

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

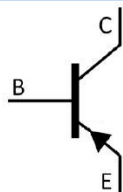
击穿电压高,可与 BRMMBT5551Q 互补,符合 AEC-Q101 标准高可靠性要求,无卤产品。

High voltage, complementary Pair with BRMMBT5551Q, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

用途 / Applications

用于普通高压放大,满足汽车应用的严格要求。

General purpose high voltage amplifier, Meet the stringent requirements of automotive applications.

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} Classifications Symbol	A	B	C
h_{FE} Range	50~150	100~300	200~400
Marking	Q2LA	Q2LB	Q2LC

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

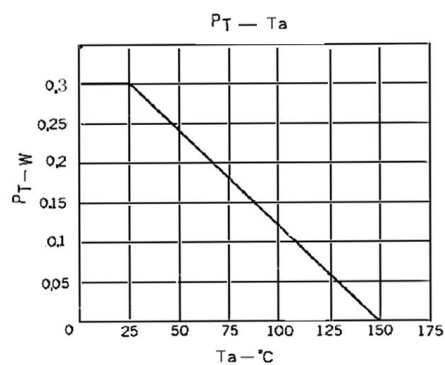
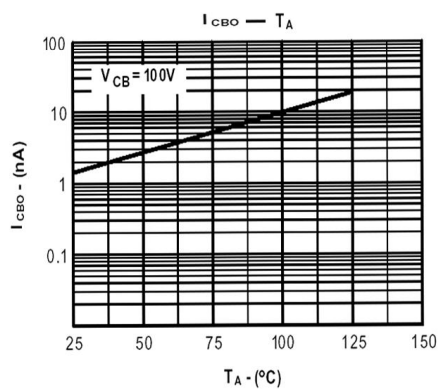
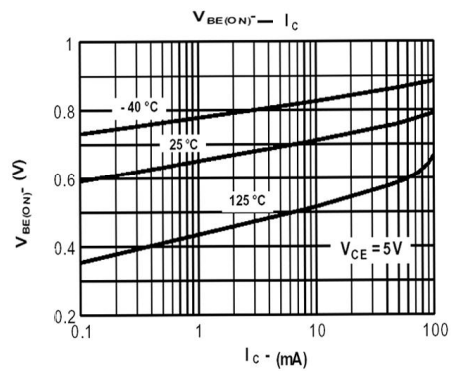
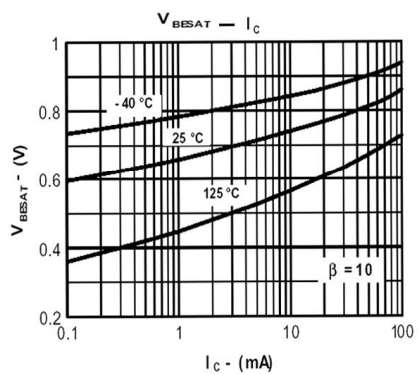
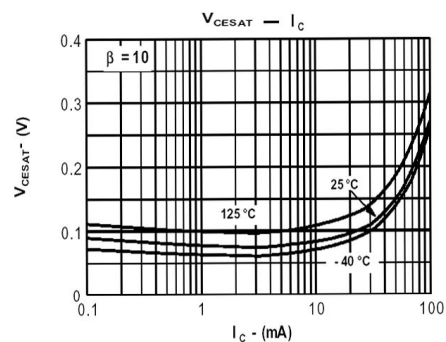
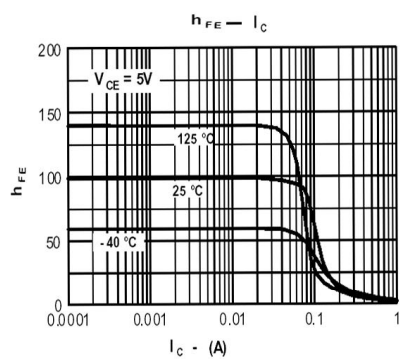
参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	-180	V
Collector to Emitter Voltage	V_{CEO}	-160	V
Emitter to Base Voltage	V_{EBO}	-6.0	V
Collector Current	I_C	-600	mA
Base Current	I_B	-300	mA
Collector Power Dissipation	P_C	300	mW
Junction Temperature	T_J	150	°C
Storage Temperature 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 to Base Voltage	V_{CBO}	$I_C=-100\mu A$ $I_E=0$	-180			V
Collector to Emitter Voltage	V_{CEO}	$I_C=-500\mu A$ $I_B=0$	-160			V
Emitter to Base Voltage	V_{EBO}	$I_E=-100\mu A$ $I_C=0$	-6.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-180V$ $I_E=0$			-0.1	μA
Collector Cut-Off Current	I_{CEO}	$V_{CE}=-160V$ $I_B=0$			-5.0	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=-6.0V$ $I_C=0$			-0.1	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=-5.0V$ $I_C=-10mA$	50	200	400	
	$h_{FE(2)}$	$V_{CE}=-5.0V$ $I_C=-50mA$	20	70		
	$h_{FE(3)}$	$V_{CE}=-5.0V$ $I_C=-1.0mA$	40	180		
Collector-Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=-10mA$ $I_B=-1.0mA$		-0.12	-0.4	V
	$V_{CE(sat)(2)}$	$I_C=-50mA$ $I_B=-5.0mA$		-0.5	-0.8	V
Base-Emitter Saturation Voltage	$V_{BE(sat)(1)}$	$I_C=-10mA$ $I_B=-1.0mA$		-0.75	-1.0	V
	$V_{BE(sat)(2)}$	$I_C=-50mA$ $I_B=-5.0mA$		-0.8	-1.0	V
Base-Emitter Voltage	V_{BE}	$V_{CE}=-5.0V$ $I_C=-10mA$		-0.7	-0.75	V
Transition Frequency	f_T	$V_{CE}=-10V$ $I_C=-10mA$	50	80		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=-10V$ $I_E=0$ $f=10MHz$		2.5	5.0	pF
Turn-on Time	t_{on}	$I_C=-100mA$ $-I_{B1}=I_{B2}=-10mA$		0.1		μs
Storage Time	t_{off}			0.2		μs
Fall Time	t_{stg}			0.1		μs



电参数曲线图 / Electrical Characteristic Curve

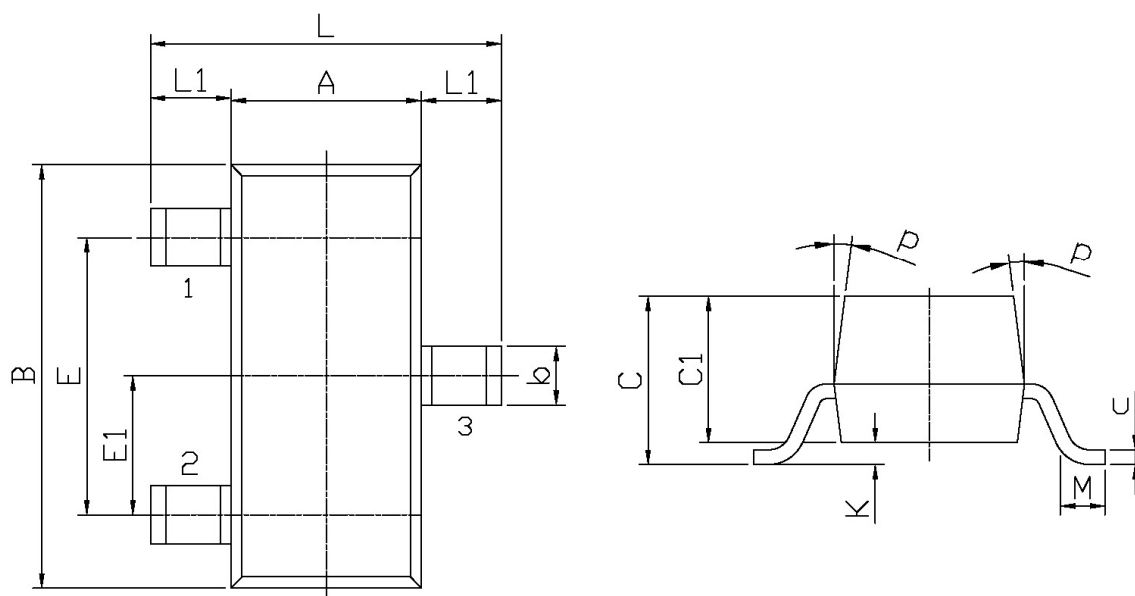




外形尺寸图 / Package Dimensions

SOT-23

单位: mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	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：

Q： 为汽车无卤产品标识

2L： 为型号代码

A： 为 h_{FE} 档次代码

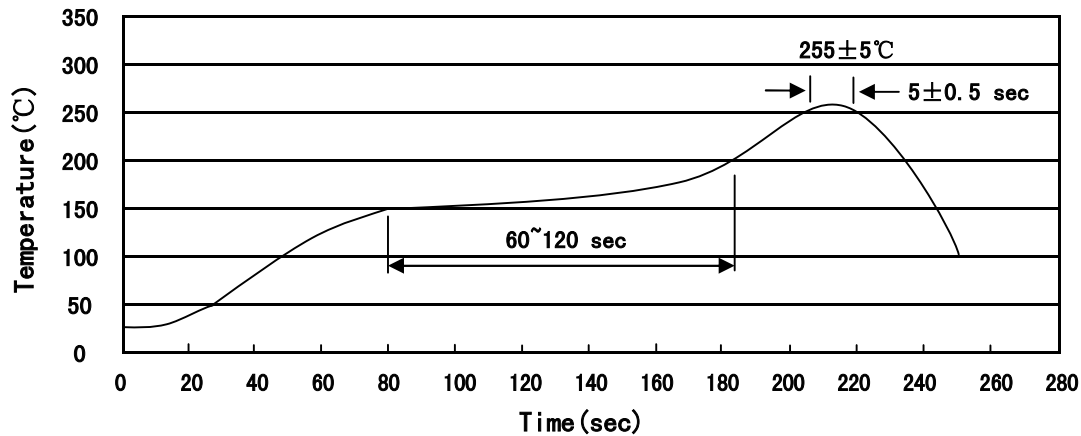
Note:

Q: Automobile halogen-free product Code

2L: Product Type Code

A: 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：

- 1、预热温度 150 ~ 200°C，时间 60 ~ 120sec;
- 2、峰值温度 255±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:150~200°C, Time:60~120sec.
- 2.Peak Temp.:255±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" x8	180×120×180	390×385×205

使用说明 / Notices