

2SA1015M(BR3CG1015M)

Rev.C Feb.-2015

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

耐压高,电流容量大,极好的 h_{FE} 特性,低噪声,可与2SC1815M(BR3DG1815M)互补。

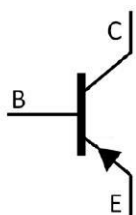
High voltage and high current, excellent h_{FE} linearity, low noise, complementary pair with 2SC1815M(BR3DG1815M).

用途 / Applications

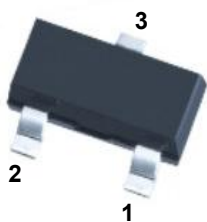
用于普通音频放大,激励级放大。

Audio frequency general purpose amplifier applications, driver stage amplifier applications.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN1 : Emitter

PIN 2 : Base

PIN 3 : Collector

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

h_{FE} Classifications Symbol	O	Y	GR
h_{FE} Range	70~140	120~240	200~400
Marking	HBAO	HBAY	HBAG

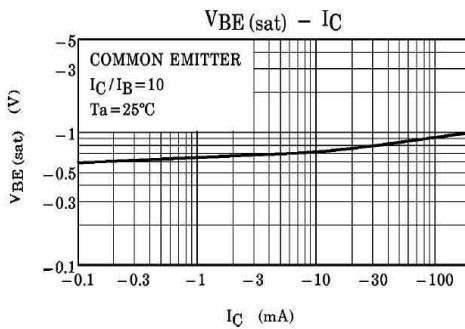
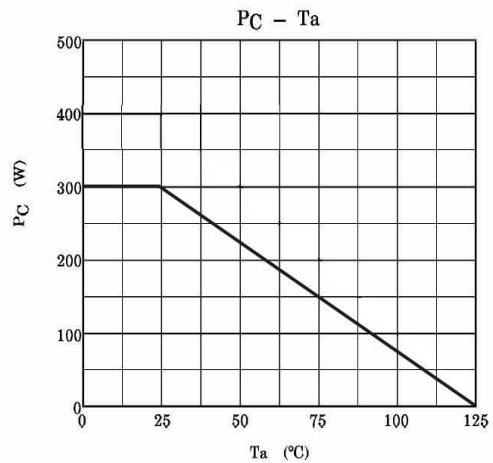
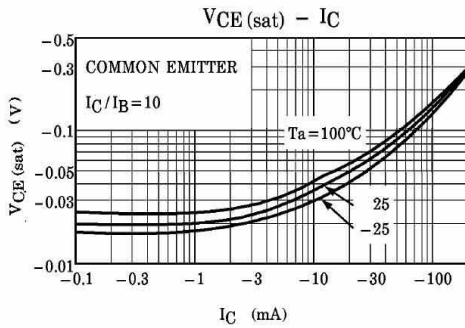
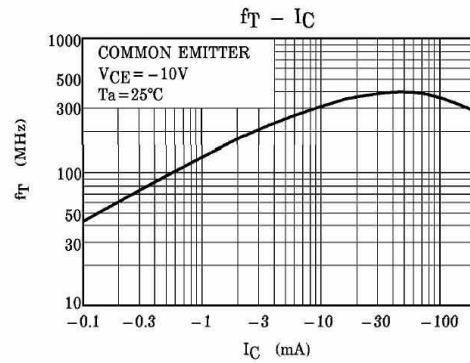
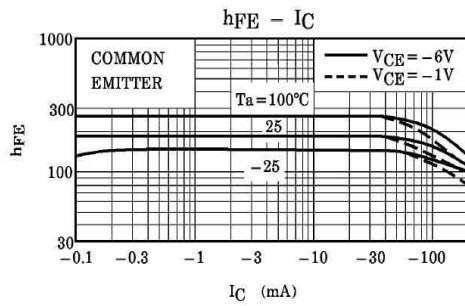
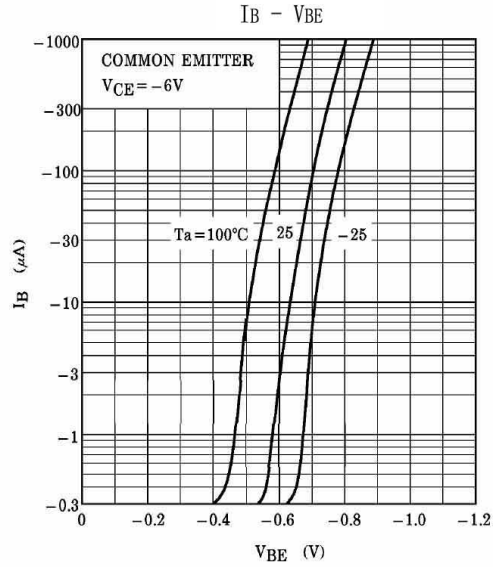
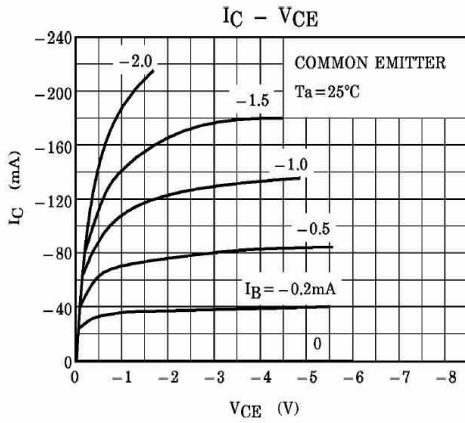
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	-50	V
Collector to Emitter Voltage	V_{CEO}	-50	V
Emitter to Base Voltage	V_{EBO}	-5.0	V
Collector Current	I_C	-150	mA
Base Current	I_B	-50	mA
Collector Power Dissipation	P_C	300	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 Cut-Off Current	I_{CBO}	$V_{CB}=-50V$ $I_E=0$			-0.1	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=-5.0V$ $I_C=0$			-0.1	μA
DC Current Gain ₍₁₎	$h_{FE(1)}$	$V_{CE}=-6.0V$ $I_C=-2.0mA$	70		400	
DC Current Gain ₍₂₎	$h_{FE(2)}$	$V_{CE}=-6.0V$ $I_C=-150mA$	25			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-100mA$ $I_B=-10mA$		-0.1	-0.3	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-100mA$ $I_C=-10mA$			-1.1	V
Transition Frequency	f_T	$I_C=-1.0mA$ $V_{CE}=-10V$	80			MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=-10V$ $I_E=0$ $f=1.0MHz$		4.0	7.0	pf
Base Intrinsic Resistance	$r_{bb'}$	$V_{CB}=-10V$ $I_E=1.0mA$ $f=30MHz$		30		Ω
Noise Figure	NF	$V_{CE}=-6.0V$ $I_C=-0.1mA$ $R_G=10k\Omega$ $f=1.0KHz$		1.0	10	dB

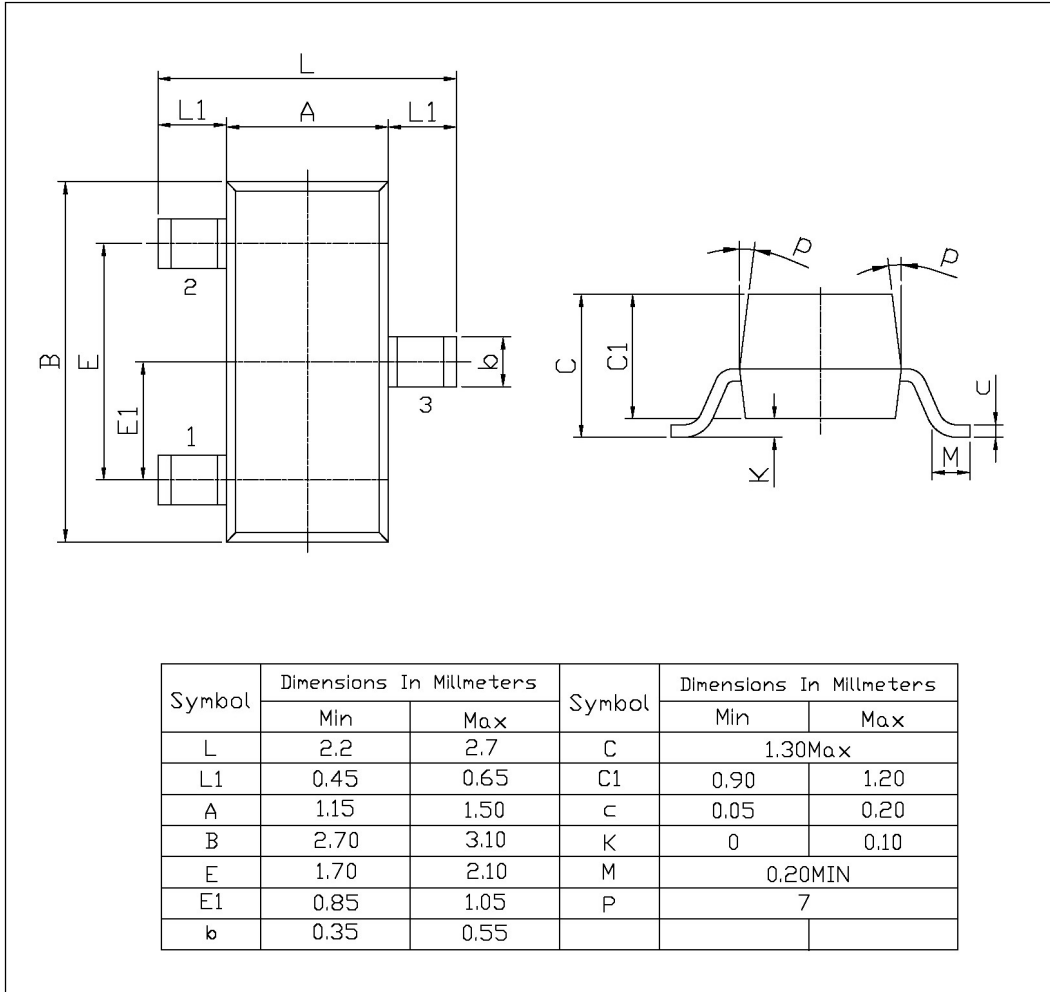
电参数曲线图 / Electrical Characteristic Curve



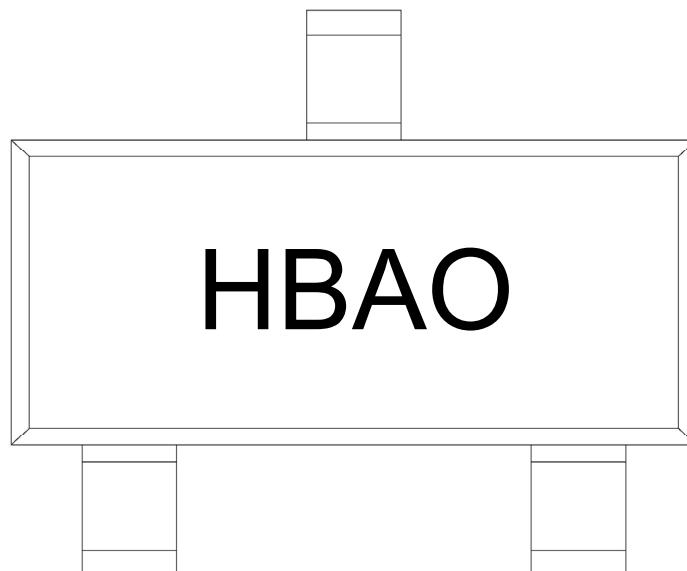
外形尺寸图 / Package Dimensions

SOT-23

单位: mm



印章说明 / Marking Instructions



说明：

H： 为公司代码

BA： 为型号代码

O： 为 h_{FE} 档次代码

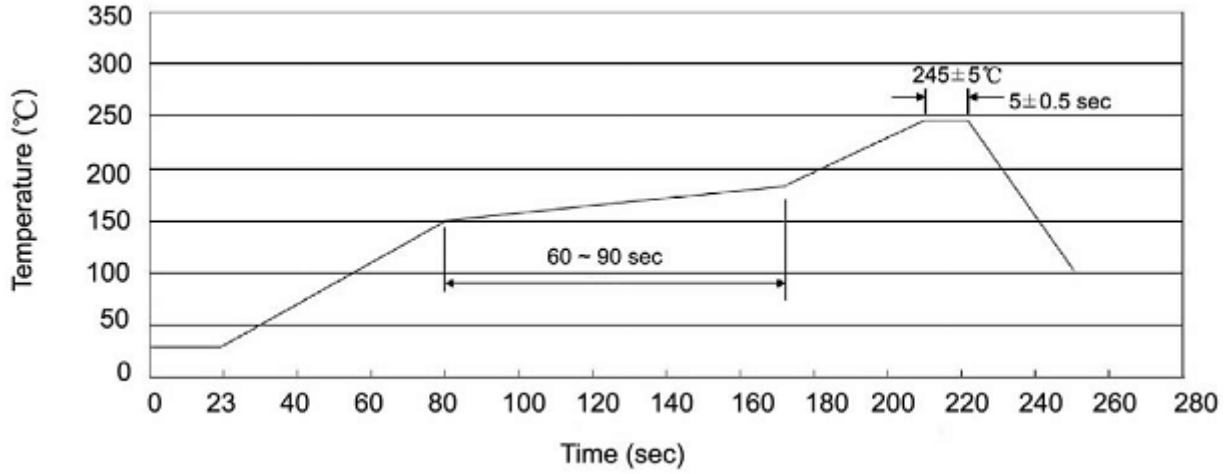
Note:

H: Company Code.

BA: Product Type.

O: h_{FE} Classifications Symbol

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°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:25~150°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：270±5°C

时间：10±1 sec.

Temp.:270±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/盒	Reel	Inner Box 盒	Outer Box 箱
SOT-23	3,000	10	30,000	8	240,000	7" ×8	180×120×180	385×257×392

使用说明 / Notices