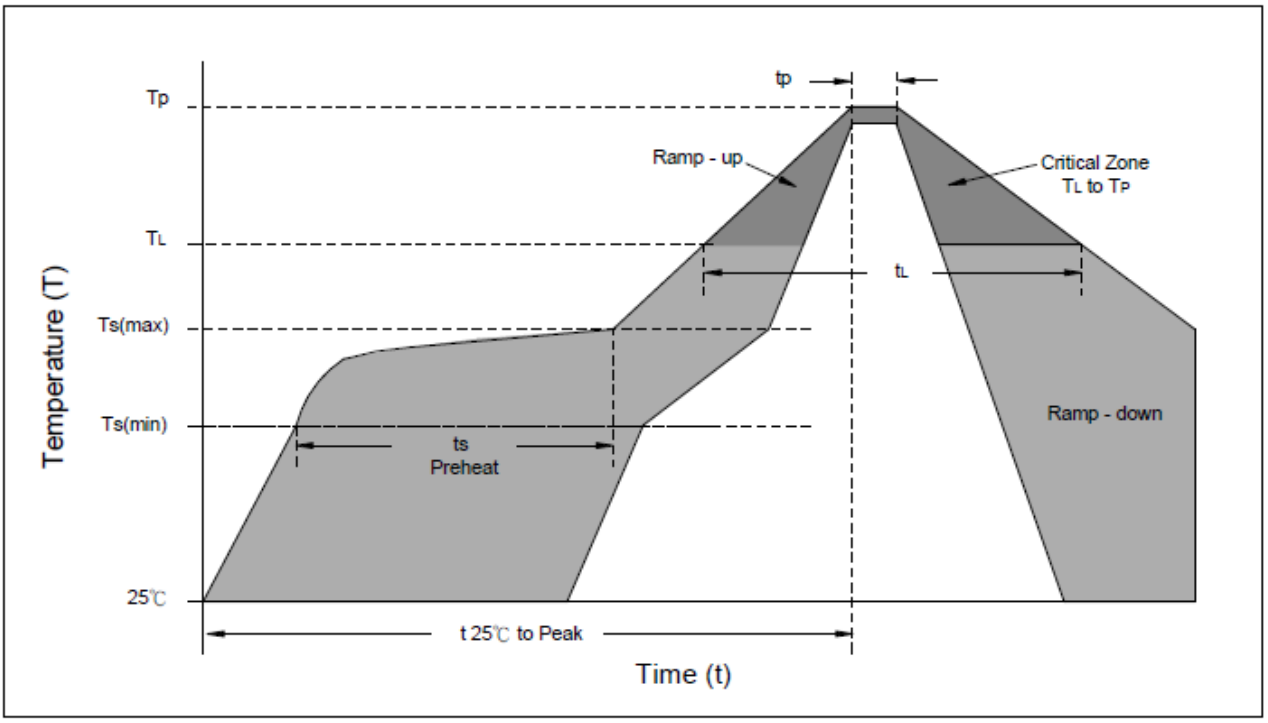
TEDSD5205400B						
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5.0	V	
Breakdown Voltage	V_{BR}	6.0			V	IT = 1mA
Reverse Leakage Current	I_R			1	uA	VR = VRWM
Clamping Voltage	V_C			22	V	IPP = 16A (8/20μs pulse)
Junction Capacitance	C_J		40	45	pF	VR = 0V, f = 1MHz

TEDSD5205800U						
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5.0	V	
Breakdown Voltage	V_{BR}	6.0			V	IT = 1mA
Reverse Leakage Current	I_R			0.5	uA	VR = VRWM
Clamping Voltage	V_C		12	18	V	IPP = 15A (8 x 20μs pulse)
Junction Capacitance	C_J		80		pF	VR = 0V, f = 1MHz

TELSD5212100B						
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			12	V	
Breakdown Voltage	V_{BR}	13.3			V	IT = 1mA
Reverse Leakage Current	I_R			0.5	uA	VR = VRWM
Clamping Voltage	V_C			24	V	IPP = 5A (8 x 20μs pulse)
Junction Capacitance	C_J		10		pF	VR = 0V, f = 1MHz

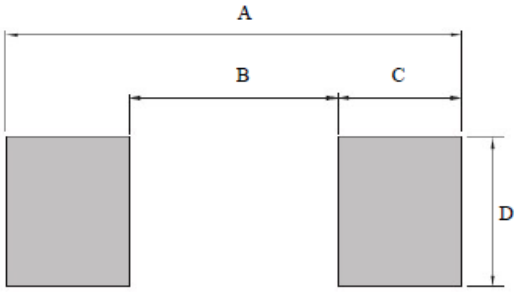
TEDSD5212550U						
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			12	V	
Breakdown Voltage	V_{BR}	13.3			V	IT = 1mA
Reverse Leakage Current	I_R			1	uA	VR = VRWM
Clamping Voltage	V_C			35	V	IPP = 10A (8 x 20μs pulse)
Junction Capacitance	C_J		55		pF	VR = 0V, f = 1MHz

■ 推荐焊接条件



Reflow Condition	Lead-free assembly
Preheat -Temperature Min(Ts min) -Temperature Min(Ts max) -Time (min to max) (ts)	 150℃ 200℃ 60 – 180 seconds
Average ramp up rate -Temperature Liquidus (TL) to peak	 3℃/second max
Ts(max) to TL -Ramp-up Rate	 3℃/second max.
Reflow -Temperature Liquidus (TL) -Time (tL)	 217℃ 60 – 150 seconds
Peak Temperature (TP)	260℃
Time within 5℃ of actual peak Temperature(tP)	20 – 40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ to peak Temperature(TP)	8 minutes max.
Do not exceed	260℃

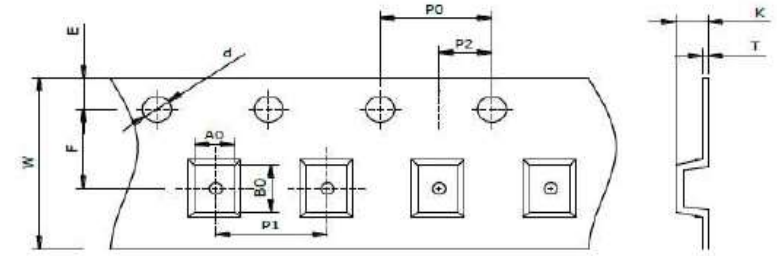
■ 推荐焊盘尺寸

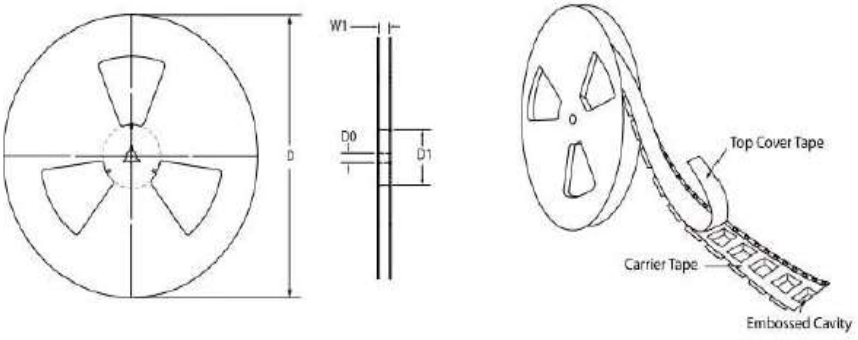


单位: mm

封装型式	A	B	C	D
SOD-523	2.02	0.82	0.60	0.70

■ 包装





单位：mm

Symbol	SOD-523
A0	0.80 ± 0.10
B0	1.95 ± 0.10
K	0.50 ± 0.10
d	1.50 ± 0.10
D	178.00 ± 2.00
D0	13.00 ± 0.20
D1	MIN. 54.00
E	1.75 ± 0.10
F	3.50 ± 0.10
P0	4.00 ± 0.10
P1	4.00 ± 0.10
P2	2.00 ± 0.10
T	0.20 ± 0.05
W	8.00 ± 0.20
W1	MAX. 13.50

■ 数量

最小包装数量(MPQ)：5,000pcs

封装型式	卷盘尺寸(英寸)	单卷数量(Kpcs)
SOT-523	7	5

■ 仓库存储条件

● 存储条件:

1.储存温度: -10℃~+40℃

2.相对湿度: ≦75%RH

3.不要将本产品存放在有腐蚀性气体或是阳光直接照射的环境中保管

● 存储期限: 1 年