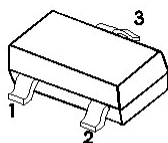


SOT-523



1. BASE
2. EMITTER
3. COLLECTOR

Marking: 1N

特征 Features

- 最大功率耗散 150mW; Power Dissipation of 150mW
- 高稳定性和可靠性。High Stability and High Reliability

机械数据 Mechanical Data

- 封装: SOT-523 封装 SOT-523 Small Outline Plastic Package
- 环氧树脂 UL 易燃等级 Epoxy UL: 94V-0
- 安装位置: 任意 Mounting Position: Any

极限值和温度特性(TA = 25°C 除非另有规定)

Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

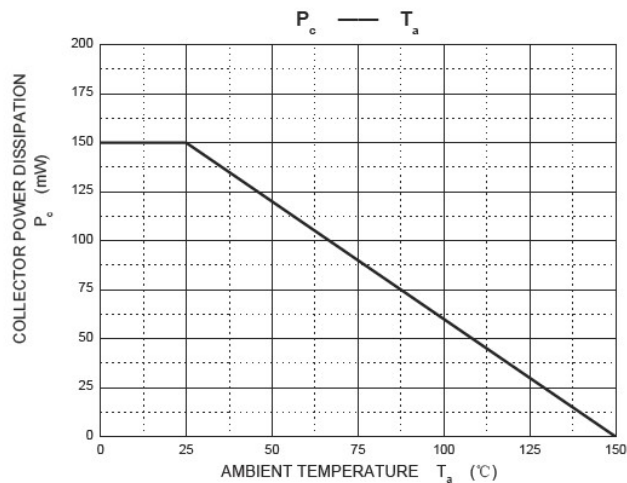
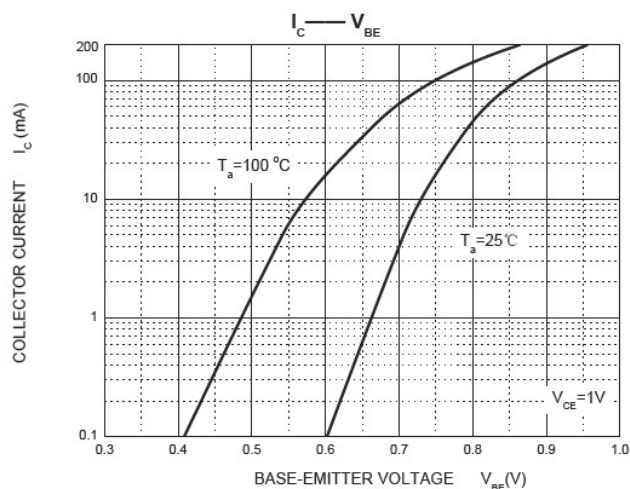
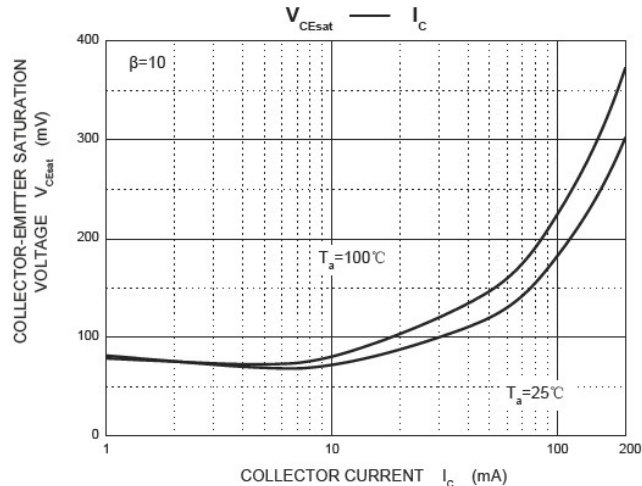
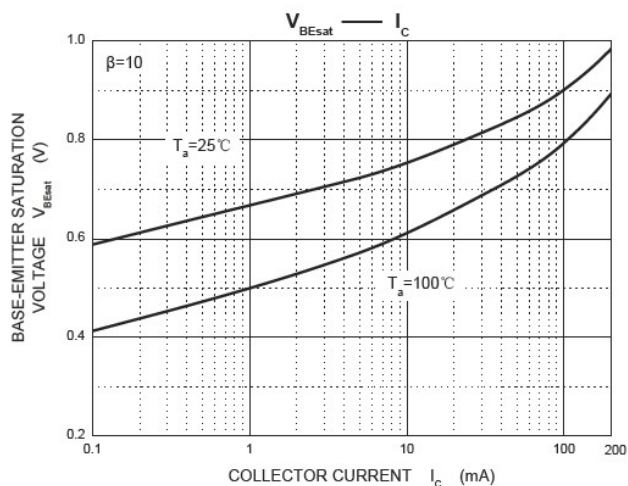
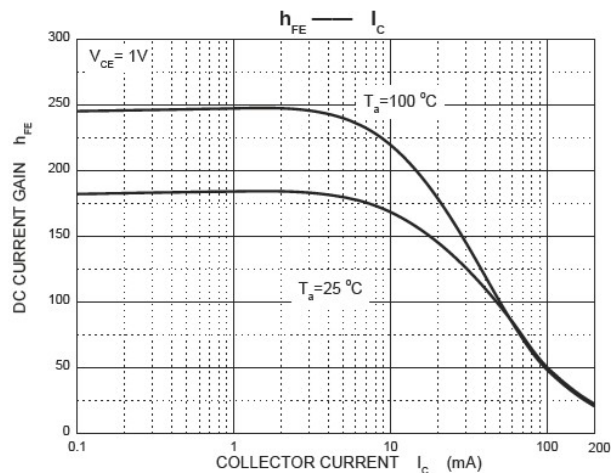
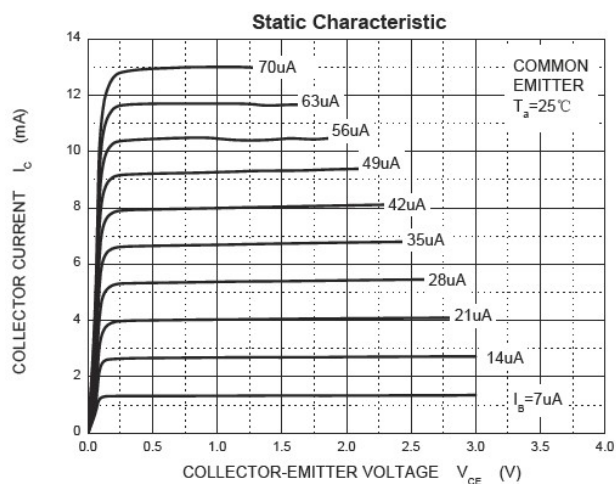
参数 Parameters	符号 Symbol	数值 Value	单位 Unit
Collector-Base Voltage	V _{CBO}	60	V
Collector-Emitter Voltage	V _{CEO}	40	V
Emitter -Base Voltage	V _{EBO}	6	V
Collector Current-Continuous	I _C	200	mA
Collector Power Dissipation	P _C	150	mW
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55-+150	°C
Thermal resistance From junction to ambient	R _{θJA}	833	°C/W

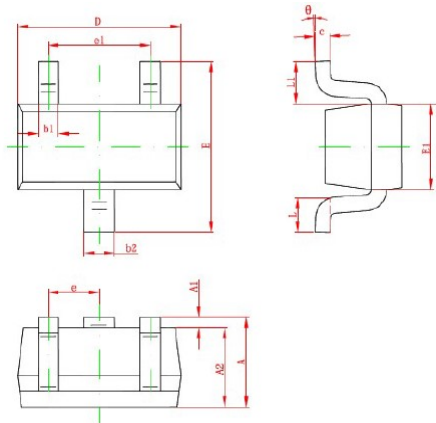
电特性 (TA = 25°C 除非另有规定)

Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

参数 Parameter	符号 Symbols	测试条件 Test Condition	界限 Limits		单位 Unit
			Min	Max	
Collector-base breakdown voltage	V(BR)CBO	IC=10uA, IE=0	60		V
Collector-emitter breakdown voltage	V(BR)CEO	IC=1mA, IB=0	40		V
Emitter-base breakdown voltage	V(BR)EBO	IE=10uA, IC=0	6		V
Collector cut-off current	ICEX	VCE=30V, VEB(off)=3V		50	nA
Emitter cut-off current	IEBO	VEB=5V, IC=0		100	nA
DC current gain	hFE(1)	VCE=1V, IC=0.1mA	40		
	hFE(2)	VCE=1V, IC=1mA	70		
	hFE(3)	VCE=1V, IC=10mA	100	300	
	hFE(4)	VCE=1V, IC=50mA	60		
Collector-emitter saturation voltage	VCE(sat)	IC=10mA, IB=1mA		0.20	V
		IC=50mA, IB=5mA		0.30	V
Base -emitter saturation voltage	VBE(sat)	IC=10mA, IB=1mA	0.65	0.85	V
		IC=50mA, IB=5mA		0.95	V
Transition frequency	f _T	VCE=20V, IC=10mA, f=100MHz	300		MHz
Collector output capacitance	Cob	VCE=5V, IE=0, f=1MHz		4	pF
	Cib	VEB=5V, IE=0, f=1MHz		8	pF
Delay time	td	VCC=3V, VBE(off)=-0.5V, IC=10mA, IB1=1mA		35	nS
Rise time	tr			35	nS
Storage time	ts			200	nS
Fall time	tf	VCC=3V, IC=10mA, IB1=IB2=1mA		50	nS

*Pulse test: pulse width≤300us,duty cycle≤2.0%

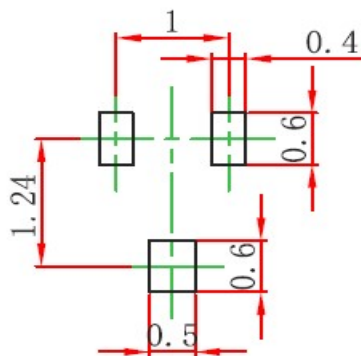
Typical characteristics


SOT-523 PACKAGE OUTLINE Plastic surface mounted package


Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	1.450	1.750	0.057	0.069
E1	0.700	0.900	0.028	0.035
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.260	0.460	0.010	0.018
L1	0.400 REF.		0.016 REF.	
θ	0° ~ 8°		0° ~ 8°	

焊盘设计参考 Precautions: PCB Design

Recommended land dimensions for SOT-523 diode. Electrode patterns for PCBs



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

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