

MMBT2907

Rev. F Aug.-2018

描述 / Descriptions

SOT-23 塑封封装 PNP 半导体三极管。Silicon PNP transistor in a SOT-23 Plastic Package.

特征 / Features

集电极电流可达 600mA。

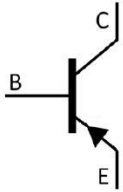
Collector currents to 600mA.

用途 / Applications

用于普通放大。

General purpose amplifier.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN 1 : Base PIN 2 : Emitter PIN 3 : Collector

放大及印章代码 / h_{FE} Classifications & Marking

h_{FE} Range	100~300
Marking	H2B

极限参数 / Absolute Maximum Ratings(Ta=25°C)

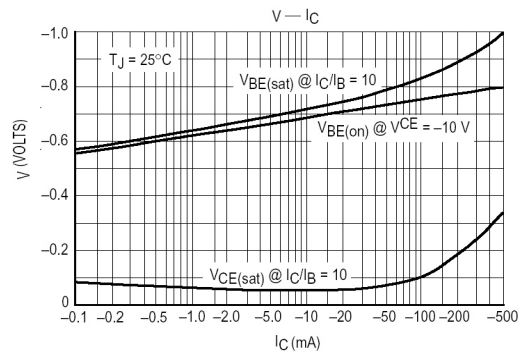
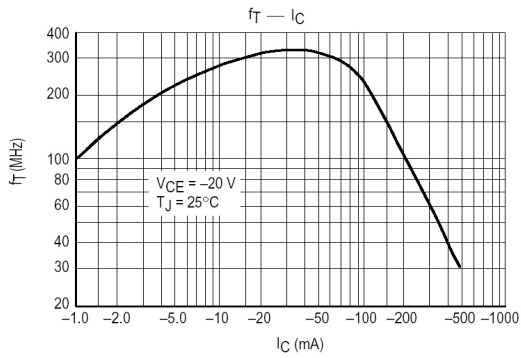
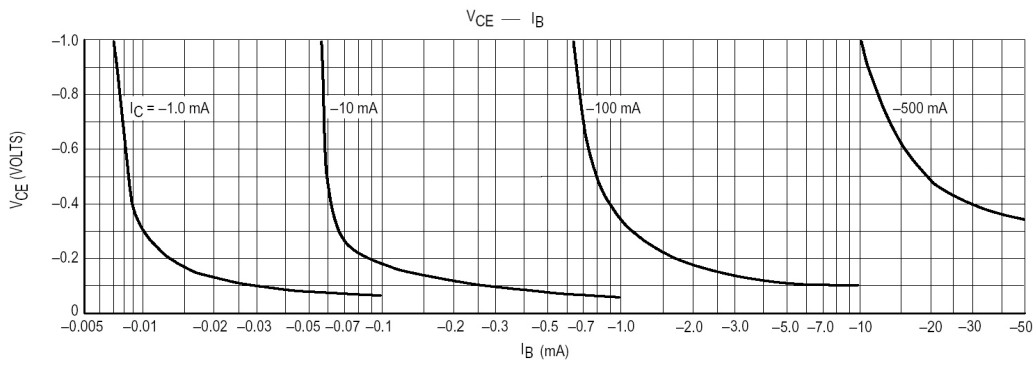
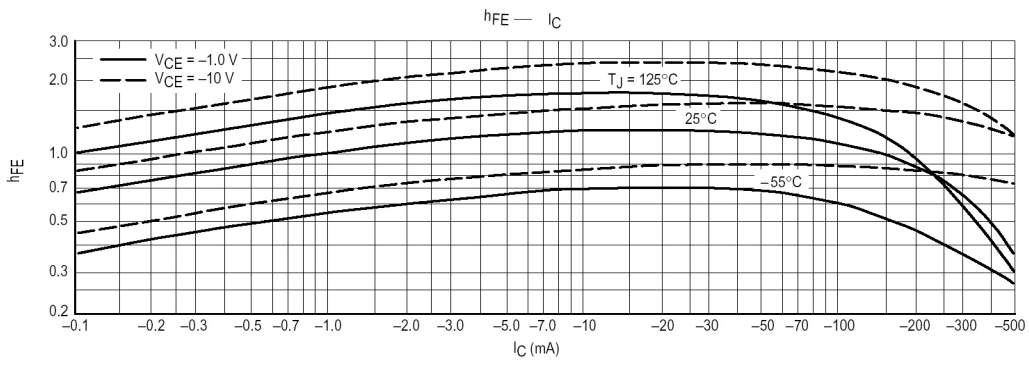
参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	-60	V
Collector to Emitter Voltage	V_{CEO}	-40	V
Emitter to Base Voltage	V_{EBO}	-5.0	V
Collector Current	I_C	-600	mA
Collector Power Dissipation	P_C	350	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

电性能参数 / Electrical Characteristics(Ta=25°C)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C = -10\mu A$ $I_E = 0$	-60			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C = -10mA$ $I_B = 0$	-40			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E = -10\mu A$ $I_C = 0$	-5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB} = -50V$ $I_E = 0$			-0.02	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = -10V$ $I_C = -150mA^*$	100		300	
	$h_{FE(2)}$	$V_{CE} = -10V$ $I_C = -500mA^*$	30			
	$h_{FE(3)}$	$V_{CE} = -10V$ $I_C = -10mA$	75			
	$h_{FE(4)}$	$V_{CE} = -10V$ $I_C = -1.0mA$	50			
	$h_{FE(5)}$	$V_{CE} = -10V$ $I_C = -0.1mA$	35			
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	$V_{BE(sat)(1)}$	$I_C = -150mA$ $I_B = -15mA$			-1.3	V
	$V_{BE(sat)(2)}$	$I_C = -500mA$ $I_B = -50mA$			-2.6	V
Transition Frequency	f_T	$I_C = -50mA$ $V_{CE} = -20V$ $f = 100MHz$	200			MHz
Output Capacitance	C_{ob}	$V_{CB} = -10V$ $f = 1.0MHz$			8.0	pF
Turn-On Time	t_{on}	$V_{CC} = -30V$ $I_C = -150mA$ $I_{B1} = -15mA$			45	ns
Turn-Off Time	t_{off}	$V_{CC} = -6.0V$ $I_C = -150mA$ $I_{B1} = I_{B2} = -15mA$			100	ns

*Pulse Test: Pulse Width $\leq 300 \mu s$, Duty Cycle $\leq 2.0\%$

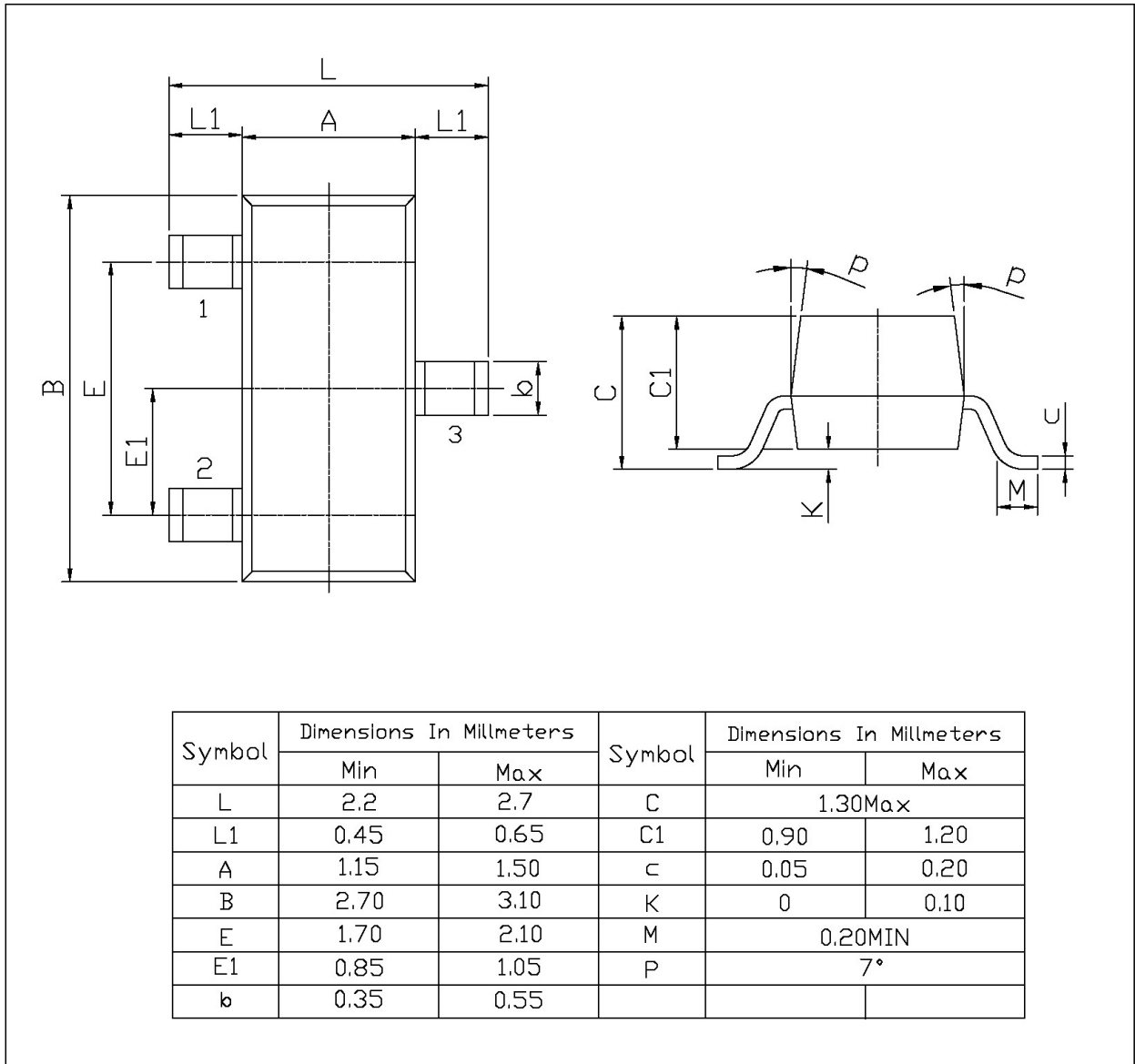
电参数曲线图 / Electrical Characteristic Curve



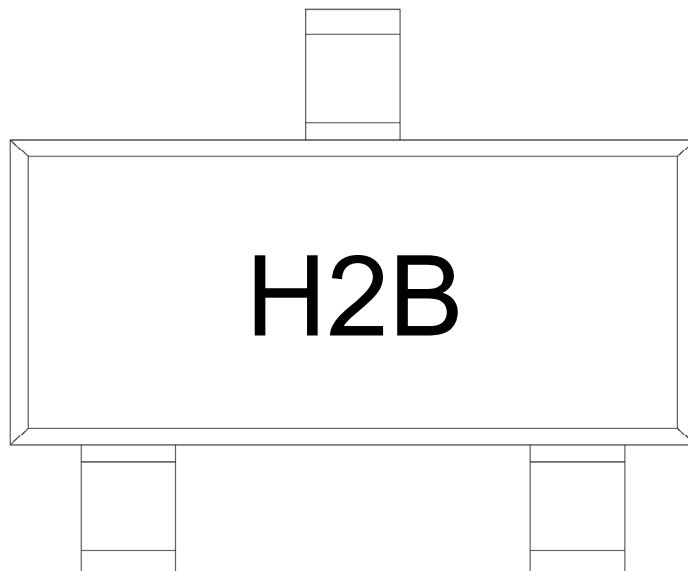
外形尺寸图 / Package Dimensions

SOT-23

单位: mm



印章说明 / Marking Instructions



说明：

H： 为公司代码

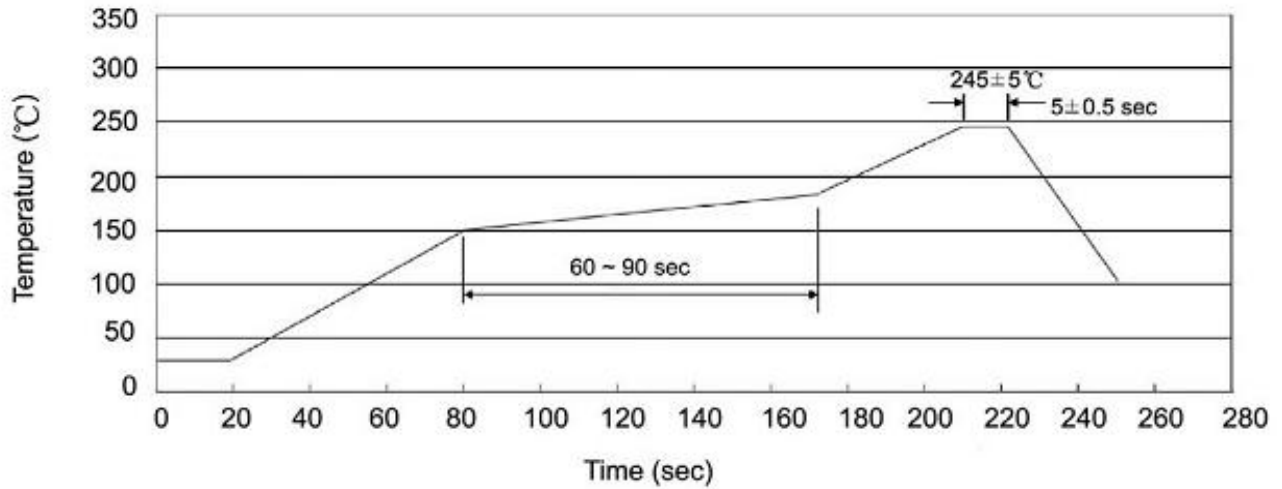
2B： 为型号代码

Note:

H： Company Code

2B： Product Type Code

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)



说明：

- 1、预热温度 150~180°C，时间 60~90sec；
- 2、峰值温度 245±5°C，时间持续为 5±0.5sec；
- 3、焊接制程冷却速度为 2~10°C/sec.

Note:

- 1.Preheating:150~180°C, Time:60~90sec.
- 2.Peak Temp.:245±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：260±5°C

时间：10±1 sec.

Temp.:260±5°C

Time:10±1 sec

包装规格 / Packaging SPEC.

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOT-23	3,000	10	30,000	6	180,000	7" ×8	180×120×180	39×385×205

使用说明 / Notices