BCP56

Rev.F Oct.-2023

蓝箭电子
BLUE ROCKET ELECTRONICS

DATA SHEET

描述 / Descriptions

SOT-223 塑封封装 NPN 半导体三极管。Silicon NPN transistor in a SOT-223 Plastic Package.

特征 / Features

大电流、低电压，无卤产品。

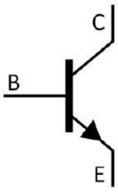
High current,Low voltage,HF product.

用途 / Applications

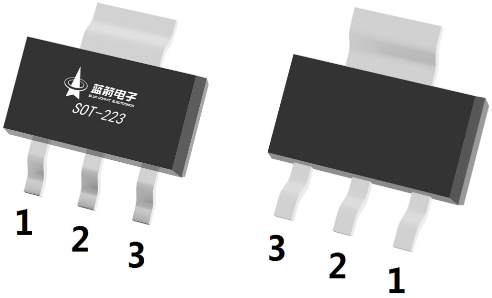
用于中功率开关电路。

Medium Power switching 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

见印章说明。

See Marking Instructions.

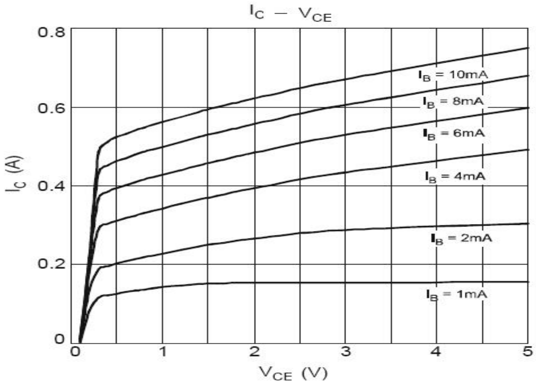
极限参数 / Absolute Maximum Ratings(Ta=25℃)

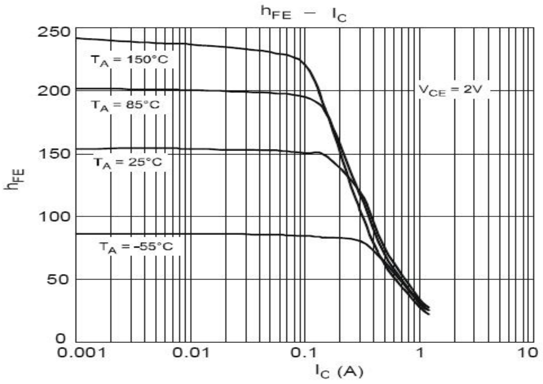
参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	100	V
Collector to Emitter Voltage	V_{CEO}	80	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	1.0	A
Peak Pulse Collector Current	I_{CM}	1.5	A
Peak Pulse Base Current	I_{BM}	200	mA
Power Dissipation	P_D	1.2	W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	105	K/W
Thermal Resistance, Junction to Leads	$R_{\theta JS}$	13	K/W
Junction Temperature	T_j	150	℃
Operating and Storage Temperature Range	T_{stg} T_{amb}	-65～150	℃

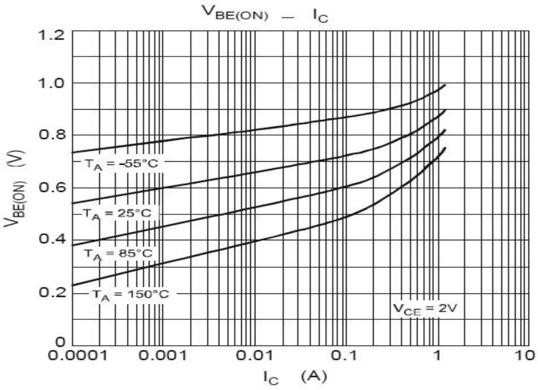
电性能参数 / Electrical Characteristics(Ta=25℃)

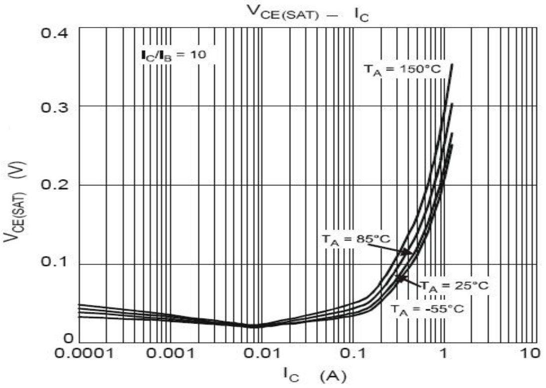
参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Collector Cut-Off Current	I_{CBO}	V_{CB}=30V I_E=0			100	nA
		V_{CB}=30V I_E=0 T_j=125℃			10	μA
Emitter Base Cut-Off Current	I_{EBO}	V_{EB}=5.0V I_C=0			100	nA
DC Current Gain	$h_{FE(1)}$	V_{CE}=2.0V I_C=5mA	25			
	$h_{FE(2)}$	V_{CE}=2.0V I_C=150mA	100		250	
	$h_{FE(3)}$	V_{CE}=2.0V I_C=500mA	25			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=500mA I_B=50mA			0.5	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=500mA V_{CE}=2.0V			1.0	V
Transition Frequency	f_T	V_{CE}=-5V I_C=-10mA f=100MHz		130		MHz

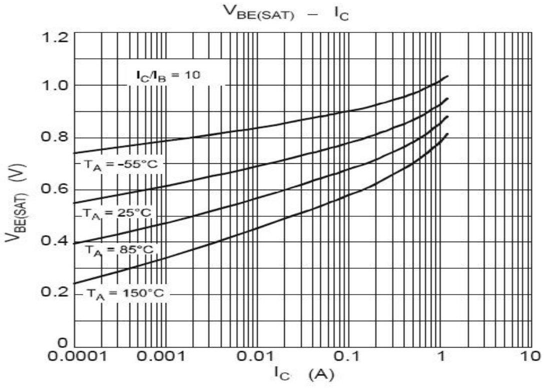
电参数曲线图 / Electrical Characteristic Curve

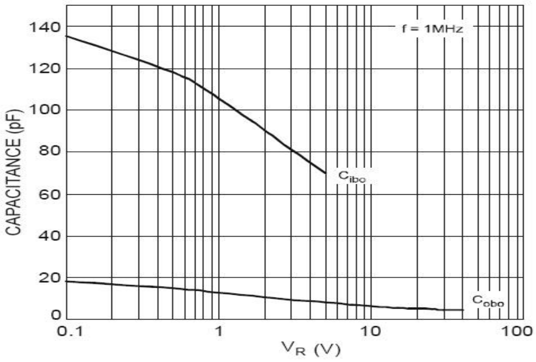


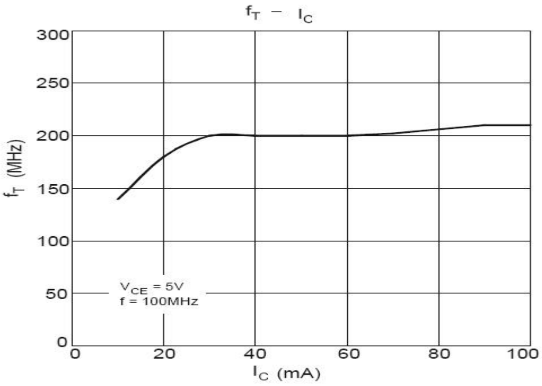






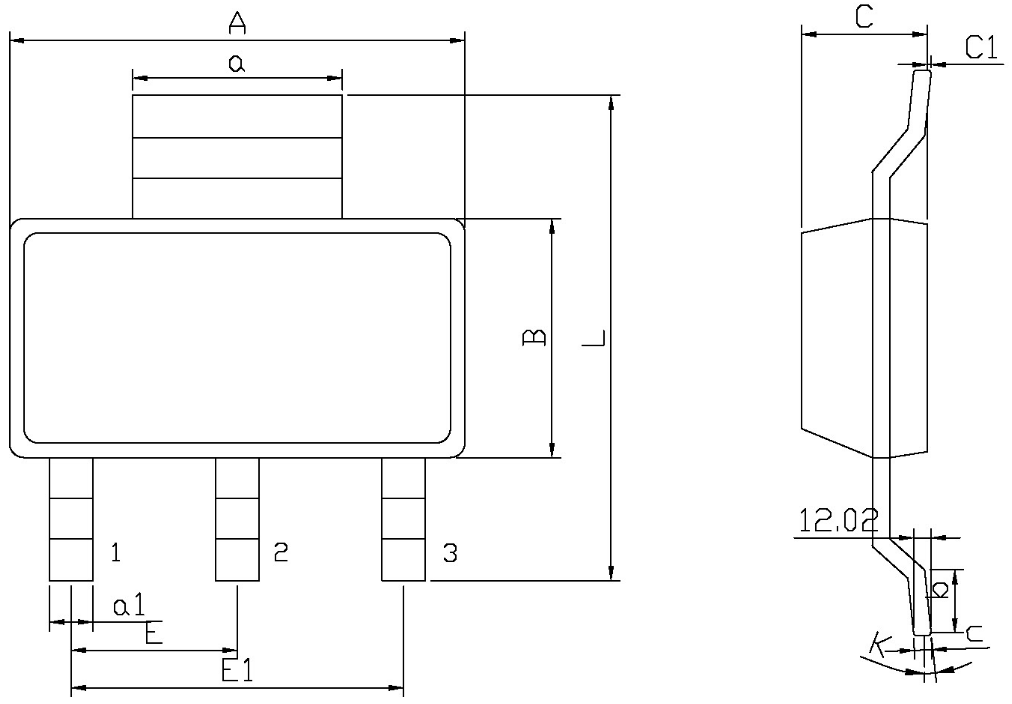






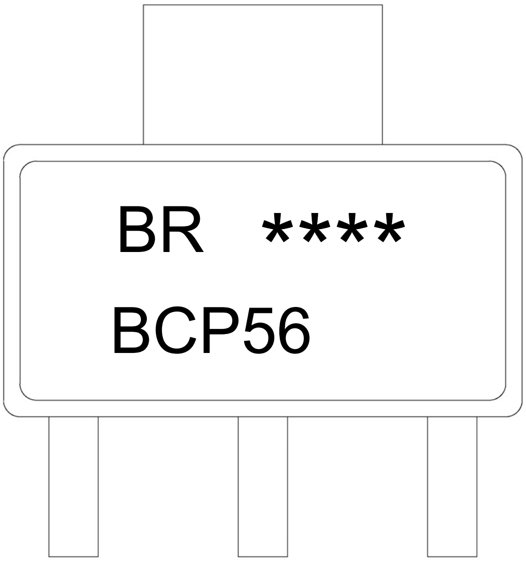
外形尺寸图 / Package Dimensions

SOT-223 单位：mm



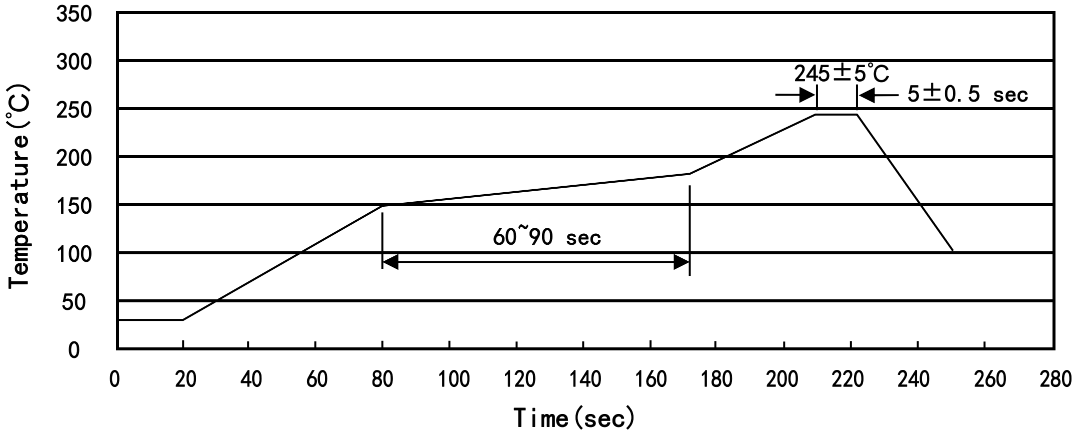
Symbol	Dimensions In Millmeters		Symbol	Dimensions In Millmeters	
	Min	Max		Min	Max
A	6.30	6.70	C	-	1.80
a	2.90	3.10	b	0.91	-
B	3.30	3.70	c	0.24	0.32
L	6.70	7.30	C1	0.02	0.10
a1	0.60	0.80	K	0°	10°
E1	4.10	5.10			
E	2.00	2.60			

印章说明 / Marking Instructions



说明：	
BR：	为公司代码
BCP56：	为产品型号
****：	为生产批号代码，随生产批号变化
Note:	
BR:	Company Code
BCP56:	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 150～180℃，时间 60～90sec;

2、峰值温度 245±5℃，时间持续为 5±0.5sec;

3、焊接制程冷却速度为 2～10℃/sec.

Note:

1.Preheating:150~180℃, Time:60~90sec.

2.Peak Temp.:245±5℃, Duration:5±0.5sec.

3. Cooling Speed: 2~10℃/sec.

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

温度：260±5℃　　时间：10±1 sec.　　Temp.:260±5℃　　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-223	2,500	2	5,000	6	30,000	13″ ×12	360×360×50	380×335×366

使用说明 / Notices