2SB1440

Rev.E Mar.-2016

蓝箭电子
BLUE ROCKET ELECTRONICS
DATA SHEET

描述 / Descriptions

SOT-89 塑封封装 PNP 半导体三极管。Silicon PNP transistor in a SOT-89 Plastic Package.

特征 / Features

饱和压降低，与 2SD2185 互补。

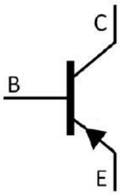
Low $V_{CE(sat)}$, complementary to 2SD2185.

用途 / Applications

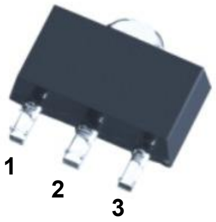
用于低频输出放大

For low frequency output amplification.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN1：Base　　PIN 2：Collector　　PIN 3：Emitter

印章代码 / Marking

h_{FE} Classifications Symbol	R	S
h_{FE} Range	120～240	170～340
Marking	H1IR ⁑	H1IS ⁑

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

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	-50	V
Collector to Emitter Voltage	V_{CEO}	-50	V
Emitter to Base Voltage	V_{EBO}	-5.0	V
Collector Current-Continuous	I_C	-2.0	A
Collector Current -Continuous(Pulse)	I_{CP}	-3.0	A
Collector Power Dissipation*	*P_C	1.0	W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55～150	℃

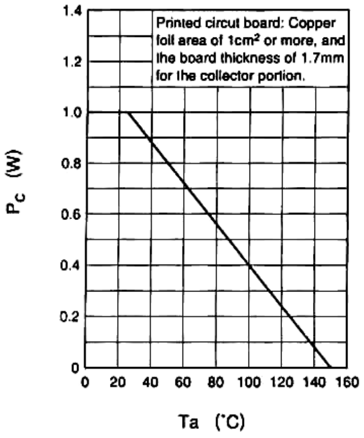
*printed circuit board: copper foil area of 1cm^2 or more, and the board thickness of 1.7mm for C portion.
*印制线路板要求：与 C 脚接触的铜箔面积为 1cm^2 或更大、厚度为 1.7mm。

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

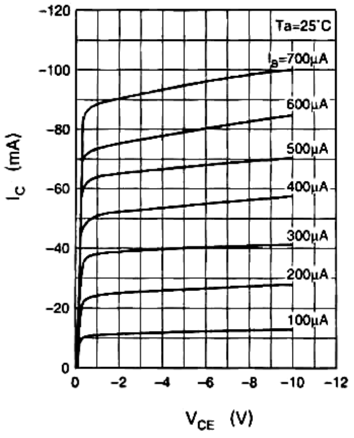
参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Collector to Base Breakdown Voltage	V_{CBO}	I_C=-10μA I_E=0	-50			V
Collector to Emitter Breakdown Voltage	V_{CEO}	I_C=-1.0mA I_B=0	-50			V
Emitter to Base Breakdown Voltage	V_{EBO}	I_E=-10μA I_C=0	-5.0			V
DC Current Gain	$h_{FE(1)}$	V_{CE}=-2.0V I_C=-200mA	120		340	
	$h_{FE(2)}$	V_{CE}=-2.0V I_C=-1.0A	60			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=-1.0A I_B=-50mA		-0.2	-0.3	V
Collector to Base Saturation Voltage	$V_{BE(sat)}$	I_C=-1.0A I_B=-50mA		-0.85	-1.2	V
Transition Frequency	f_T	V_{CB}=-10V I_C=-50mA f=200MHz		80		MHz
Collector Output Capacitance	C_{ob}	V_{CB}=-10V I_E=0 f=1.0MHz		45	60	pF

电参数曲线图 / Electrical Characteristic Curve

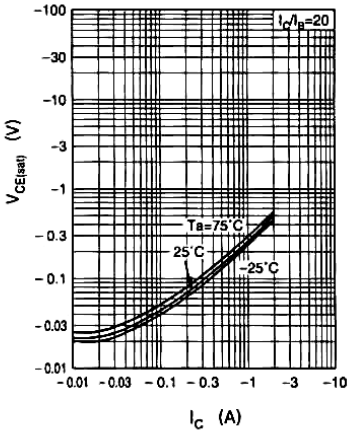
P_C — Ta



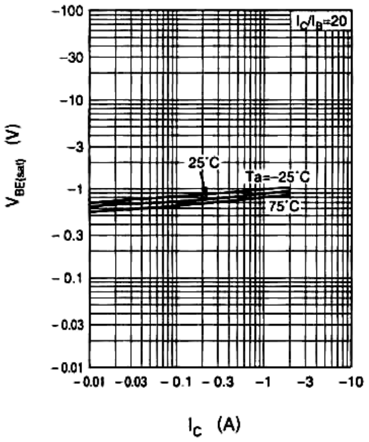
I_C — V_{CE}



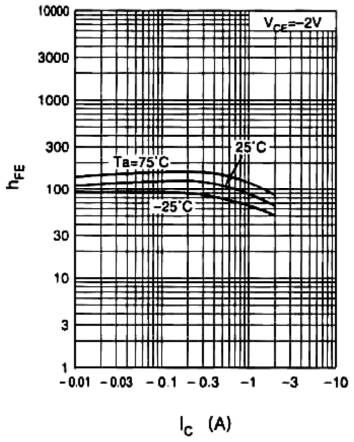
$V_{CE(sat)}$ — I_C



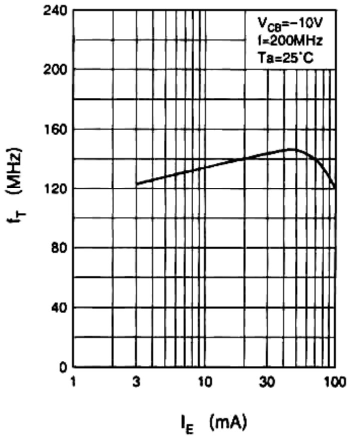
$V_{BE(sat)}$ — I_C



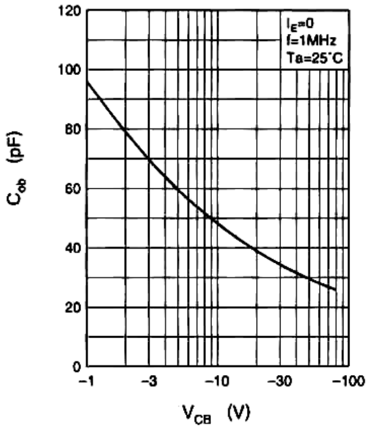
h_{FE} — I_C



f_T — I_E

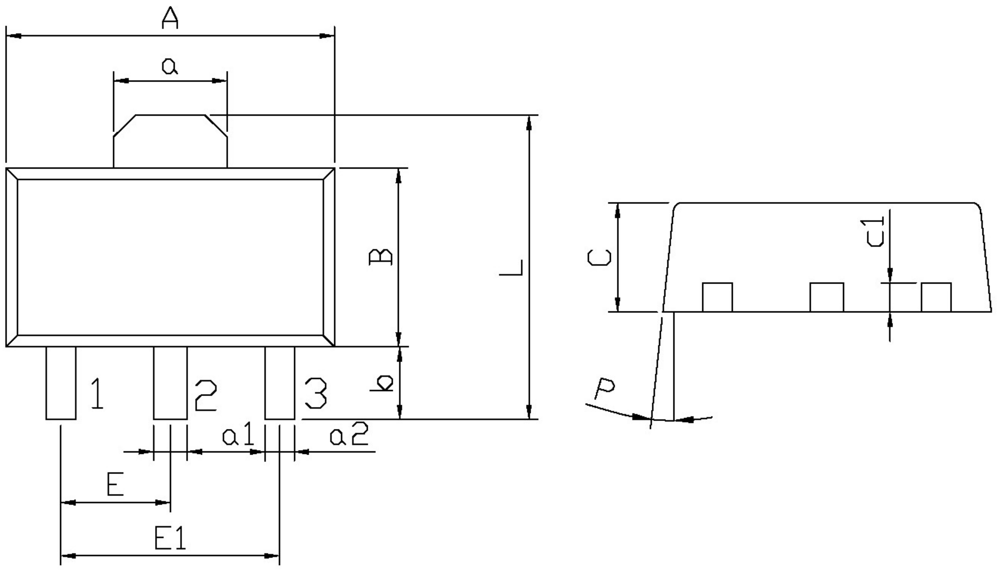


C_{ob} — V_{CB}



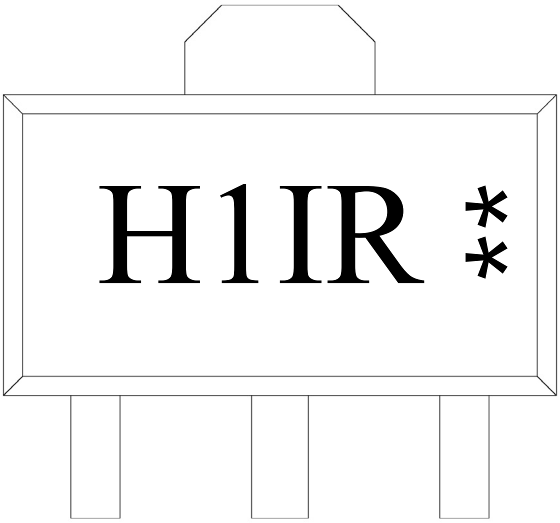
外形尺寸图 / Package Dimensions

SOT-89 单位：mm



Symbol	Dimensions In Millmeters		Symbol	Dimensions In Millmeters	
	Min	Max		Min	Max
A	4.4	4.7	a1	0.36	0.56
B	2.35	2.65	a2	0.30	0.50
L	3.878	4.478	C	1.40	1.70
a	1.45	1.65	c1	0.35	0.50
E	1.40	1.60	P	6°	
E1	2.80	3.20			
b	0.80	1.20			

印章说明 / Marking Instructions



说明：

H： 为公司代码

1I： 为型号代码

R: 为 h_{FE} 分档代码

**： 为生产批号代码，随生产批号变化。

Note:

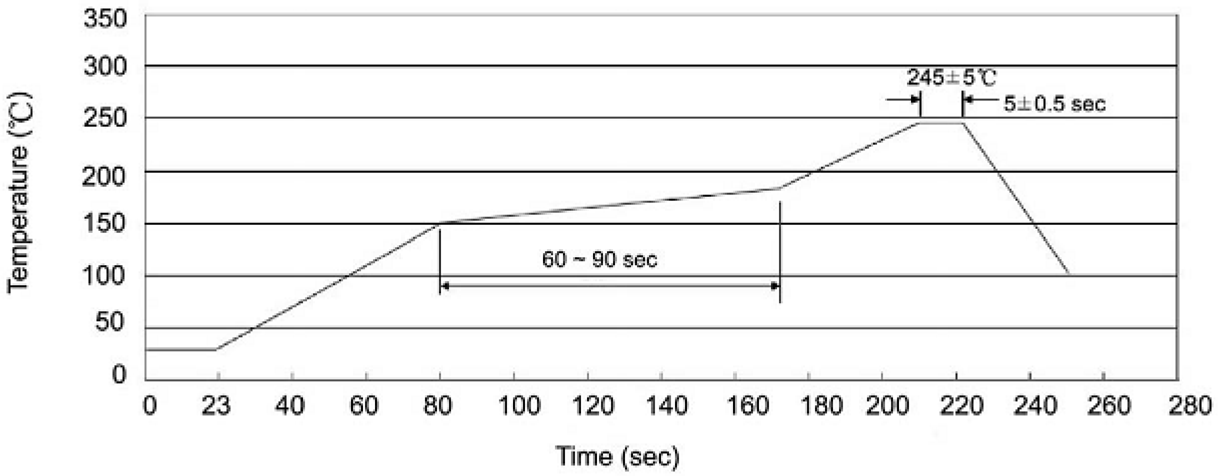
H: Company Code.

1I: Product Type.

R: h_{FE} Classifications Symbol

**: Lot No. Code, code change with Lot No.

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 25～150℃，时间 60～90sec;

2、峰值温度 245±5℃，时间持续为 5±0.5sec;

3、焊接制程冷却速度为 2～10℃/sec.

Note:

1.Preheating:25~150℃, Time:60~90sec.

2.Peak Temp.:245±5℃, Duration:5±0.5sec.

3. Cooling Speed: 2~10℃/sec.

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

温度：260±5℃　　时间：10±1 sec.　　Temp.:260±5℃　　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-89	1,000	7	7,000	8	56,000	7″ ×12	180×120×180	385×257×392

使用说明 / Notices