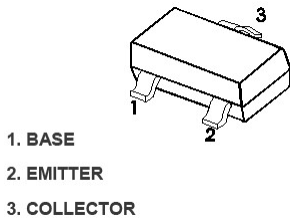


**SOT-23**

**SOT-23 贴片塑封三极管**  
**SOT-23 Plastic-Encapsulate Transistors**



**Marking: M1B**

**特征 Features**

- 与 MMBT2907 配对; Complementary to MMBT2907
- 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°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 <sub>CBO</sub>	75	V
Collector-Emitter Voltage	V <sub>CEO</sub>	30	V
Emitter -Base Voltage	V <sub>EBO</sub>	6	V
Collector Current-Continuous	I <sub>C</sub>	600	mA
Collector Power Dissipation	P <sub>C</sub>	250	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55-+150	°C
Thermal resistance From junction to ambient	R <sub>θJA</sub>	500	°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	I <sub>C</sub> =10uA, I <sub>E</sub> =0	75		V
Collector-emitter breakdown voltage	V(BR)CEO	I <sub>C</sub> =10mA, I <sub>B</sub> =0	30		V
Emitter-base breakdown voltage	V(BR)EBO	I <sub>E</sub> =10uA, I <sub>C</sub> =0	6		V
Collector cut-off current	I <sub>CEX</sub>	V <sub>CE</sub> =30V, V <sub>EB(off)</sub> =3V		10	nA
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =60V, I <sub>E</sub> =0		10	nA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =3V, I <sub>C</sub> =0		100	nA
DC current gain	h <sub>FE(1)</sub> *	V <sub>CE</sub> =10V, I <sub>C</sub> =150mA	100	300	
	h <sub>FE(2)</sub> *	V <sub>CE</sub> =10V, I <sub>C</sub> =0.1mA	40		
	h <sub>FE(3)</sub> *	V <sub>CE</sub> =10V, I <sub>C</sub> =500mA	42		
Collector-emitter saturation voltage	V <sub>CE(sat)1</sub> *	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA		1.00	V
Collector-emitter saturation voltage	V <sub>CE(sat)2</sub> *	I <sub>C</sub> =150mA, I <sub>B</sub> =15mA		0.30	V
Base -emitter saturation voltage	V <sub>BE(sat)</sub> *	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA		1.20	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =20V, I <sub>C</sub> =20mA, f=100MHz	300		MHz
Delay time	t <sub>d</sub>	V <sub>CC</sub> =30V, V <sub>BE(off)</sub> =-0.5V, I <sub>C</sub> =150mA, I <sub>B1</sub> =15mA		10	nS
Rise time	t <sub>r</sub>			25	nS
Storage time	t <sub>s</sub>			225	nS
Fall time	t <sub>f</sub>	V <sub>CC</sub> =30V, I <sub>C</sub> =150mA, I <sub>B1</sub> =I <sub>B2</sub> =15mA		60	nS

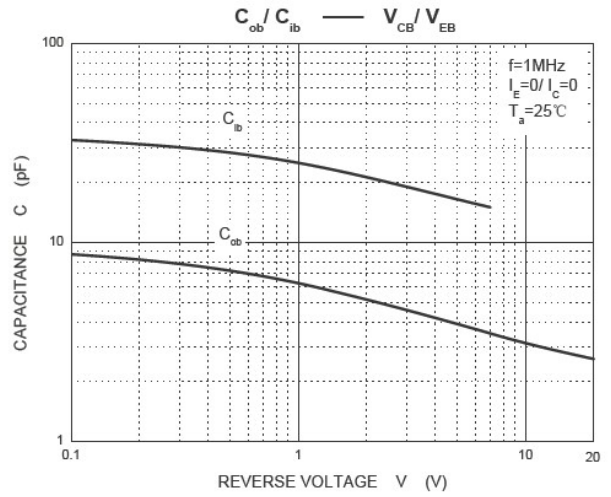
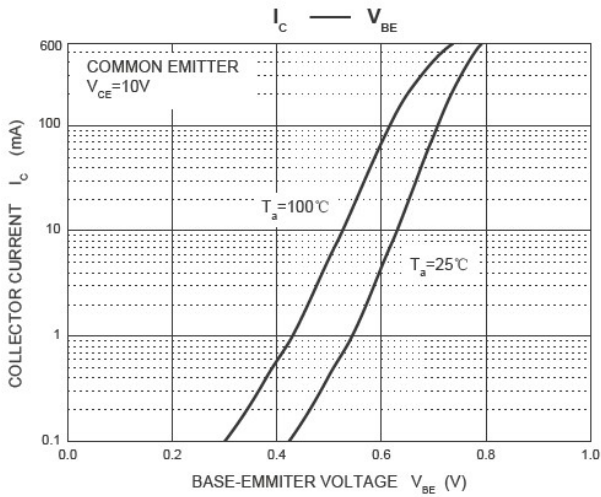
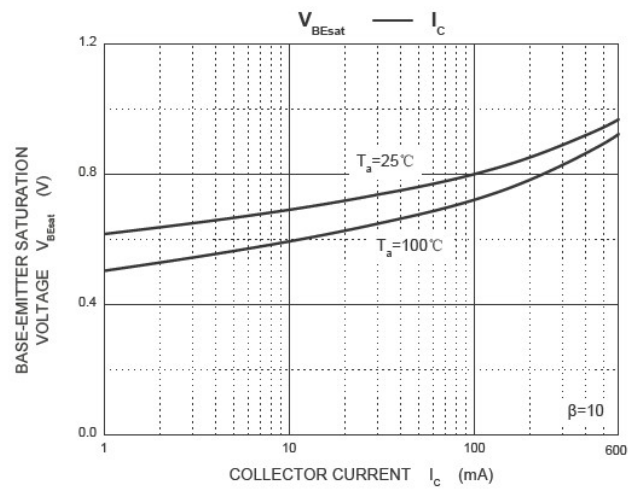
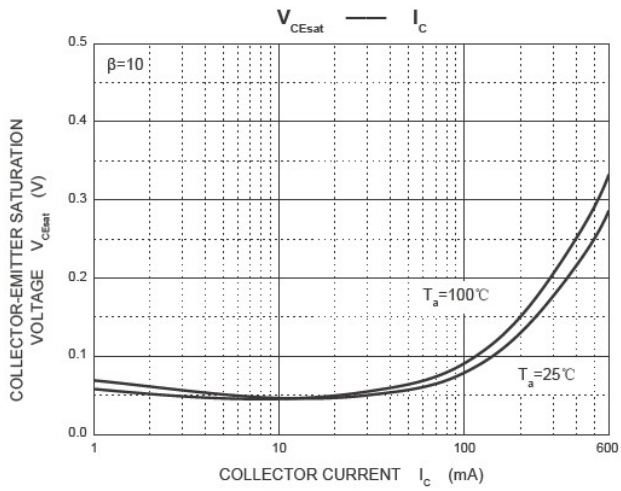
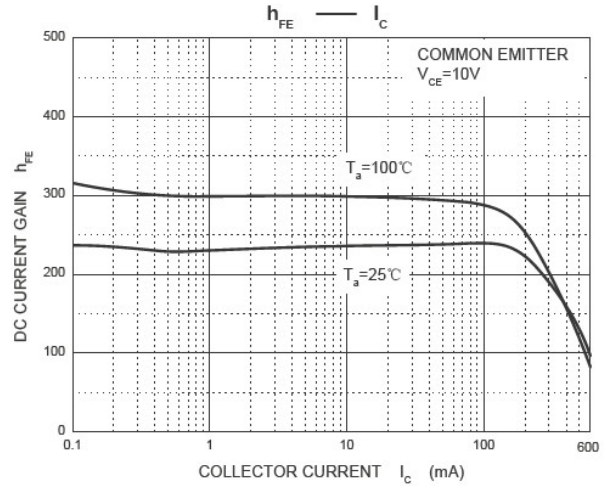
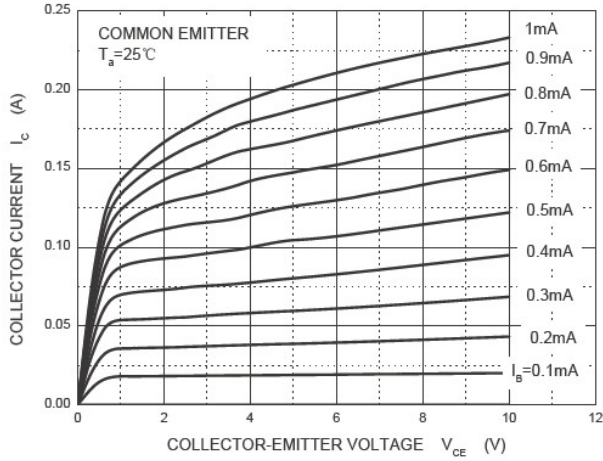
\*Pulse test: pulse width ≤ 300us, duty cycle ≤ 2.0%.

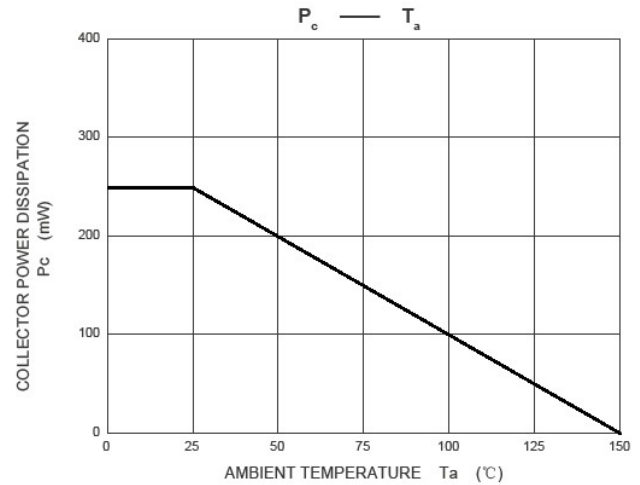
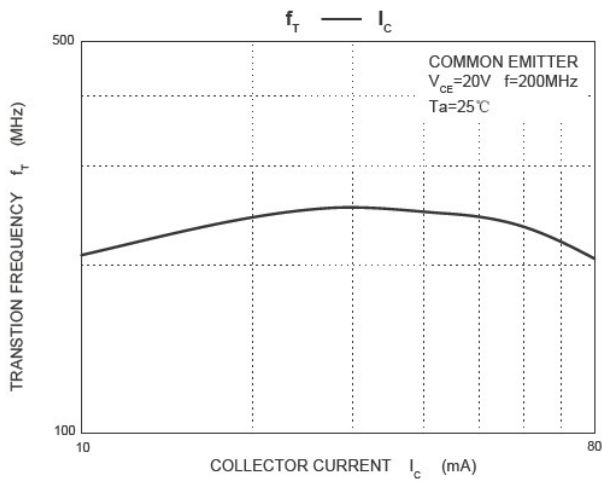
**CLASSIFICATION OF h<sub>FE(1)</sub>**

HFE	100-300	
RANK	L	H
RANGE	100-200	200-300

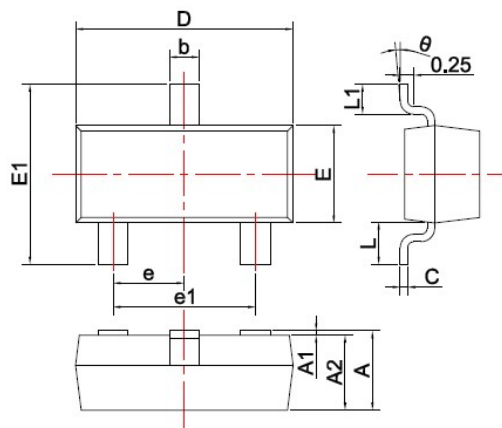
Typical characteristics

Static Characteristic





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

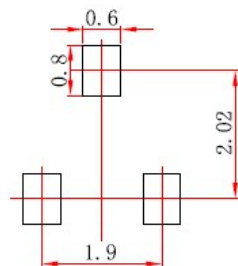


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
$\theta$	0 $^{\circ}$	8 $^{\circ}$

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:  $\pm 0.05mm$ .
  3. The pad layout is for reference purposes only.