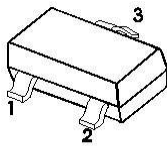


## SOT-23



1. BASE  
2. EMITTER  
3. COLLECTOR

Marking:493

## 特征 Features

与 MMBT593 配对; Complementary to MMBT593  
最大功率耗散 250mW; Power Dissipation of 250mW  
高稳定性和可靠性; High Stability and High Reliability

## 机械数据 Mechanical Data

封装: SOT-23 封装 SOT-23 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 ℃ 除非另有规定)

**Maximum Ratings & Thermal Characteristics** (Ratings at 25 ℃ ambient temperature unless otherwise specified.)

参数 Parameters	符号 Symbol	数值 Value	单位 Unit
Collector-Base Voltage	V <sub>CBO</sub>	120	V
Collector-Emitter Voltage	V <sub>CEO</sub>	100	V
Emitter -Base Voltage	V <sub>EBO</sub>	5	V
Collector Current-Continuous	I <sub>C</sub>	1000	mA
Collector Power Dissipation	P <sub>C</sub>	250	mW
Junction Temperature	T <sub>j</sub>	150	℃
Storage Temperature	T <sub>stg</sub>	-55-+150	℃
Thermal resistance From junction to ambient	R <sub>θJA</sub>	500	℃/W

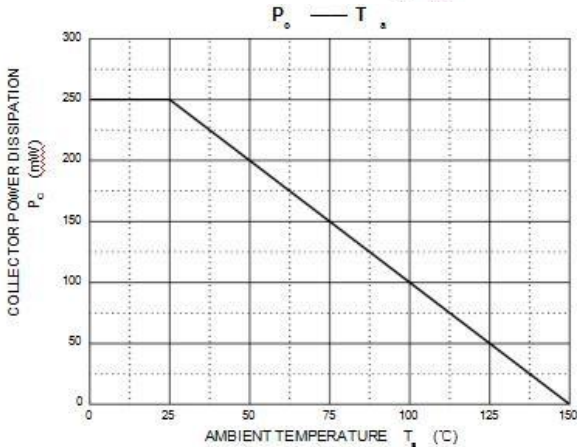
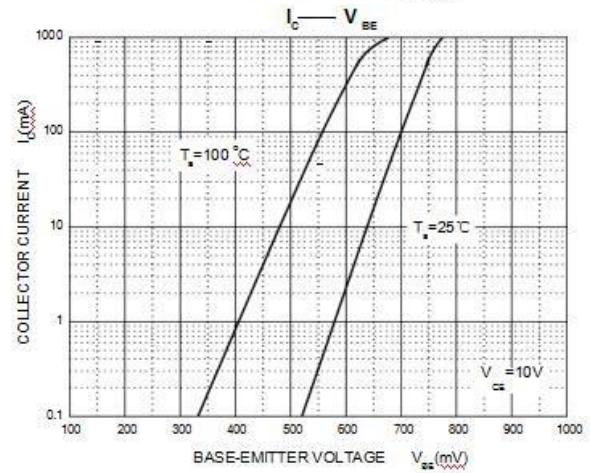
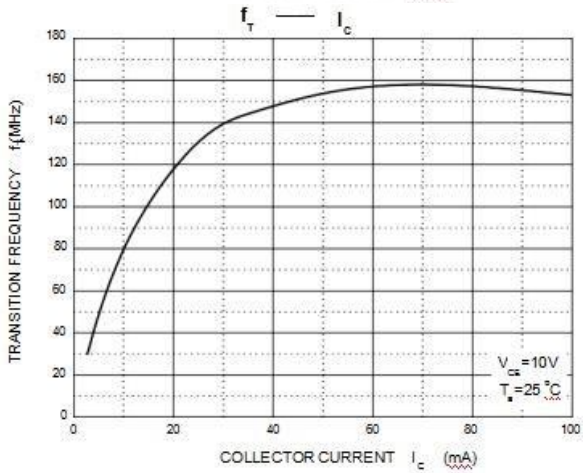
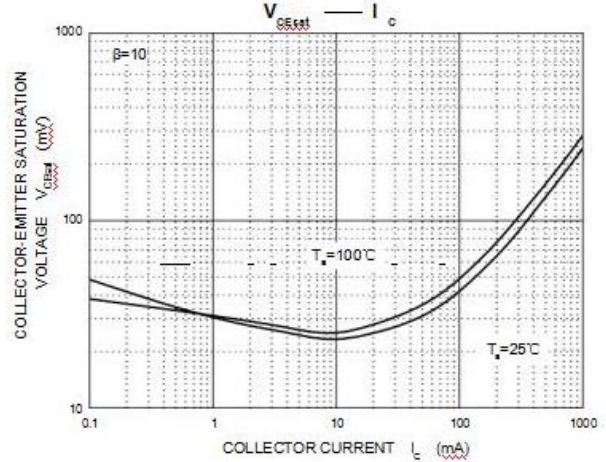
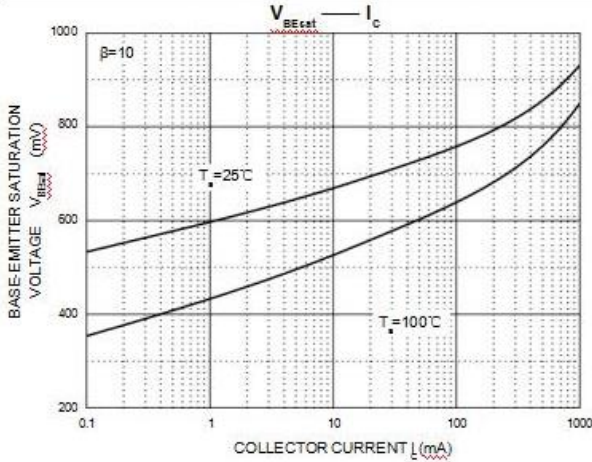
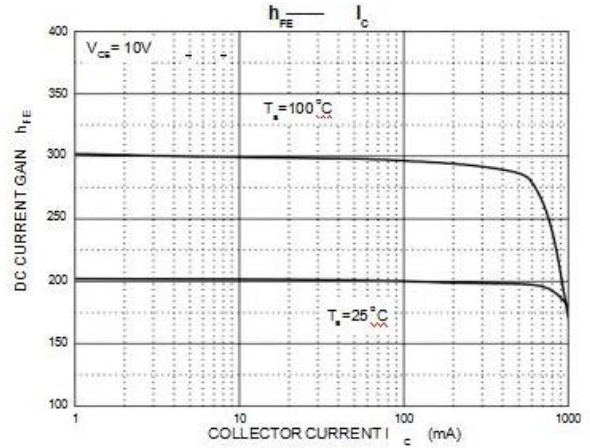
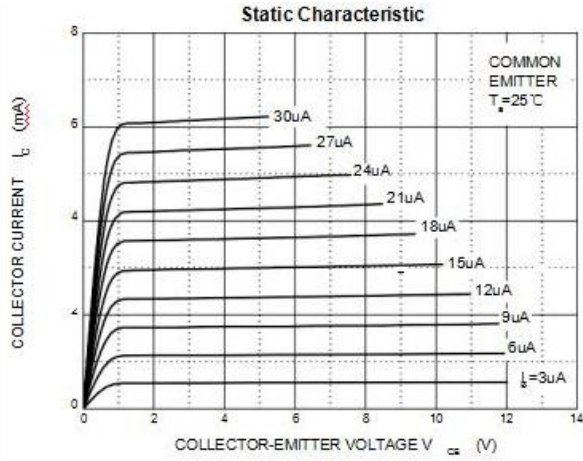
电特性 (TA = 25 ℃ 除非另有规定)

**Electrical Characteristics** (Ratings at 25 ℃ ambient temperature unless otherwise specified.)

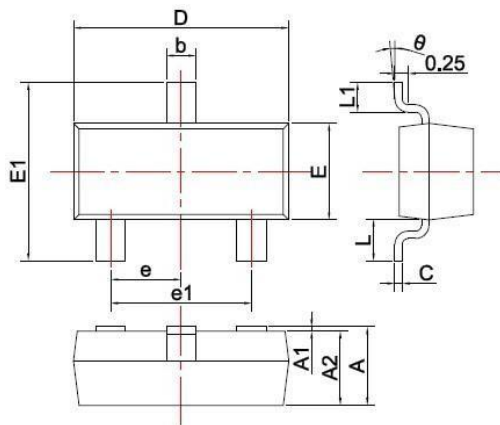
参数 Parameter	符号 Symbols	测试条件 Test Condition	界限 Limits		单位 Unit
			Min	Max	
Collector-base breakdown voltage	V(BR)CBO	IC=100uA, IE=0	120		V
Collector-emitter breakdown voltage	V(BR)CEO	IC=10mA, IB=0	100		V
Emitter-base breakdown voltage	V(BR)EBO	IE=100uA, IC=0	5		V
Collector cut-off current	ICES	VCE=100V, IE=0		100	nA
Collector cut-off current	ICBO	VCB=100V, IE=0		100	nA
Emitter cut-off current	IEBO	VEB=4V, IC=0		100	nA
DC current gain	hFE(1)*	VCE=10V, IC=1mA	100		
	hFE(2)*	VCE=10V, IC=250mA	100	300	
	hFE(3)*	VCE=10V, IC=0.5A	60		
	hFE(4)*	VCE=10V, IC=1A	20		
Collector-emitter saturation voltage	VCE(sat)1*	IC=500mA, IB=50mA		0.30	V
	VCE(sat)2*	IC=1A, IB=100mA		0.60	V
Base -emitter saturation voltage	VBE(sat)*	IC=1A, IB=100mA		1.15	V
Base-emitter voltage	VBE*	VCE=10V, IC=1A		1	V
Transition frequency	f <sub>T</sub>	VCE=10V, IC=50mA, f=100MHz	150		
Collector output capacitance	C <sub>ob</sub>	VCB=10V, IE=0, f=1MHz		10	pF

\*Pulse test: pulse width ≤ 300μs, duty cycle ≤ 2.0%.

典型特性曲线 Typical characteristics



**SOT-23 PACKAGE OUTLINE** Plastic surface mounted package

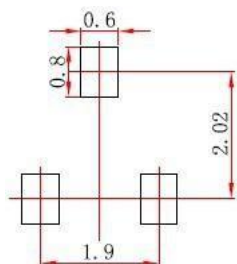


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
h	0°	8°

Unit: mm

**焊盘设计参考 Precautions: PCB Design**

Recommended land dimensions for SOT-23 diode. Electrode patterns for PCBs



- Note:
1. Controlling dimension: In millimeters.
  2. General tolerance: ± 0.05mm.
  3. The pad layout is for reference purposes only.