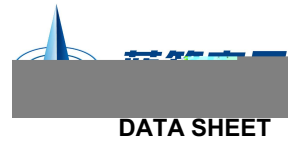


**/ Revised record**

F	2017-4				
G	2020-5-18	1			
A	2022-2-21	all	<p>BR Q</p> <p>AEC-Q101</p> <p>H Q 245±5°C</p> <p>5±0.5sec</p> <p>255±5°C</p> <p>5±0.5sec</p>		

# BRBC847Q

Rev.A Feb.-2022



SOT-23 塑封封装 NPN 半导体三极管。Silicon NPN transistor in a SOT-23

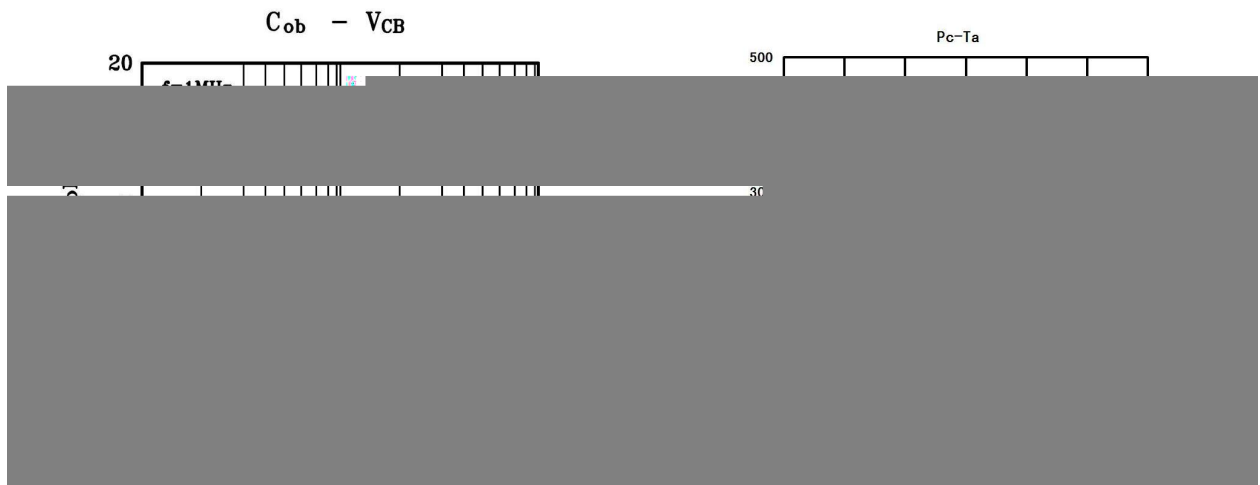
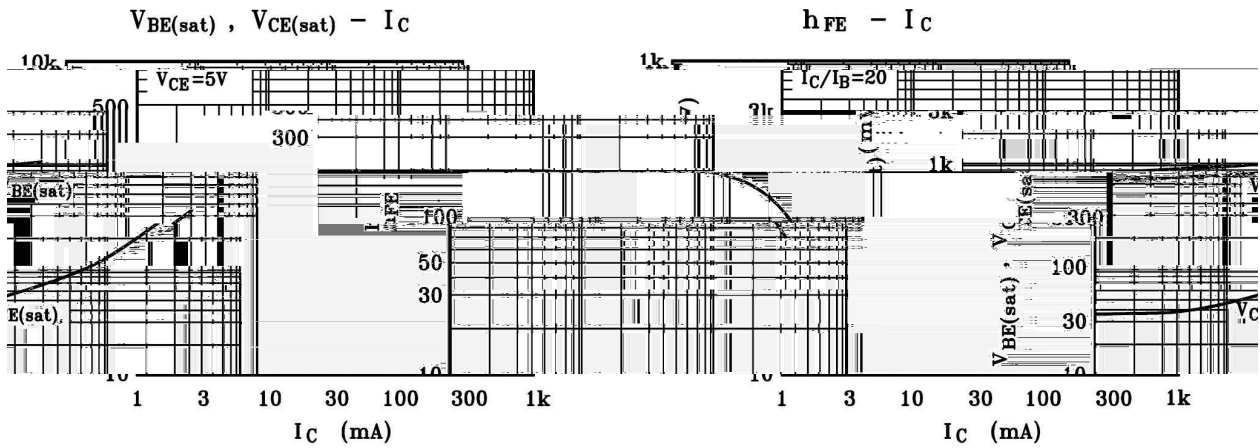
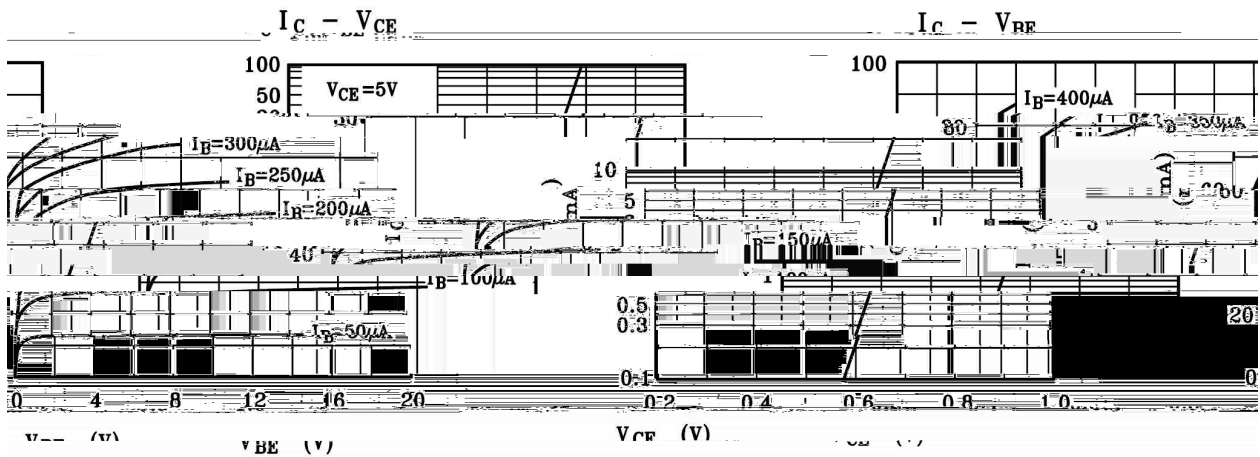
## / Absolute Maximum Ratings(Ta=25 )

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	$V_{CBO}$	50	V
Collector to Emitter Voltage	$V_{CEO}$	45	V
Emitter to Base Voltage	$V_{EBO}$	6.0	V
Collector Current - Continuous	$I_C$	100	mA
Collector Power Dissipation	$P_C$	350	mW
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	-55~150	°C

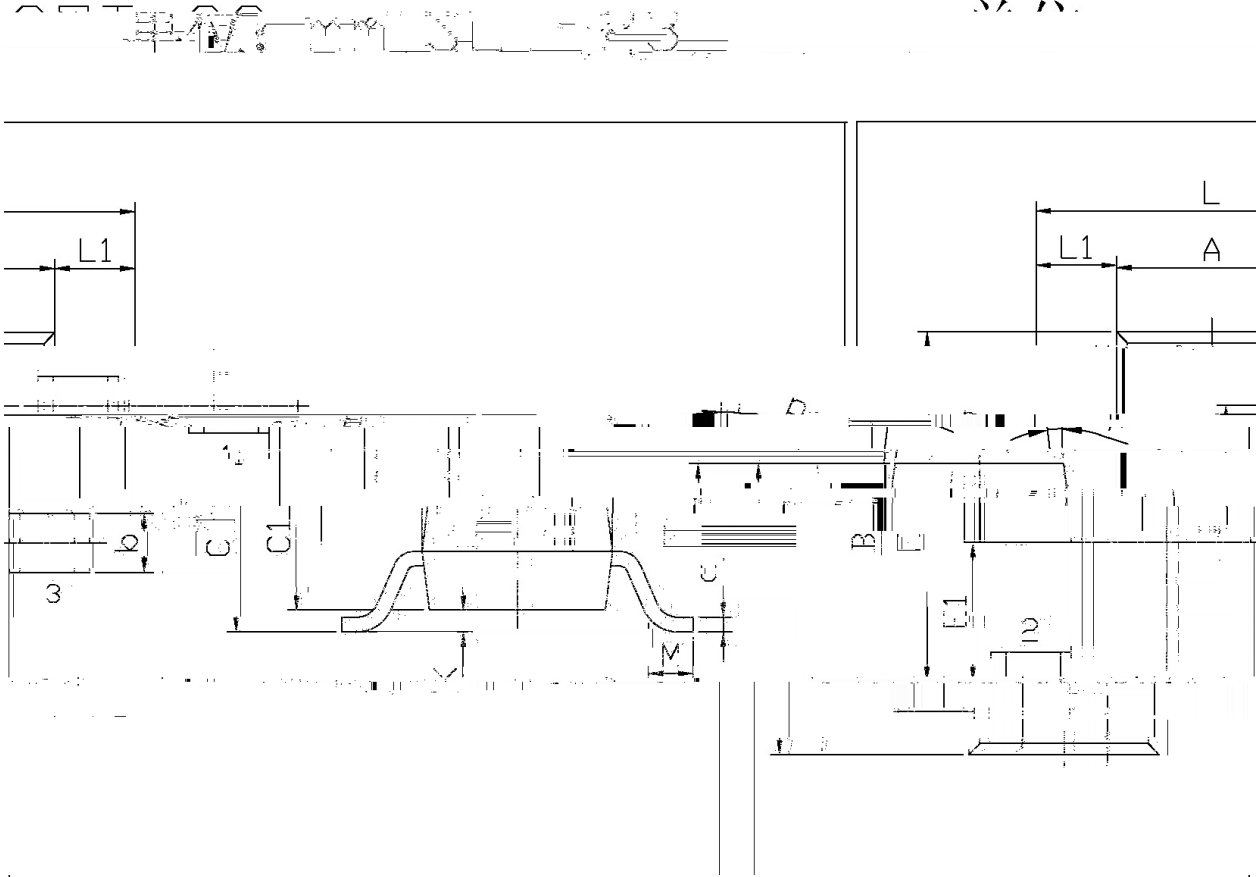
## / Electrical Characteristics(Ta=25 )

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	$I_{CBO}$	$V_{CB}=30V$ $I_E=0$			0.015	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE}=5.0V$ $I_C=2.0mA$	110		800	
Collector to Emitter Saturation Voltage	$V_{CE(sat)1}$	$I_C=10mA$ $I_B=0.5mA$		0.09	0.25	V
	$V_{CE(sat)2}$	$I_C=100mA$ $I_B=5.0mA$		0.2	0.6	V
Base to Emitter Saturation Voltage	$V_{BE(sat)1}$	$I_C=10mA$ $I_B=0.5mA$		0.7		V
	$V_{BE(sat)2}$	$I_C=100mA$ $I_B=5.0mA$		0.9		V
Base to Emitter Voltage	$V_{BE(on)1}$	$V_{CE}=5.0V$ $I_C=2.0mA$	0.58		0.7	V
	$V_{BE(on)2}$	$V_{CE}=5.0V$ $I_C=10mA$			0.75	V
Transition Frequency	$f_T$	$V_{CE}=5.0V$ $f=100MHz$ $I_C=10mA$		300		MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=10V$ $f=1.0MHz$ $I_E=0$		2.5	4.5	pF
Noise Figure	NF	$V_{CE}=6.0V$ $I_C=0.1mA$ $R_g=10K$ $f=1.0KHz$		1.0	10	dB

/ Electrical Characteristic Curve

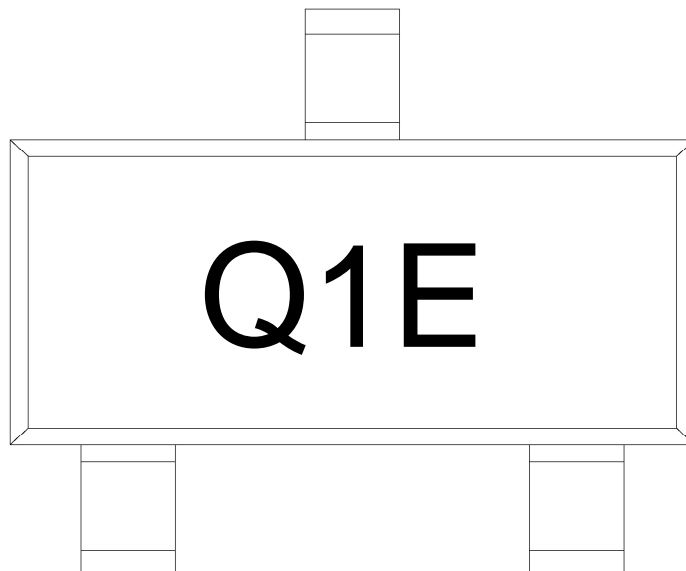


**/ Package Dimensions**



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L1	0.45	0.65	C1	0.90	1.20
A	1.15	1.50	C	0.25	0.20
3	0.45	0.10	B	2.70	
M	0.20	MIN	E1	1.70	
P	7°		E1	0.85	
			ilo	0.85	

**/ Marking Instructions**



说明：

Q： 为汽车无卤产品标识

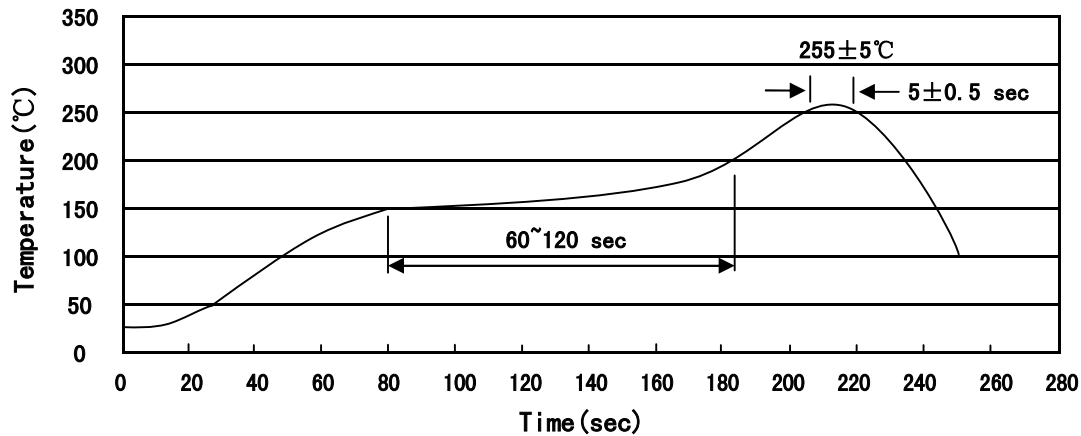
1E： 为型号代码

Note:

Q: Automobile halogen-free product Code

1E: Product Type Code

## ( ) / 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.

## / Resistance to Soldering Heat Test Conditions

温度：260±5°C

时间：10±1 sec.

Temp.:260±5°C

Time:10±1 sec

## / 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-23	3,000	10	30,000	6	180,000	7" x8	180×120×180	390×385×205

## / Notices