

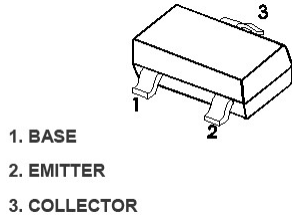
MMBT2222A TRANSISTOR(NPN)

Rev.3.0

SOT-23

SOT-23 贴片塑封三极管

SOT-23 Plastic-Encapsulate Transistors



Marking: 1P

特征 Features

- 与 MMBT2907A 配对; Complementary to MMBT2907A
- 最大功率耗散 300mW; Power Dissipation of 300mW
- 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}	75	V
Collector-Emitter Voltage	V _{CEO}	40	V
Emitter -Base Voltage	V _{EBO}	6	V
Collector Current-Continuous	I _C	600	mA
Collector Power Dissipation	P _C	300	mW
Junction Temperature	T _j	150	°C
Operating ambient temperature	T _{amb}	-55-+150	°C
Storage Temperature	T _{stg}	-55-+150	°C
Thermal resistance From junction to ambient	R _{θJA}	417	°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.)

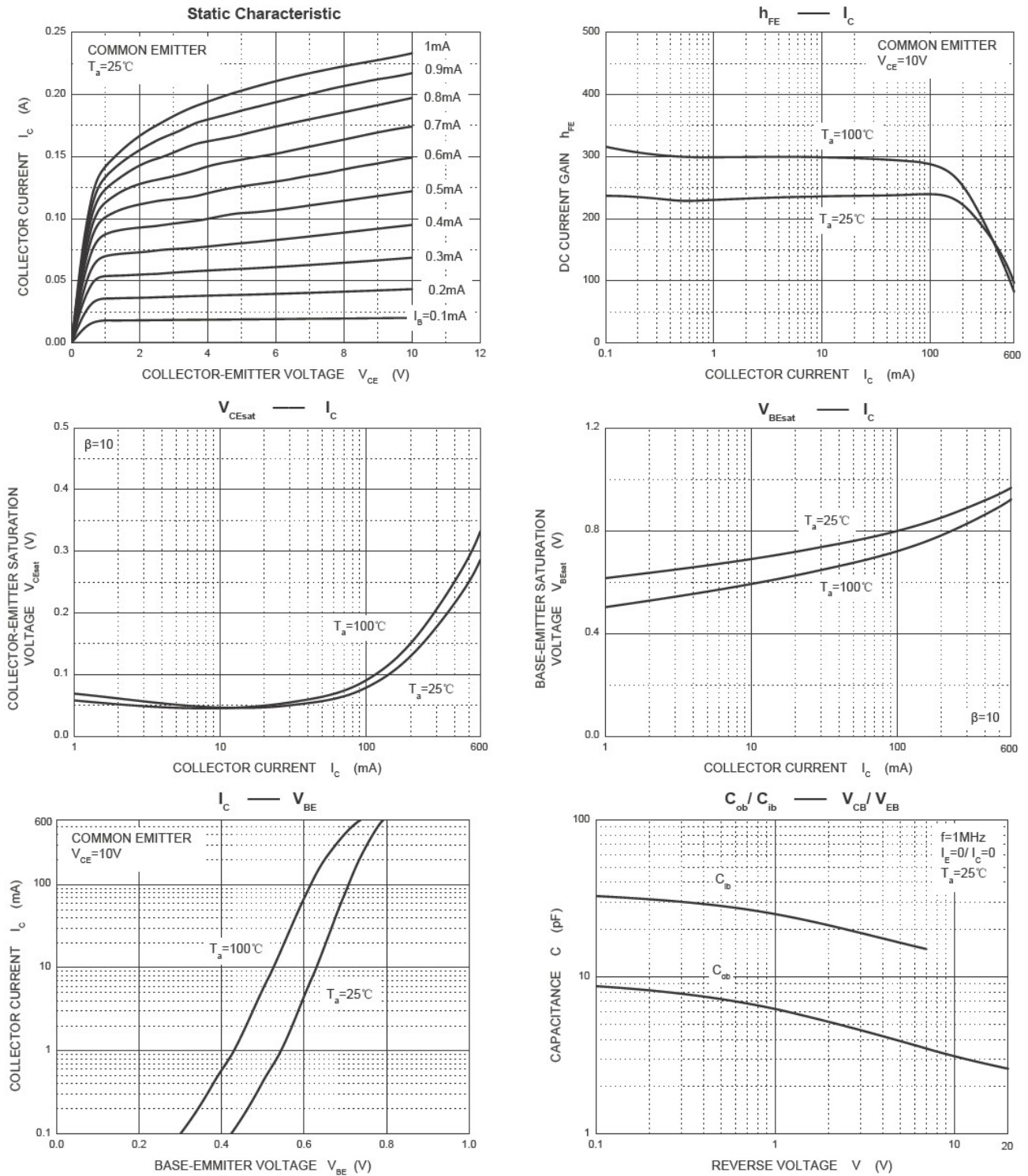
参数 Parameter	符号 Symbols	测试条件 Test Condition	界限 Limits		单位 Unit
			Min	Max	
Collector-base breakdown voltage	V(BR)CBO	IC=10uA, IE=0	75		V
Collector-emitter breakdown voltage	V(BR)CEO	IC=10mA, IB=0	40		V
Emitter-base breakdown voltage	V(BR)EBO	IE=10uA, IC=0	6		V
Collector cut-off current	ICEX	VCE=30V, VEB(off)=3V		10	nA
Collector cut-off current	ICBO	VCE=60V, IE=0		10	nA
Emitter cut-off current	IEBO	VEB=3V, IC=0		100	nA
DC current gain	hFE(1)*	VCE=10V, IC=150mA	100	300	
	hFE(2)*	VCE=10V, IC=0.1mA	40		
	hFE(3)*	VCE=10V, IC=500mA	42		
Collector-emitter saturation voltage	VCE(sat)1*	IC=500mA, IB=50mA		1.00	V
Collector-emitter saturation voltage	VCE(sat)2*	IC=150mA, IB=15mA		0.30	V
Base -emitter saturation voltage	VBE(sat)1*	IC=500mA, IB=50mA		2.00	V
Base -emitter saturation voltage	VBE(sat)2*	IC=150mA, IB=15mA		1.20	V
Transition frequency	f _T	VCE=20V, IC=20mA, f=100MHz	300		MHz
Delay time	t _d	VCC=30V, VBE(off)=-0.5V, IC=150mA, IB1=15mA		10	nS
Rise time	t _r			25	nS
Storage time	t _s	VCC=30V, IC=150mA, IB1=IB2=15mA		225	nS
Fall time	t _f			60	nS

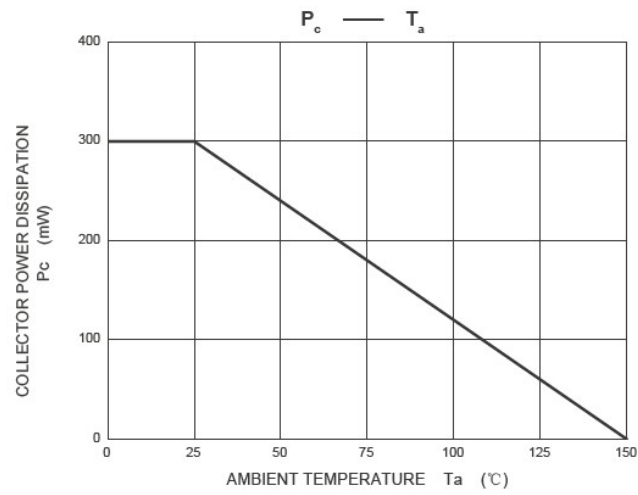
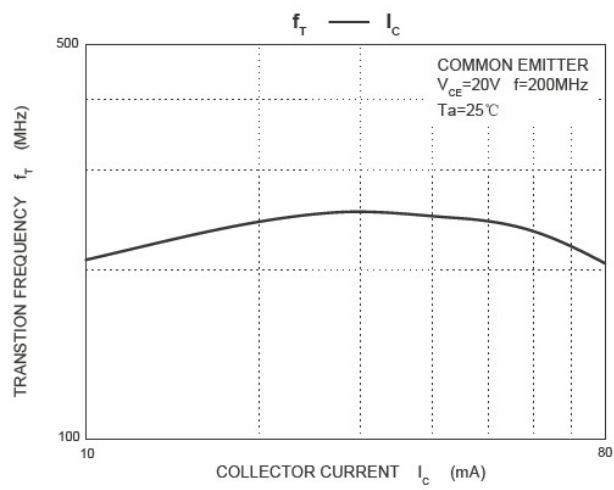
*Pulse test: pulse width ≤ 300us, duty cycle ≤ 2.0%.

CLASSIFICATION OF hFE(1)

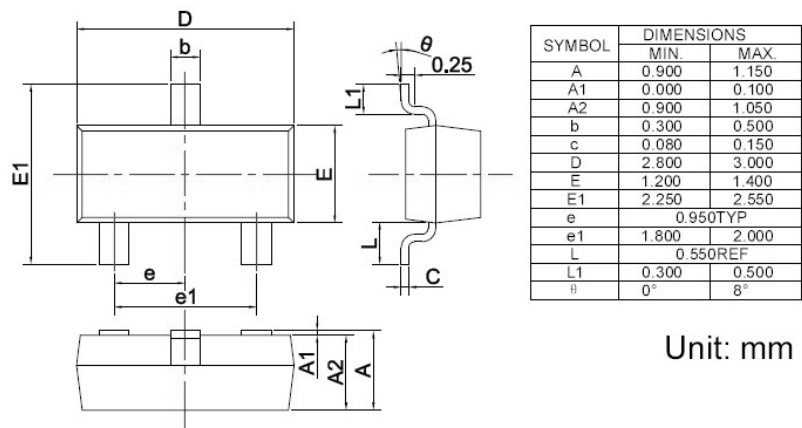
HFE	100-300	
RANK	L	H
RANGE	100-200	200-300

Typical characteristics

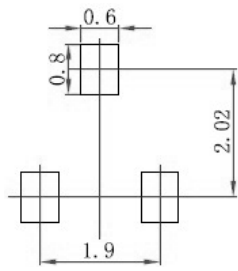




SOT-23 PACKAGE OUTLINE Plastic surface mounted package



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.