

BR3CG5350TAQ

Rev.A Jan.-2023

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，电流大，符合 AEC-Q101 标准高可靠性要求，无卤产品。

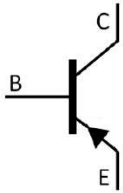
Low $V_{CE(sat)}$, high current, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

用途 / Applications

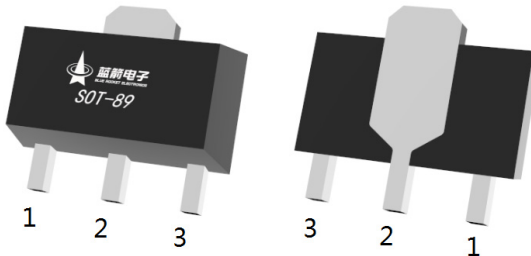
用于一般静音开关，液晶显示器的背景照明，线性开关电源，满足汽车应用的严格要求。

General purpose switching and muting, LCD back-lighting, supply line switching circuits, 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 : Collector

PIN 3 : Emitter

放大及印章代码 / hFE Classifications & Marking

Marking	QS46 *
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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 _{CB0}	-50	V
Collector to Emitter Voltage	V _{CEO}	-50	V
Emitter to Base Voltage	V _{EBO}	-5	V
Collector Current - Continuous	I _C	-3	A
Peak collector current	I _{CM}	-5	A
Collector Base - Continuous	I _B	-0.5	A
Total power dissipation(注)	P _{tot(注)}	550	mW
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{stg}	-65~150	°C

注：器件安装在印刷电路板上。

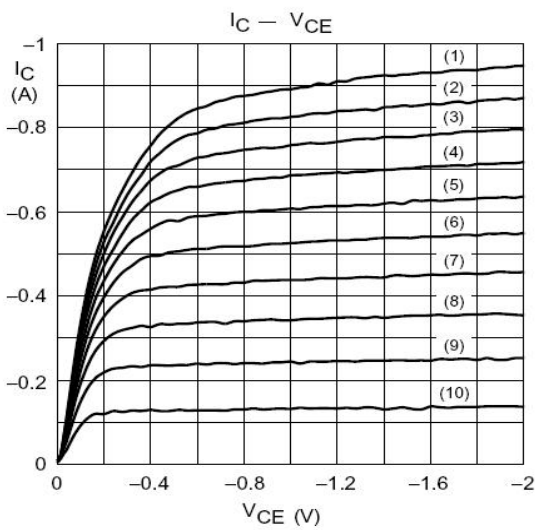
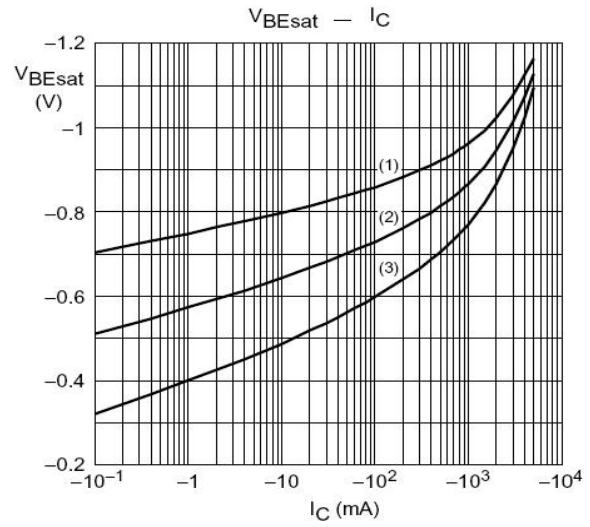
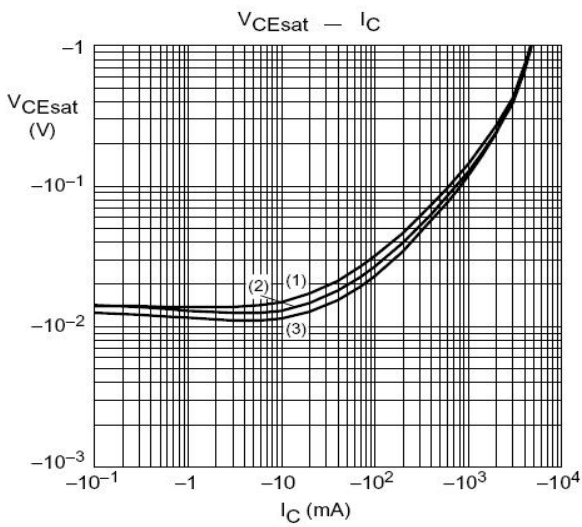
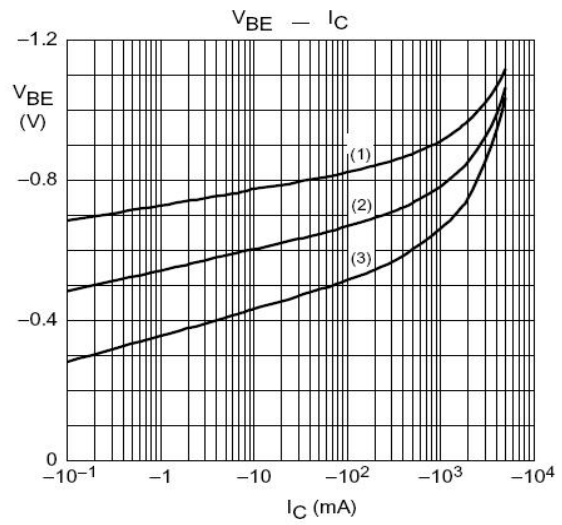
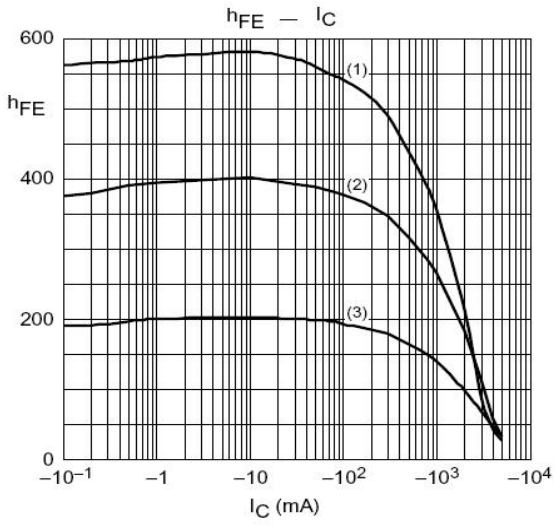
电性能参数 / Electrical Characteristics(Ta=25°C)

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			-100	nA
Collector Cut-Off Current	I _{CBO}	V _{CB} =-50V I _E =0 T _j =150°C			-50	μA
Collector cut-off current	I _{CES}	V _{CE} =-50V V _{BE} =0			-100	nA
Emitter Base Cut-Off Current	I _{EBO}	V _{EB} =-5.0V I _C =0			-100	nA
DC Current Gain	h _{FE(1)}	V _{CE} =-2.0V I _C =-0.1A	200			
	h _{FE(2)}	V _{CE} =-2.0V I _C =-0.5A	200			
	h _{FE(3)*}	V _{CE} =-2.0V I _C =-1.0A	200		450	
	h _{FE(4)*}	V _{CE} =-2.0V I _C =-2.0A	130			
	h _{FE(5)*}	V _{CE} =-2.0V I _C =-3.0A	80			
Collector to Emitter Saturation Voltage	V _{CE(sat) (1)}	I _C =-0.5A I _B =-50mA			-90	mV
	V _{CE(sat) (2)}	I _C =-2.0A I _B =-100mA			-320	mV
Equivalent on-resistance	R _{CE(sat)*}	I _C =-2.0A I _B =-200mA		90	135	mΩ
Base to Emitter Saturation Voltage	V _{BE(sat)(1)}	I _C =-2.0A I _B =-100mA			-1.1	V
	V _{BE(sat)(2)*}	I _C =-3.0A I _B =-300mA			-1.2	V
Base-emitter turn-on voltage	V _{BE(ON)}	V _{CE} =-2.0V I _C =-1.0A			-1.1	V
Transition Frequency	f _T	V _{CE} =-5.0V I _C =100mA f=100MHz	100			MHz
Collector capacitance	C _C	V _{CB} =-10V I _E =0 f=1.0MHz			35	pF

*脉冲测试：脉宽≤300μs, δ≤2.0%。

*pulse test: pulse width≤300μs, δ≤2.0%.

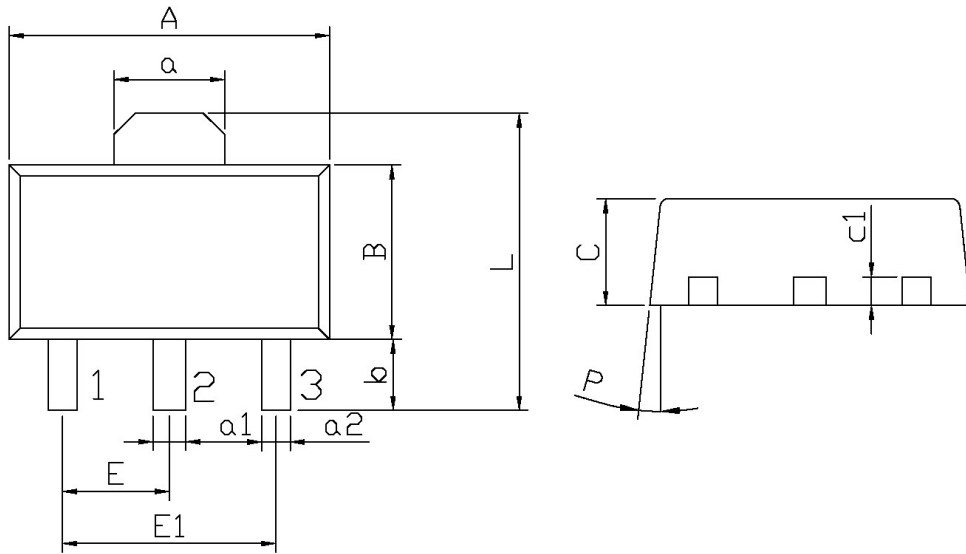
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

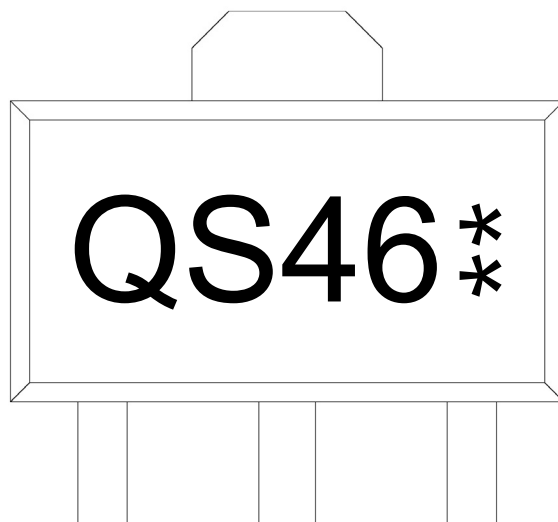
SOT-89

单位: mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	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：

Q： 为汽车无卤产品标识

S46： 为型号代码

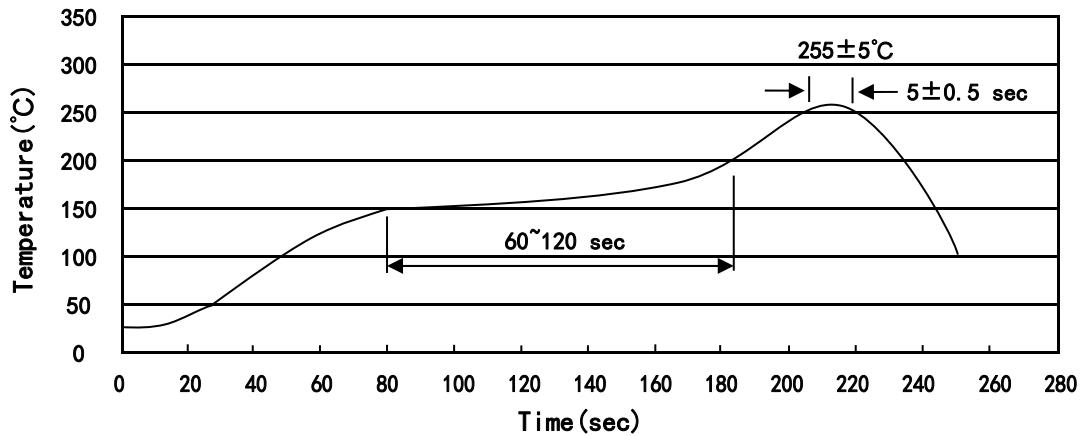
**： 为生产批号代码，随生产批号变化

Note:

Q: Automobile halogen-free product Code

S46: Product Type

** : 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 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-89	1,000	7	7,000	6	42,000	7" ×12	180×120×180	390×385×205

使用说明 / Notices