2SA953M

Rev.E Mar.-2016

蓝箭电子
BLUE ROCKET ELECTRONICS
DATA SHEET

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

集电极耗散功率大,h_{FE} 高,V_{CEO} 高。

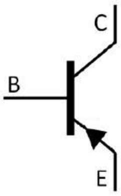
High total power dissipation, high h_{FE} and high V_{CEO}.

用途 / Applications

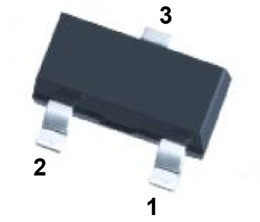
用于音频放大、激励级放大。

Audio frequency amplifier and driver stage.

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	M	L	K
h_{FE} Range	90～180	135～270	200～400
Marking	H53M	H53L	H53K

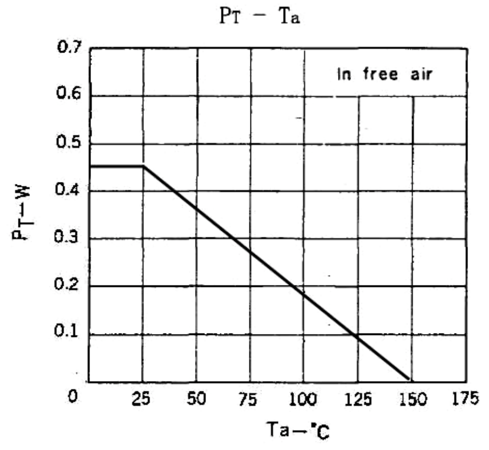
极限参数 / Absolute Maximum Ratings(Ta=25℃)

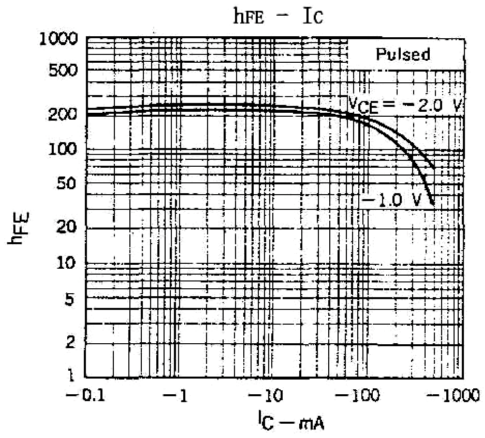
参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	-60	V
Collector to Emitter Voltage	V_{CEO}	-60	V
Emitter to Base Voltage	V_{EBO}	-5.0	V
Collector Current	I_C	-300	mA
Collector Base	I_B	-60	mA
Collector Power Dissipation	P_C	450	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55～150	℃

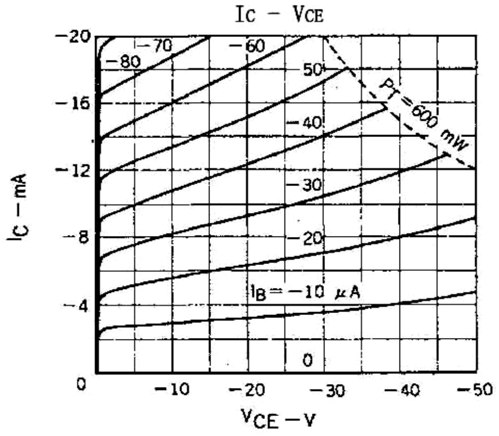
电性能参数 / Electrical Characteristics(Ta=25℃)

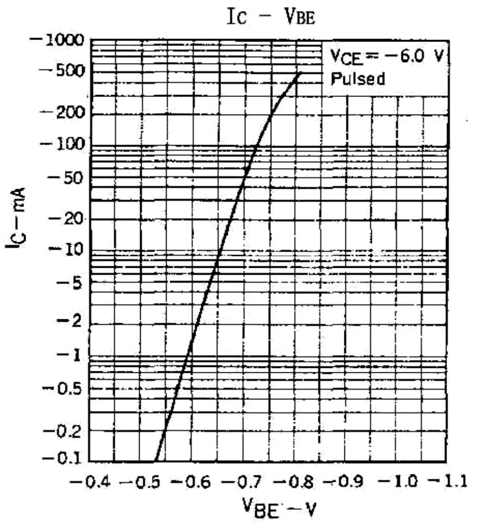
参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Collector Cut-Off Current	I_{CBO}	V_{CB}=-60 V I_E=0			-0.1	μA
Emitter Base Cut-Off Current	I_{EBO}	V_{EB}=-5.0V I_C=0			-0.1	μA
DC Current Gain	$h_{FE(1)}$	V_{CE}=-1.0V I_C=-50mA	90		400	
	$h_{FE(2)}$	V_{CE}=-1.0V I_C=-300mA	30			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=-300mA I_B=-30mA		-0.15	-0.60	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=-300mA I_B=-30mA		-0.85	-1.20	V
Base to Emitter Voltage	V_{BE}	V_{CE}=6.0V I_C=10mA		-0.66	-0.70	V
Collector Output Capacitance	C_{ob}	V_{CB}=-6.0V I_E=0 f=1.0MHz		13	25	pF
Transition Frequency	f_T	I_C=-10mA V_{CE}=-6.0V	50	100		MHz

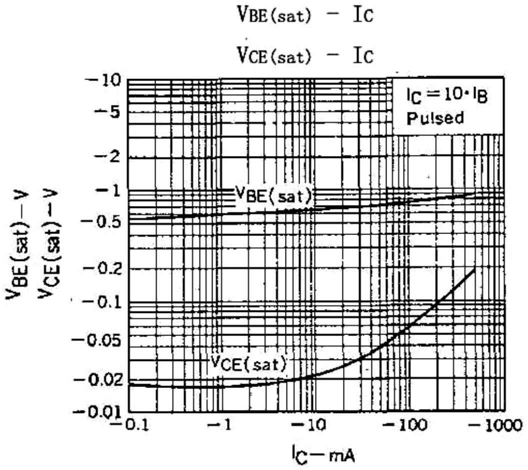
电参数曲线图 / Electrical Characteristic Curve

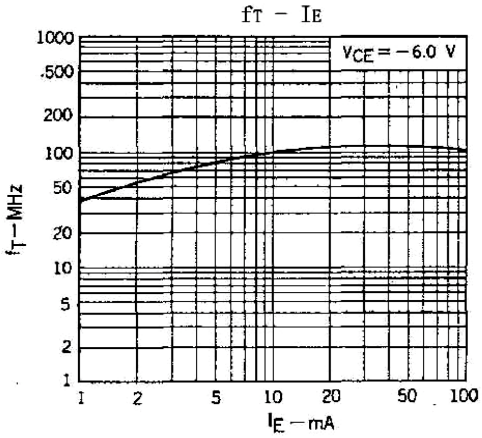








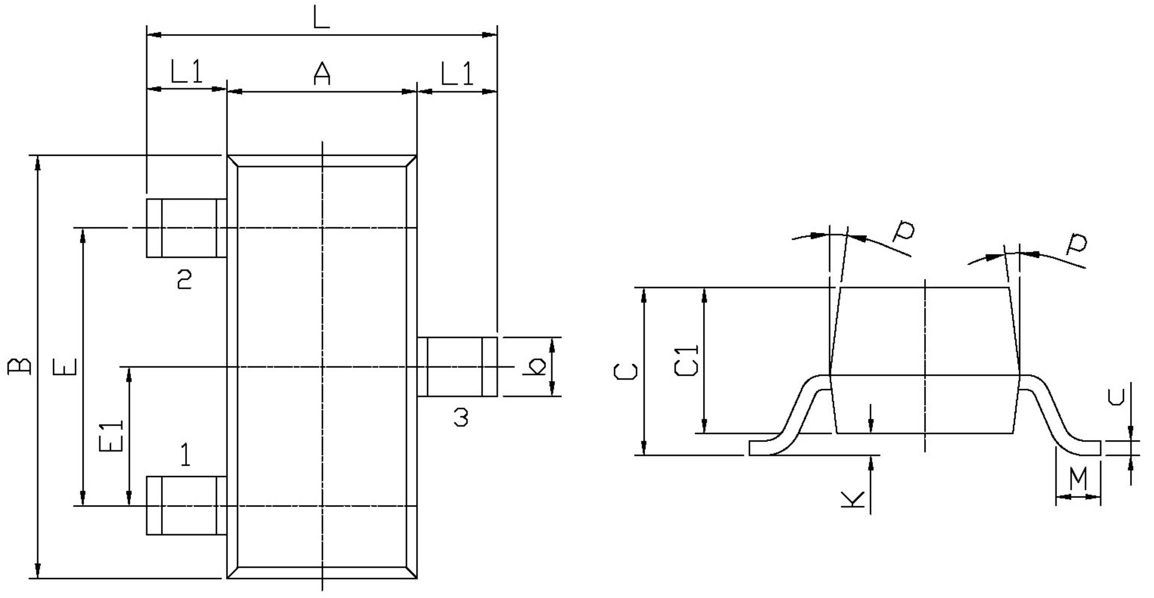




外形尺寸图 / Package Dimensions

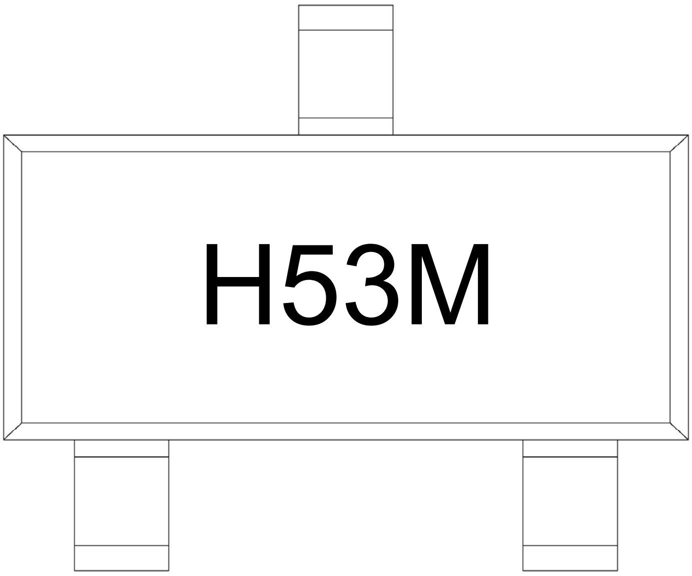
SOT-23

单位：mm



Symbol	Dimensions In Millmeters		Symbol	Dimensions In Millmeters	
	Min	Max		Min	Max
L	2.2	2.7	C	1.30Max	
L1	0.45	0.65	C1	0.90	1.20
A	1.15	1.50	c	0.05	0.20
B	2.70	3.10	K	0	0.10
E	1.70	2.10	M	0.20MIN	
E1	0.85	1.05	P	7°	
b	0.35	0.55			

印章说明 / Marking Instructions



说明：

H： 为公司代码

53： 为型号代码

M： 为 h_{FE} 档次代码

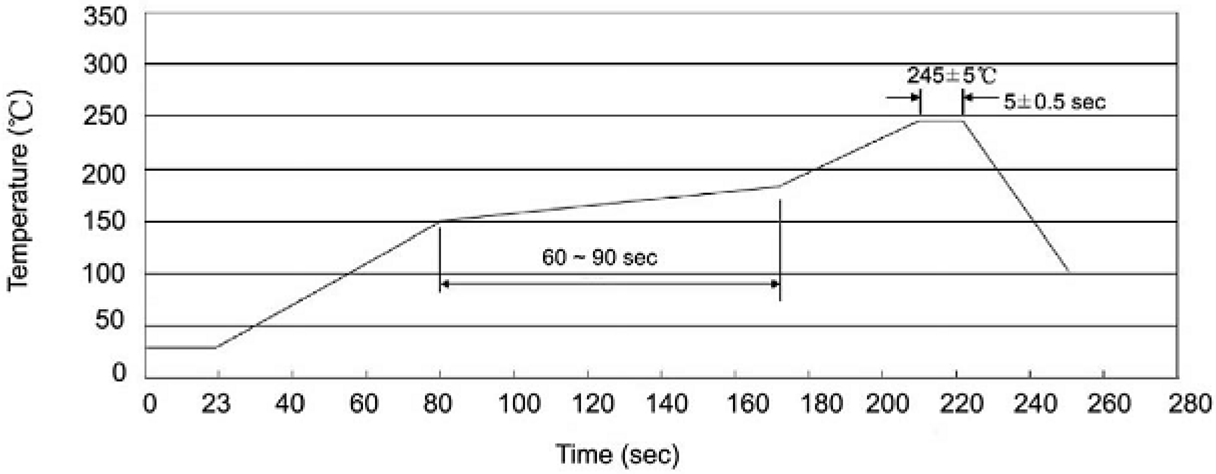
Note:

H: Company Code.

53: Product Type Code

M: h_{FE} Classifications Symbol Code

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



说明：	Note:
1、预热温度 25 ~ 150℃，时间 60 ~ 90sec;	1.Preheating:25~150℃, Time:60~90sec.
2、峰值温度 245±5℃，时间持续为 5±0.5sec;	2.Peak Temp.:245±5℃, Duration:5±0.5sec.
3、焊接制程冷却速度为 2 ~ 10℃/sec.	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-23	3,000	10	30,000	8	240,000	7″ ×8	180×120×180	385×257×392

使用说明 / Notices