

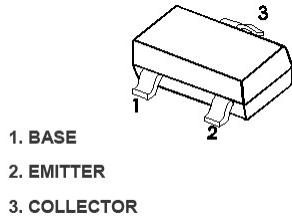
MMBT3904 TRANSISTOR(NPN)

Rev.3.0

SOT-23

SOT-23 贴片塑封三极管

SOT-23 Plastic-Encapsulate Transistors



Marking: 1AM

特征 Features

- 与 MMBT3906 配对; Complementary to MMBT3906
- 最大功率耗散 200mW; Power Dissipation of 200mW
- 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 _{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	200	mW
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55-+150	°C
Thermal resistance From junction to ambient	R _{θJA}	625	°C/W

电特性 (TA = 25°C 除非另有规定)

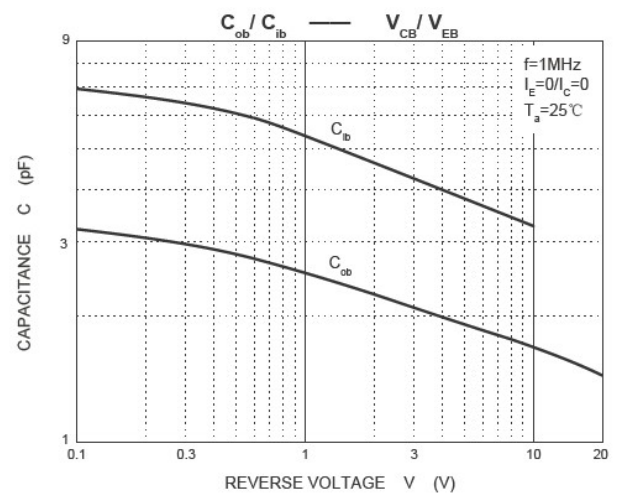
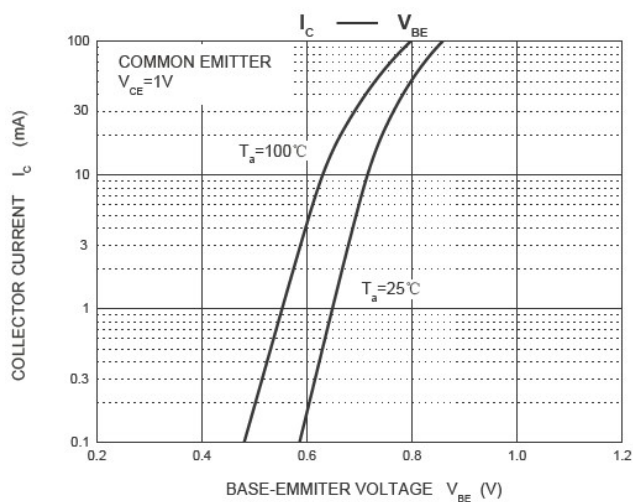
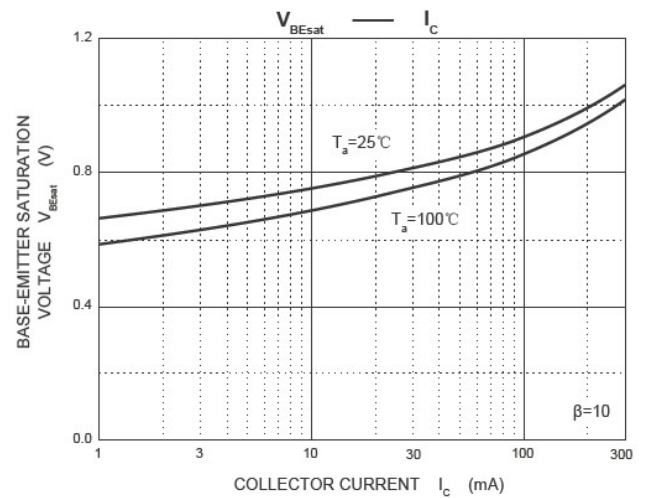
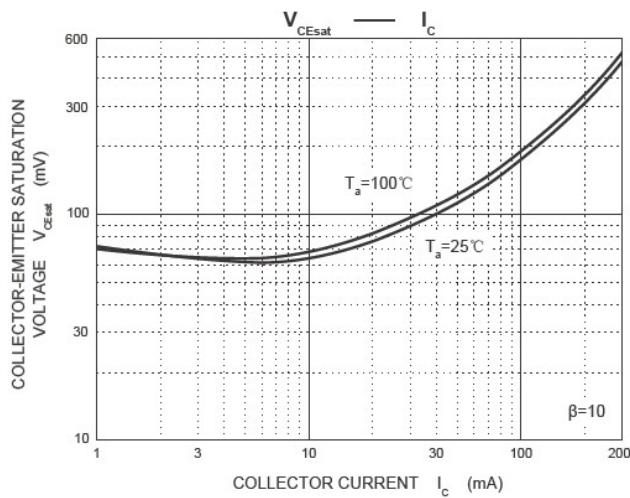
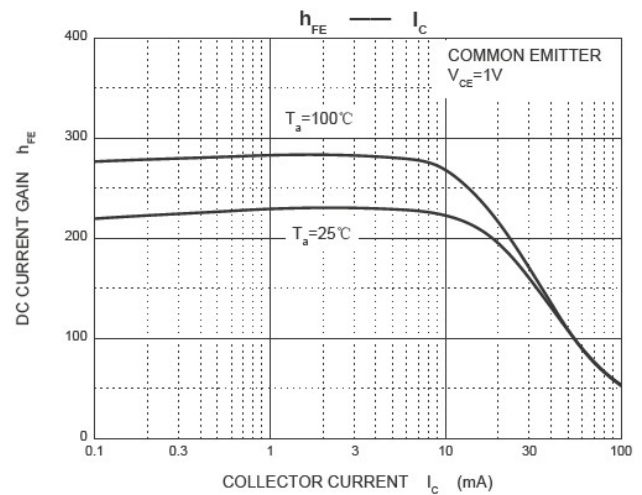
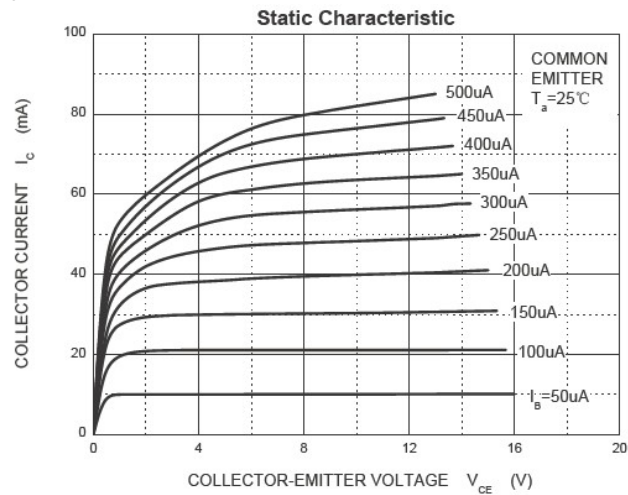
Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

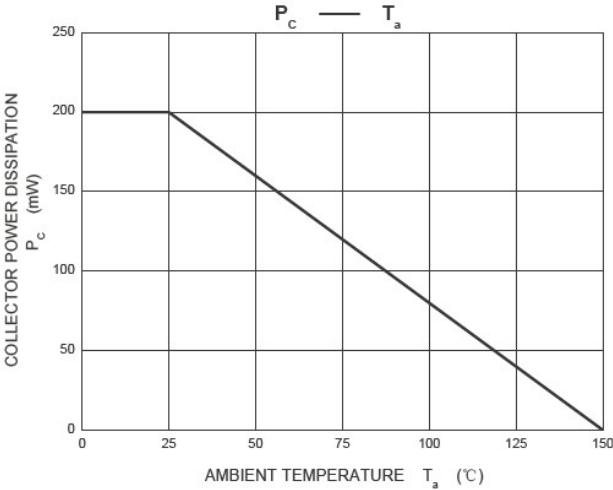
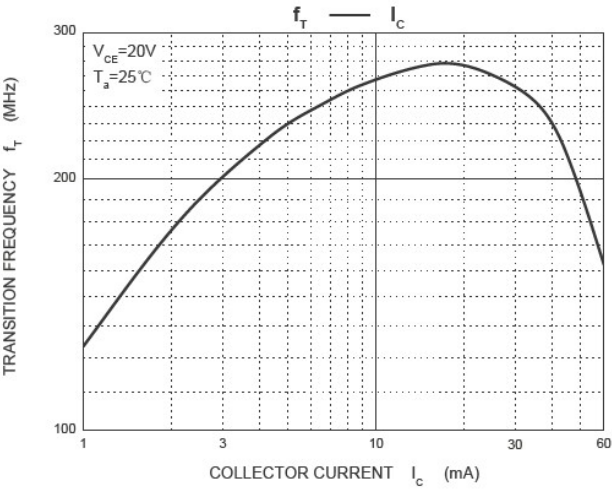
参数 Parameter	符号 Symbols	测试条件 Test Condition	界限 Limits		单位 Unit
			Min	Max	
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =10μA, I _E =0	60		V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =1mA, I _B =0	40		V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =10μA, I _C =0	6		V
Collector cut-off current	I _{CEX}	V _{CE} =30V, V _{EB(off)} =3V		50	nA
Collector cut-off current	I _{CBO}	V _{CB} =60V, I _E =0		100	nA
Emitter cut-off current	I _{EBO}	V _{EB} =5V, I _C =0		100	nA
DC current gain	h _{FE(1)}	V _{CE} =1V, I _C =10mA	100	300	
	h _{FE(2)}	V _{CE} =1V, I _C =50mA	60		
	h _{FE(3)}	V _{CE} =1V, I _C =100mA	30		
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =50mA, I _B =5mA		0.30	V
Base -emitter saturation voltage	V _{BE(sat)}	I _C =50mA, I _B =5mA		0.95	V
Transition frequency	f _T	V _{CE} =20V, I _C =10mA, f=100MHz	300		MHz
Delay time	t _d	V _{CC} =3V, V _{BE(off)} =-0.5V, I _C =10mA, I _{B1} =1mA		35	nS
Rise time	t _r	V _{CC} =3V, V _{BE(off)} =-0.5V, I _C =10mA, I _{B1} =1mA		35	nS
Storage time	t _s	V _{CC} =3V, I _C =10mA, I _{B1} =I _{B2} =1mA		200	nS
Fall time	t _f	V _{CC} =3V, I _C =10mA, I _{B1} =I _{B2} =1mA		50	nS

CLASSIFICATION OF h_{FE(1)}

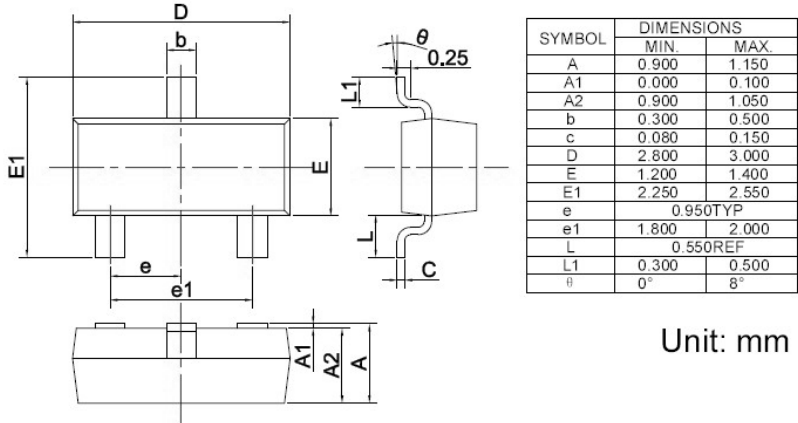
HFE	100-300	
RANK	L	H
RANGE	100-200	200-300

Typical characteristics

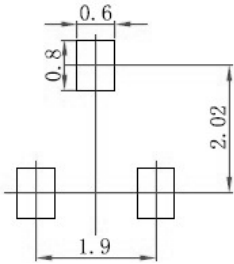




SOT-23 PACKAGE OUTLINE Plastic surface mounted package



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.