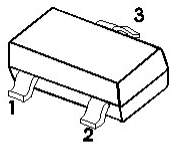
MMBT2907A TRANSISTOR(NPN)

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℃ 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_{CBO}	-60	V
Collector-Emitter Voltage	V_{CEO}	-60	V
Emitter -Base Voltage	V_{EBO}	-5	V
Collector Current-Continuous	I_C	-600	mA
Collector Power Dissipation	P_C	250	mW
Junction Temperature	T_j	150	℃
Storage(Temperature)	Tstg	-55-+150	℃
Thermal resistance From junction to ambient	$R_{\theta JA}$	500	℃/W

电特性 TA = 25℃ 除非另有规定

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

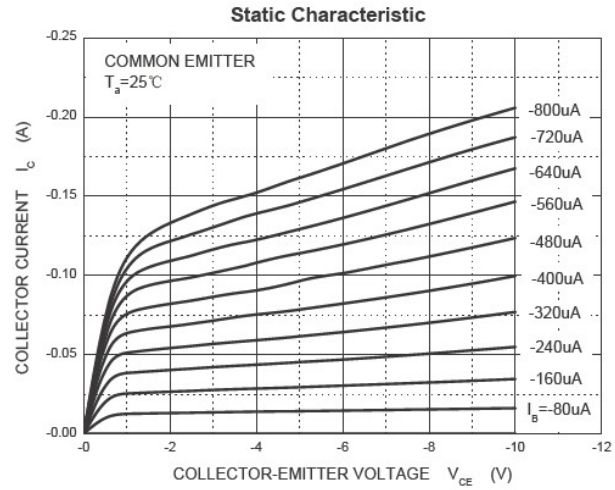
参数 Parameter	符号 Symbols	测试条件 Test Condition	界限 Limits		单位 Unit
			Min	Max	
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-100uA, I_E=0	-60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$ *	I_C=-1mA, I_B=0	-60		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-10uA, I_C=0	-5		V
Collector cut-off current	I_{CBO}	V_{CB}=-50V, I_E=0		-20	nA
Emitter cut-off current	I_{EBO}	V_{EB}=-3V, I_C=0		-10	nA
Collector cut-off current	I_{CEX}	V_{CE}=-30V, $V_{BE(off)}$=-0.5V		-50	nA
DC current gain	$h_{FE(1)}$ *	V_{CE}=-10V, I_C=-150mA	100	300	
	$h_{FE(2)}$ *	V_{CE}=-10V, I_C=-0.1mA	75		
	$h_{FE(3)}$ *	V_{CE}=-10V, I_C=-1mA	100		
	$h_{FE(4)}$ *	V_{CE}=-10V, I_C=-10mA	100		
	$h_{FE(5)}$ *	V_{CE}=-10V, I_C=-500mA	50		
Collector-emitter saturation voltage	$V_{CE(sat)1}$ *	I_C=-150mA, I_B=-15mA		-0.4	V
	$V_{CE(sat)2}$ *	I_C=-500mA, I_B=-50mA		-1.6	V
Base -emitter saturation voltage	$V_{BE(sat)1}$ *	I_C=-150mA, I_B=-15mA		-1.30	V
	$V_{BE(sat)2}$ *	I_C=-500mA, I_B=-50mA		-2.60	V
Transition frequency	f_T	V_{CE}=-20V, I_C=-50mA,f=100MHz	200		MHz
Delay time	td	V_{CE}=-30V, I_C=-150mA, I_{B1}=-15mA		10	nS
Rise time	tr			25	nS
Storage time	ts	V_{CE}=-6V, I_C=-150mA, I_{B1}=I_{B2}=-15mA		225	nS
Fall time	tf			60	nS

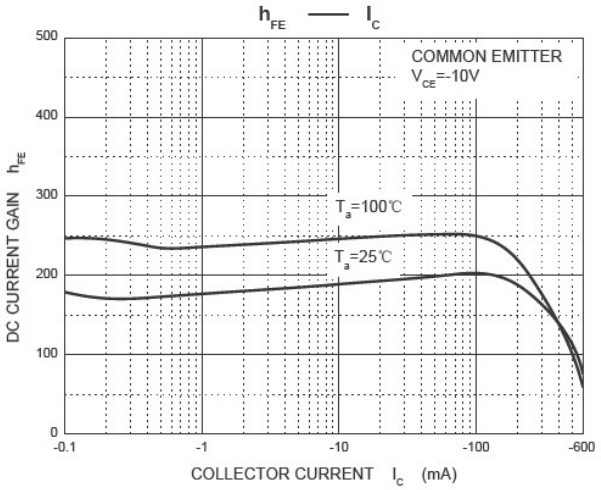
*Pulse test: pulse width≤300us, duty cycle≤2.0%

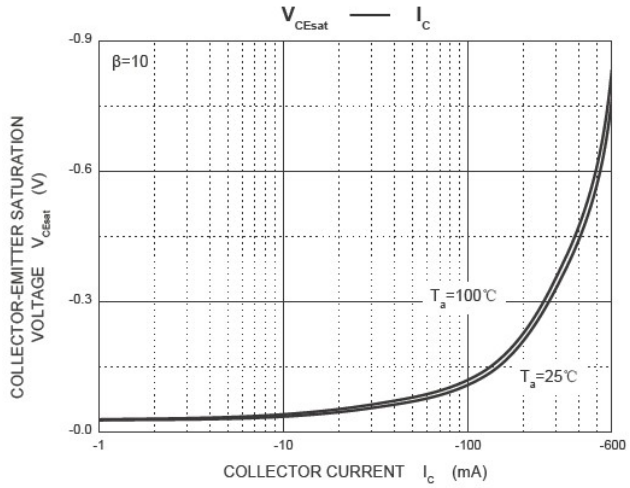
CLASSIFICATION OF $h_{FE(1)}$

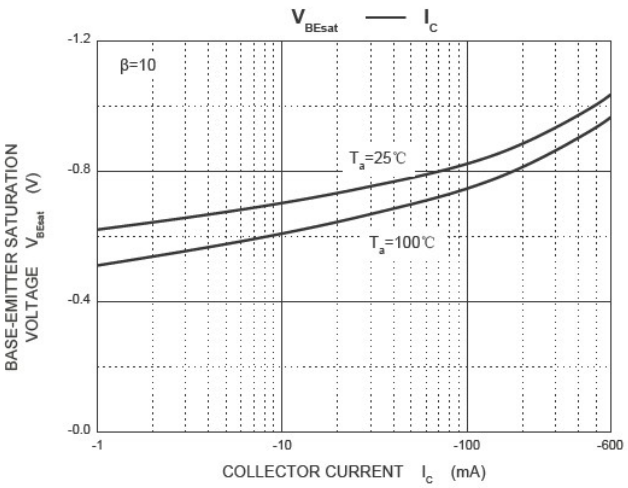
HFE	100-300	
RANK	L	H
RANGE	100-200	200-300

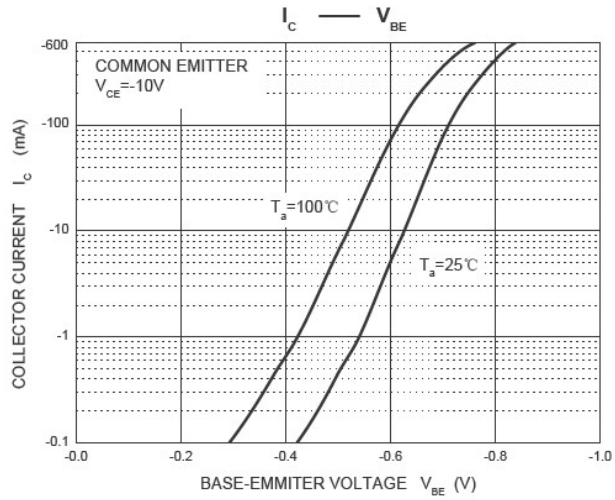
Typical characteristics

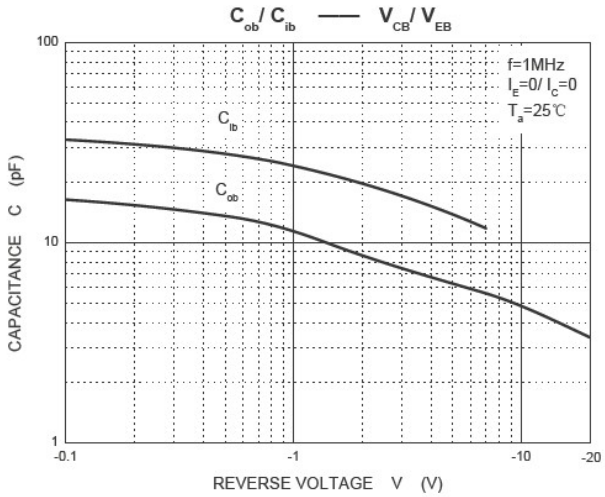


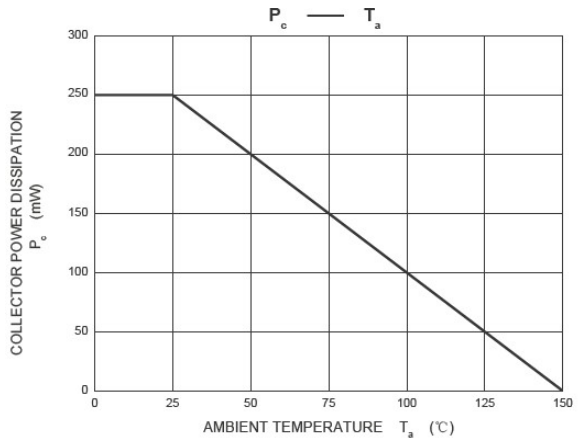




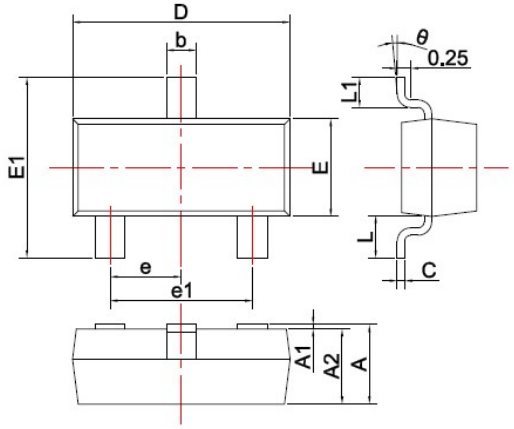








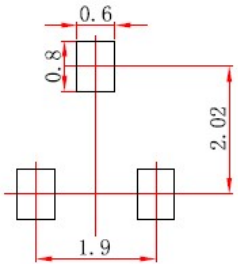
SOT-23 PACKAGE OUTLINE Plastic surface mounted package



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:± 0.05mm.
3.The pad layout is for reference purposes only.