

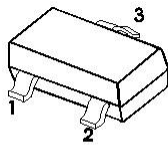
MMBT2907A TRANSISTOR(PNP)

Rev.1.0

SOT-23

SOT-23 贴片塑封三极管

SOT-23 Plastic-Encapsulate Transistors



- 1. BASE
- 2. EMITTER
- 3. COLLECTOR

Marking: 2F

特征 Features

- 与 MMBT2222A 配对; Complementary to MMBT2222A
- 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>CB0</sub>	-60	V
Collector-Emitter Voltage	V <sub>CEO</sub>	-60	V
Emitter -Base Voltage	V <sub>EBO</sub>	-5	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).

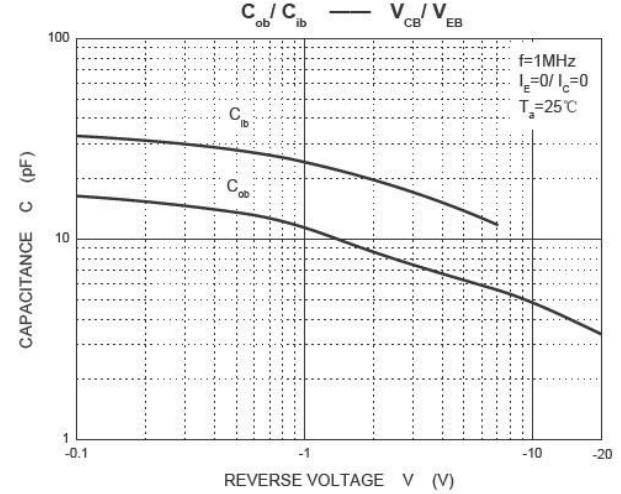
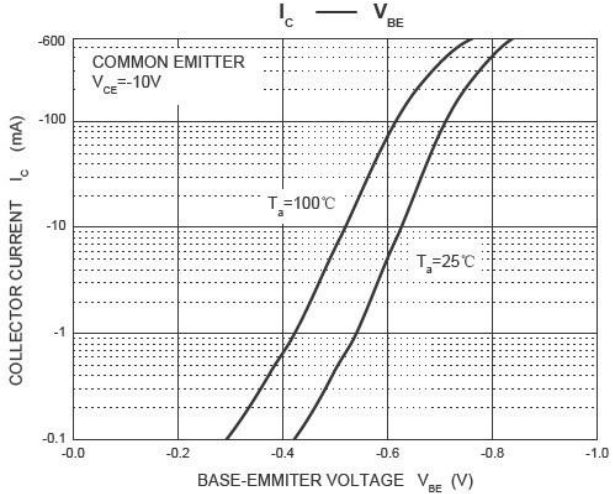
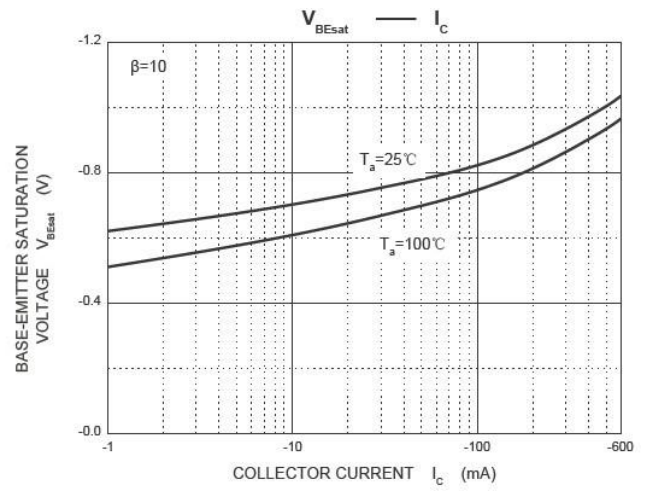
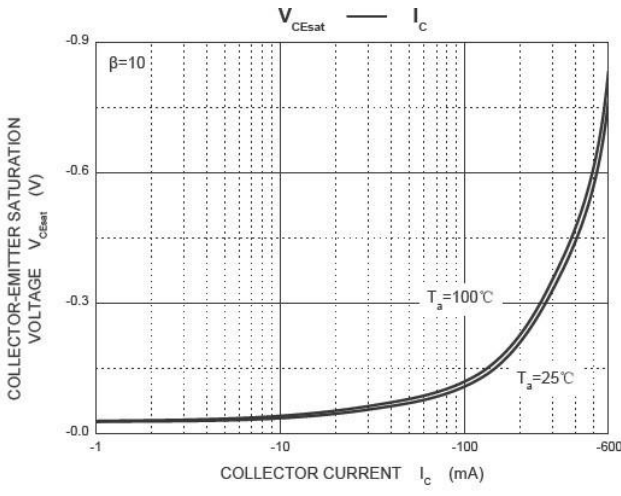
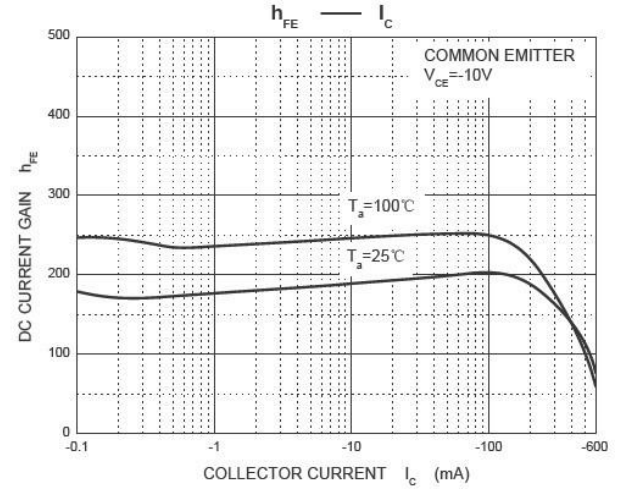
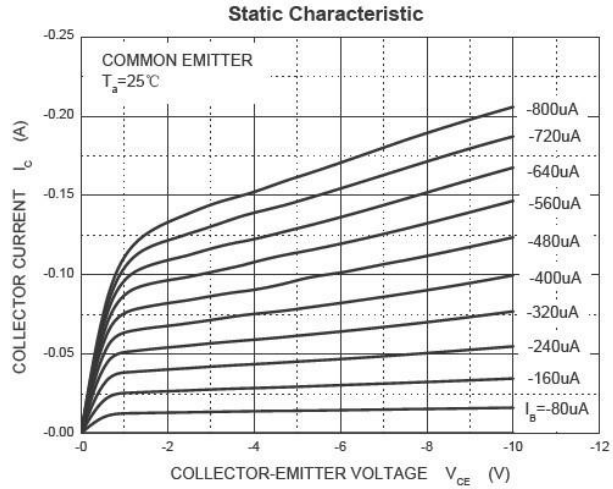
参数 Parameter	符号 Symbols	测试条件 Test Condition	界限 Limits		单位 Unit
			Min	Max	
Collector-base breakdown voltage	V(BR)CBO	IC=-100uA, IE=0	-60		V
Collector-emitter breakdown voltage	V(BR)CEO *	IC=-1mA, IB=0	-60		V
Emitter-base breakdown voltage	V(BR)EBO	IE=-10uA, IC=0	-5		V
Collector cut-off current	ICBO	V <sub>CB</sub> =-50V, IE=0		-20	nA
Emitter cut-off current	IEBO	V <sub>EB</sub> =-3V, IC=0		-10	nA
Collector cut-off current	ICEX	V <sub>CE</sub> =-30V, V <sub>BE(off)</sub> =-0.5V		-50	nA
DC current gain	hFE(1) *	V <sub>CE</sub> =-10V, IC=-150mA	100	300	
	hFE(2) *	V <sub>CE</sub> =-10V, IC=-0.1mA	75		
	hFE(3) *	V <sub>CE</sub> =-10V, IC=-1mA	100		
	hFE(4) *	V <sub>CE</sub> =-10V, IC=-10mA	100		
	hFE(5) *	V <sub>CE</sub> =-10V, IC=-500mA	50		
Collector-emitter saturation voltage	VCE(sat)1 *	IC=-150mA, IB=-15mA		-0.4	V
	VCE(sat)2 *	IC=-500mA, IB=-50mA		-1.6	V
Base -emitter saturation voltage	VBE(sat)1 *	IC=-150mA, IB=-15mA		-1.30	V
	VBE(sat)2 *	IC=-500mA, IB=-50mA		-2.60	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =-20V, IC=-50mA, f=100MHz	200		MHz
Delay time	t <sub>d</sub>	V <sub>CE</sub> =-30V, IC=-150mA, IB1=-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>		60	nS	

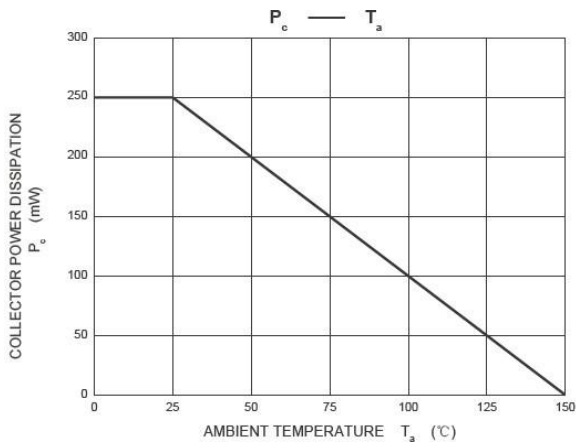
\*Pulse test: pulse width ≤ 300us, duty cycle ≤ 2.0%

CLASSIFICATION OF hFE(1)

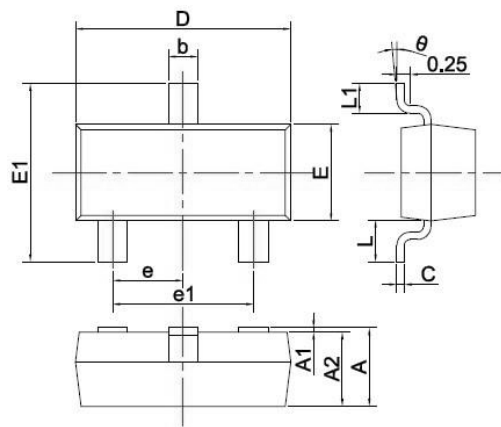
HFE	100-300	
RANK	L	H
RANGE	100-200	200-300

Typical characteristics





## SOT-23 PACKAGE OUTLINE Plastic surface mounted package

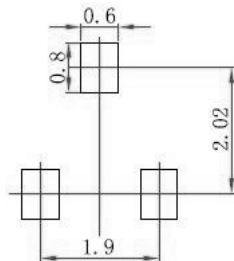


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

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

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