

# BR2SC4672Q

Rev.A Dec.-2021

## 描述 / Descriptions

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

## 特征 / Features

饱和压降低,极好的直流电流增益特性,与 BR2SA1797Q 互补,符合 AEC-Q101 标准高可靠性要求,无卤产品。

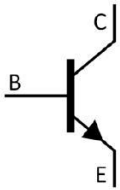
Low saturation voltage, excellent DC current gain characteristics, complements the BR2SA1797Q, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

## 用途 / Applications

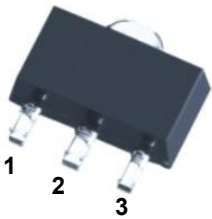
用于低频功率放大,满足汽车应用的严格要求。

Low frequency power amplifier applications, Meet the stringent requirements of automotive applications.

## 内部等效电路 / Equivalent Circuit



## 引脚排列 / Pinning



PIN1 : Base      PIN 2 : Collector      PIN 3 : Emitter

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

$h_{FE}$ Classifications Symbol	P	Q
$h_{FE}$ Range	82~180	120~270
Marking	QDKP**	QDKQ**

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

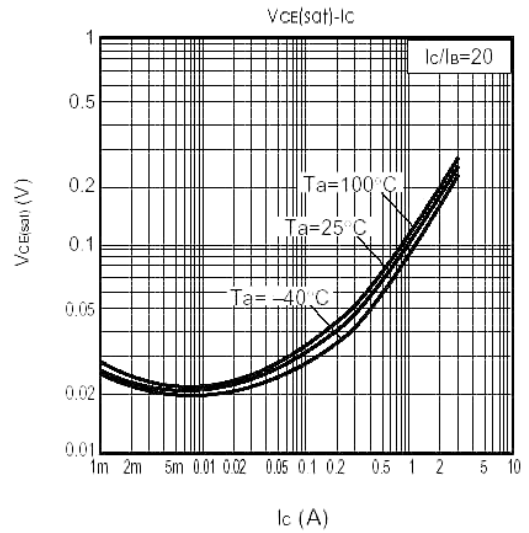
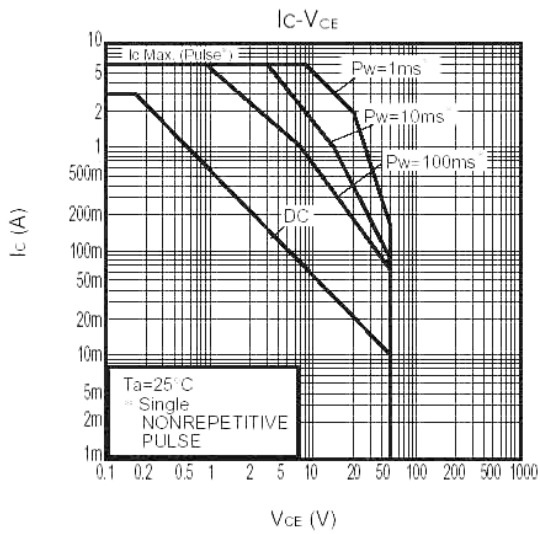
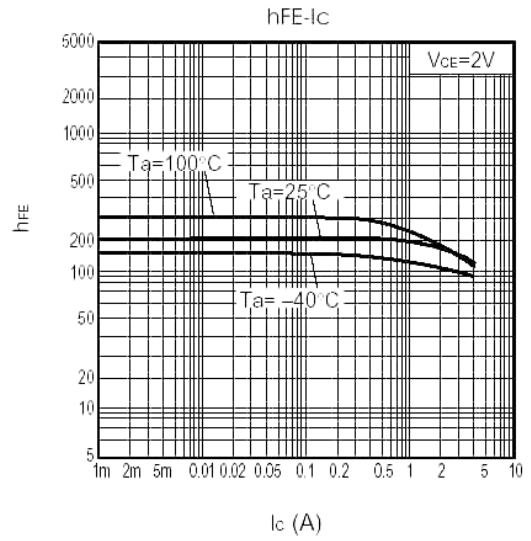
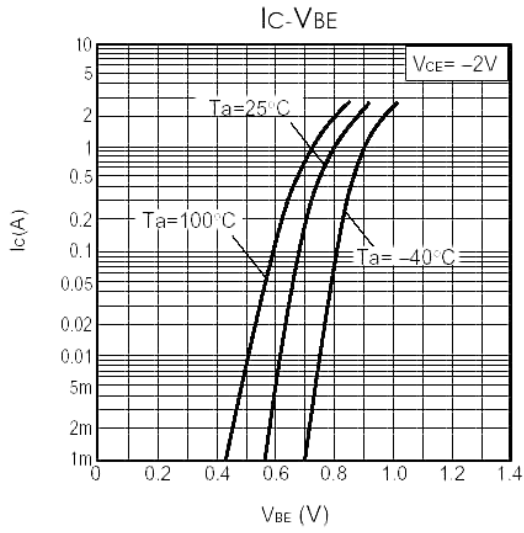
参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V <sub>CB0</sub>	60	V
Collector to Emitter Voltage	V <sub>CEO</sub>	50	V
Emitter to Base Voltage	V <sub>EBO</sub>	6.0	V
Collector Current - Continuous	I <sub>C</sub>	3.0	A
Collector Current – Continuous(Pulse)	I <sub>CP</sub>	6.0	A
Collector Power Dissipation	P <sub>C</sub>	0.5	W
Collector Power Dissipation*	*P <sub>C</sub>	2.0	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55~150	°C

\*加 40×40×0.7 的陶瓷板

**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 Breakdown Voltage	V <sub>CB0</sub>	I <sub>C</sub> =50μA	60			V
Collector to Emitter Breakdown Voltage	V <sub>CEO</sub>	I <sub>C</sub> =1.0mA	50			V
Emitter to Base Breakdown Voltage	V <sub>EBO</sub>	I <sub>E</sub> =50μA	6.0			V
Collector Cut-Off Current	I <sub>CB0</sub>	V <sub>CB</sub> =60V			0.1	μA
Emitter Base Cut-Off Current	I <sub>EBO</sub>	V <sub>EB</sub> =5.0V			0.1	μA
DC Current Gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =2.0V I <sub>C</sub> =500mA	82		270	
	h <sub>FE(2)</sub>	V <sub>CE</sub> =2.0V I <sub>C</sub> =1.5A	45			
Collector to Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =1.0A I <sub>B</sub> =50mA		0.13	0.35	V
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> =2.0V I <sub>C</sub> =0.5A f=100MHz		210		MHz
Collector Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V f=1.0MHz		25		pF

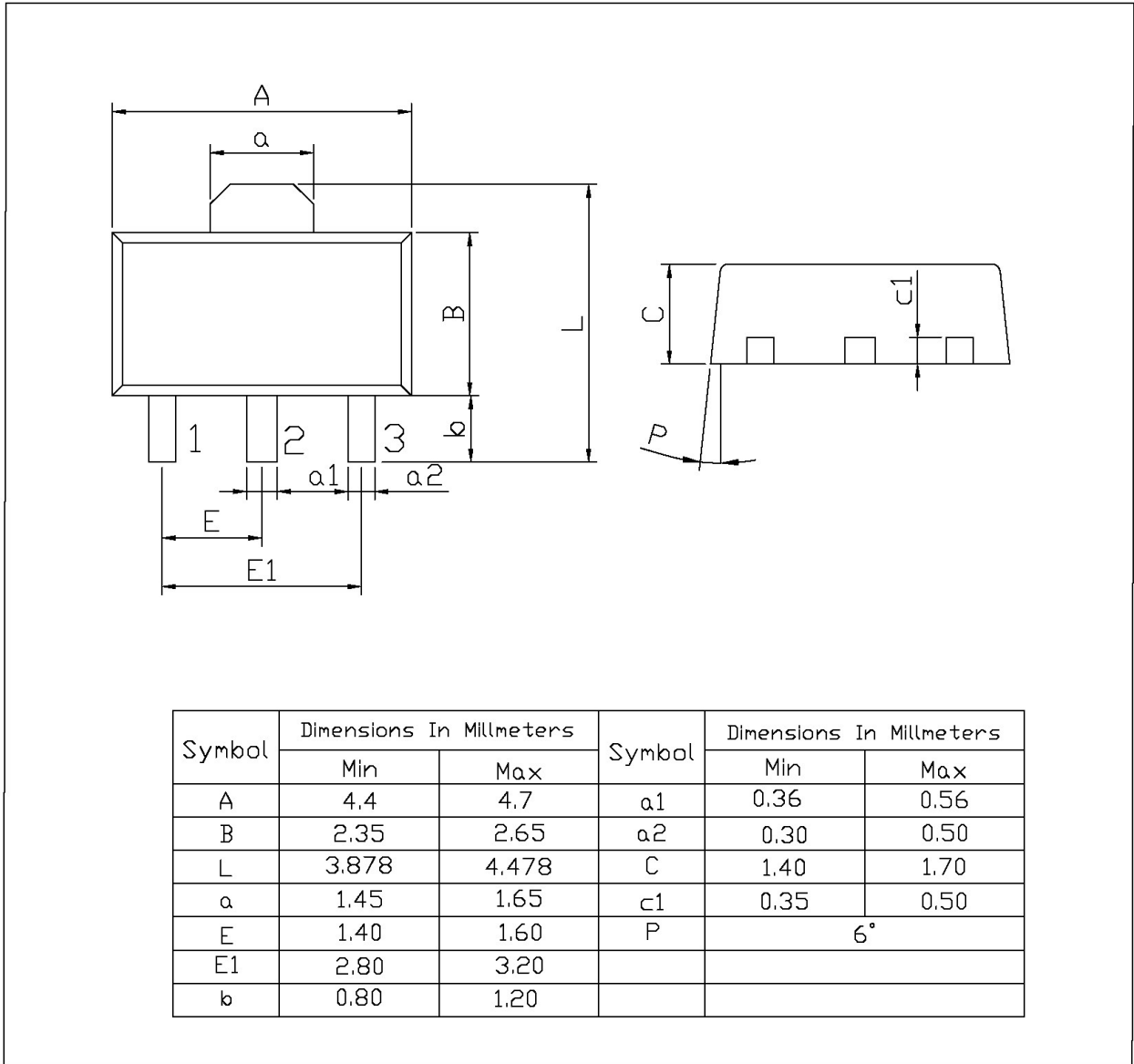
**电参数曲线图 / Electrical Characteristic Curve**



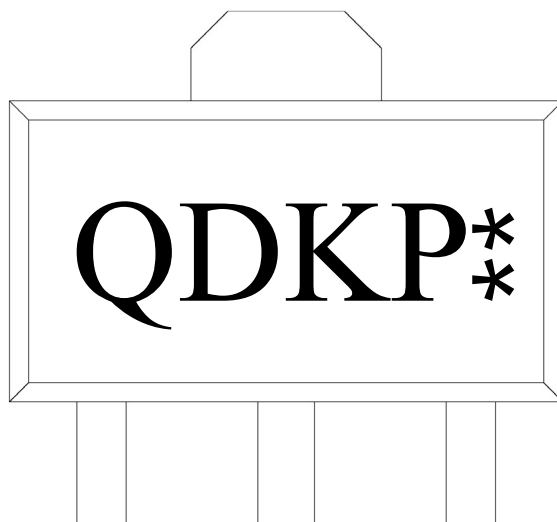
外形尺寸图 / Package Dimensions

SOT-89

单位: mm



印章说明 / Marking Instructions



说明：

Q： 为汽车无卤产品标识

DK： 为型号代码

P： 为档次代码

\*\*： 为生产批号代码，随生产批号变化。

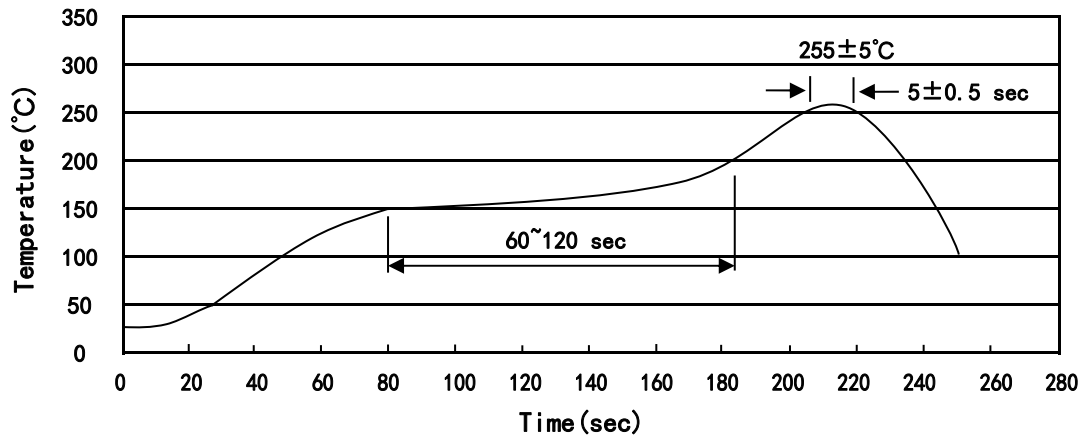
Note:

Q: Automobile halogen-free product Code

DK: Product Type.

P: h<sub>FE</sub> 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 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 <sup>3</sup> )		
	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**