

BR2SC2383TQ

Rev.A Feb.-2022

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

V_{CEO} 高,可与 BR2SA1013TQ 互补,符合 AEC-Q101 标准高可靠性要求,无卤产品。

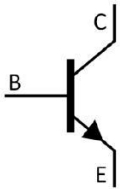
High V_{CEO} , complementary pair with BR2SA1013TQ, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

用途 / Applications

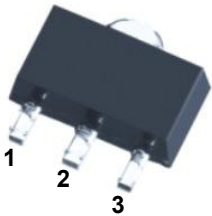
用于彩电帧输出,伴音输出,满足汽车应用的严格要求。

Color TV class B sound output 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	R	O	Y
h_{FE} Range	60~120	100~200	160~320
Marking	Q83R *	Q83O *	Q83Y *

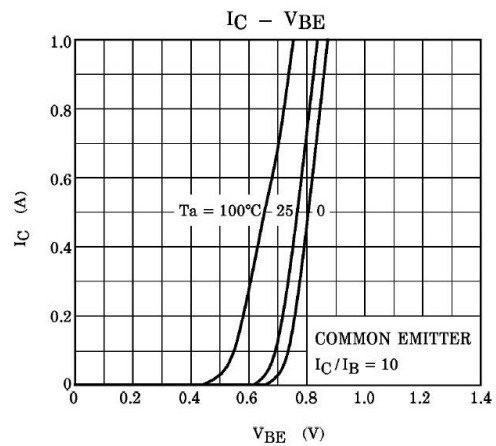
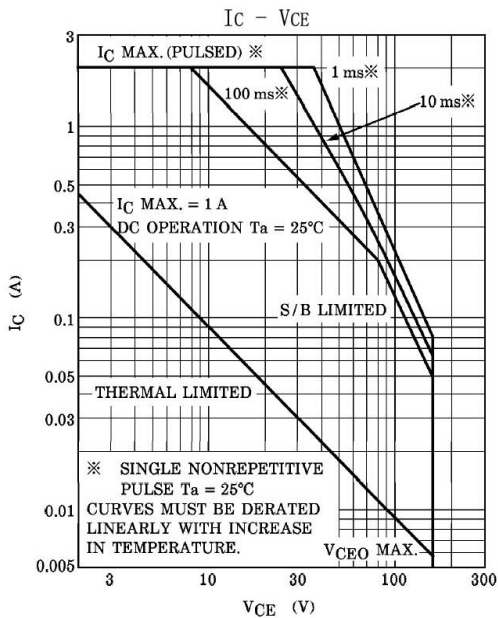
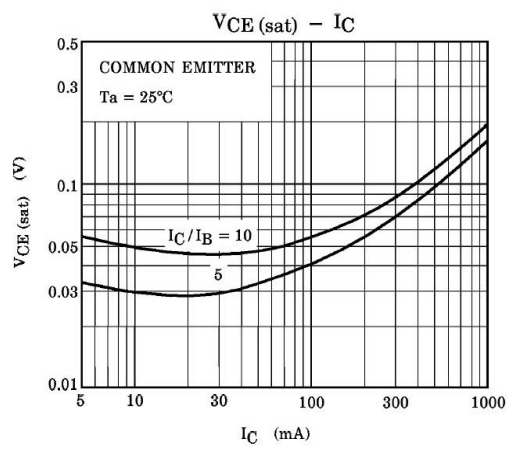
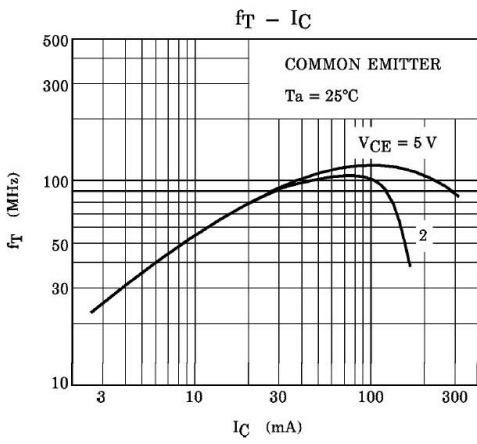
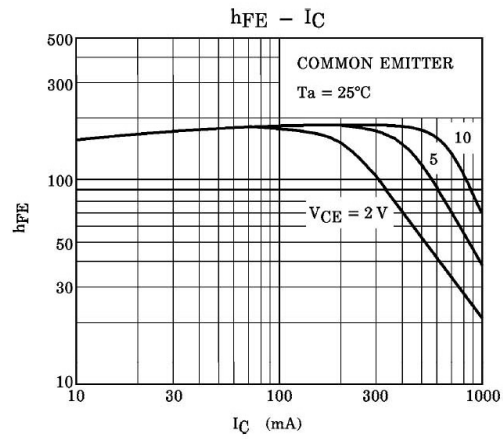
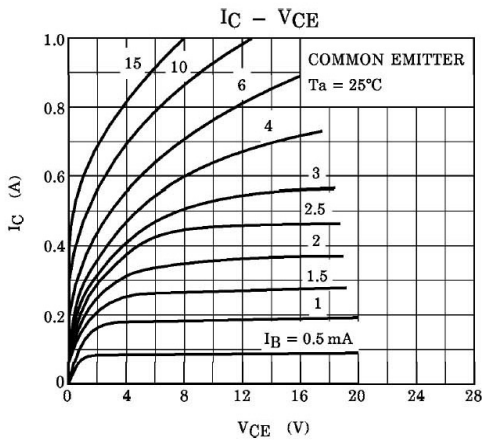
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V _{CB0}	160	V
Collector to Emitter Voltage	V _{CEO}	160	V
Emitter to Base Voltage	V _{EBO}	6.0	V
Collector Current-Continuous	I _C	1.0	A
Collector Base-Continuous	I _B	0.5	A
Collector Power Dissipation	P _C	500	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 Emitter Breakdown Voltage	V _{CEO}	I _C =10mA I _B =0	160			V
Collector Cut-Off Current	I _{CBO}	V _{CB} =150V I _E =0			1.0	μA
Emitter Base Cut-Off Current	I _{EBO}	V _{EB} =6.0V I _C =0			1.0	μA
DC Current Gain	h _{FE}	V _{CE} =5.0V I _C =200mA	60		320	
Collector to Emitter Saturation Voltage	V _{CE(sat)}	I _C =500mA I _B =50mA			1.5	V
Emitter to Base Saturation Voltage	V _{BE}	V _{CE} =5.0V I _C =5.0mA	0.45		0.75	V
Transition Frequency	f _T	V _{CE} =5.0V I _C =200mA	20	100		MHz
Collector Output Capacitance	C _{ob}	V _{CB} =10V f=1.0MHz I _E =0			20	pF

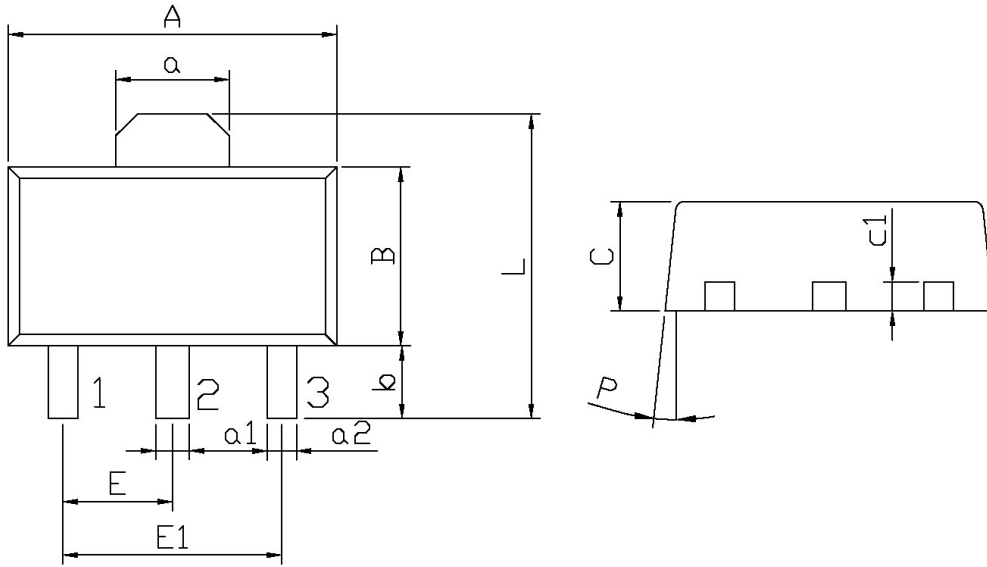
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

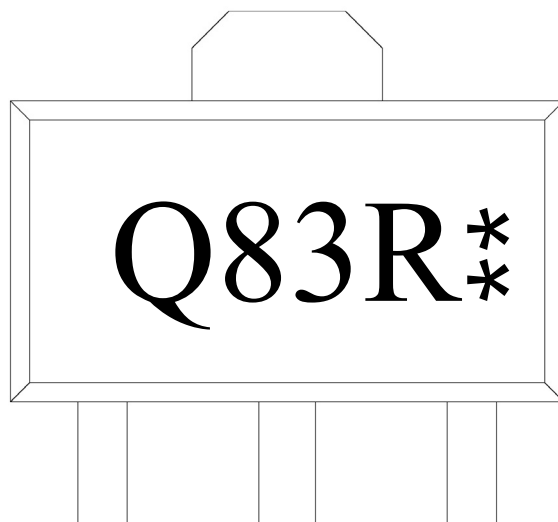
SOT-89

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

83： 为型号代码

R： 为档次代码

**： 为生产批号代码，随生产批号变化。

Note:

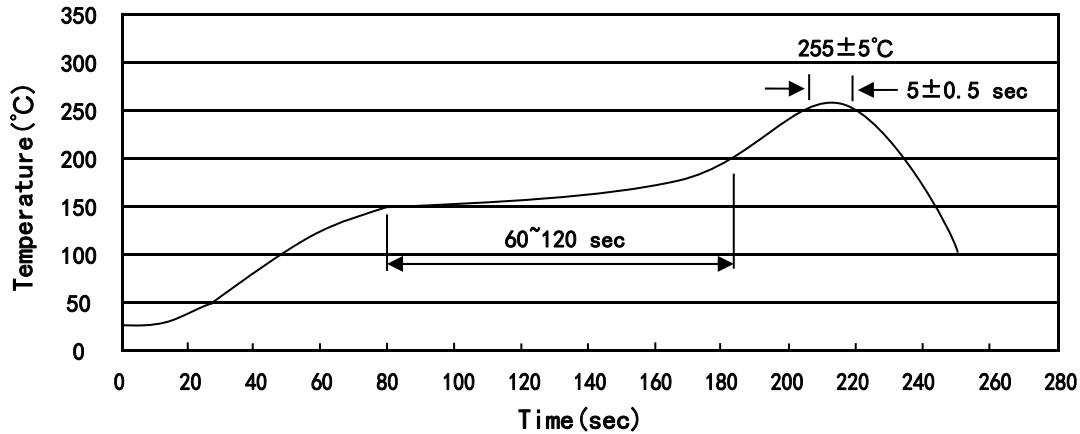
Q: Automobile halogen-free product Code

83: Product Type

R: h_{FE} 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 $150 \sim 200^\circ\text{C}$ ，时间 $60 \sim 120 \text{ sec}$;
- 2、峰值温度 $255 \pm 5^\circ\text{C}$ ，时间持续为 $5 \pm 0.5 \text{ sec}$;
- 3、焊接制程冷却速度为 $2 \sim 10^\circ\text{C}/\text{sec}$.

Note:

- 1.Preheating: $150 \sim 200^\circ\text{C}$, Time: $60 \sim 120 \text{ sec}$.
- 2.Peak Temp.: $255 \pm 5^\circ\text{C}$, Duration: $5 \pm 0.5 \text{ sec}$.
3. Cooling Speed: $2 \sim 10^\circ\text{C}/\text{sec}$.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度： $260 \pm 5^\circ\text{C}$

时间： $10 \pm 1 \text{ sec}$.

Temp.: $260 \pm 5^\circ\text{C}$

Time: $10 \pm 1 \text{ sec}$

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