

BRPNBC846

Rev.A Jul.-2016

描述 / Descriptions

SOT-363 塑封封装 PNP+NPN 半导体三极管。

Silicon PNP and NPN transistor in a SOT-363 Plastic Package.

特征 / Features

低电流，低电压，小封装。

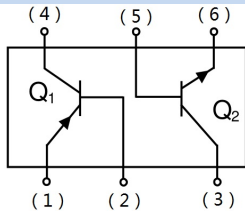
Low current ,Low voltage ,S-mini package.

用途 / Applications

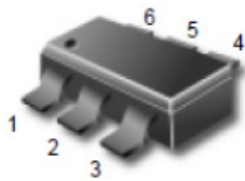
用于普通放大及开关。

General purpose amplifier and switching.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN 1、4 : Emitter

PIN 2、5 : Base

PIN 3、6 : Collector

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

See Marking Instructions.

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

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	80	V
Collector to Emitter Voltage	V_{CEO}	65	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

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

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	-80	V
Collector to Emitter Voltage	V_{CEO}	-65	V
Emitter to Base Voltage	V_{EBO}	-5.0	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

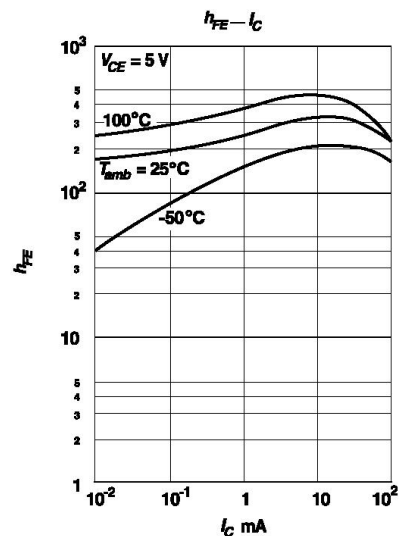
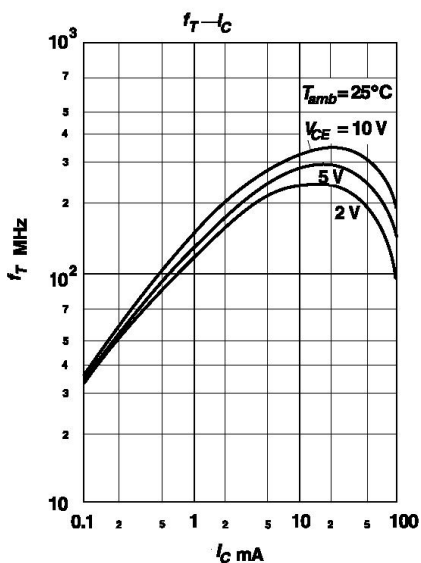
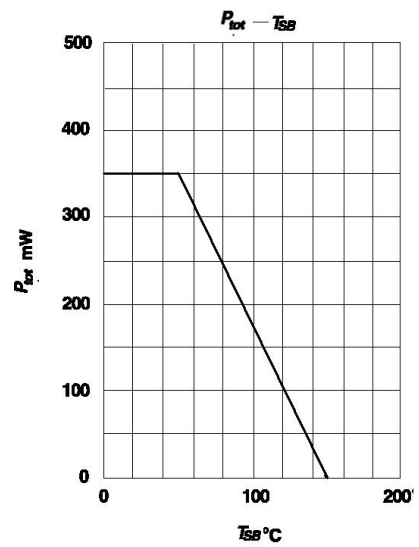
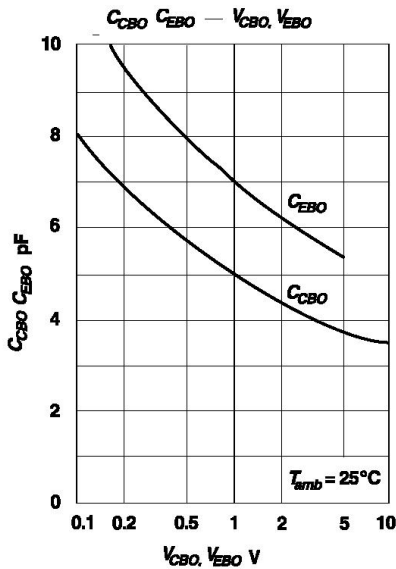
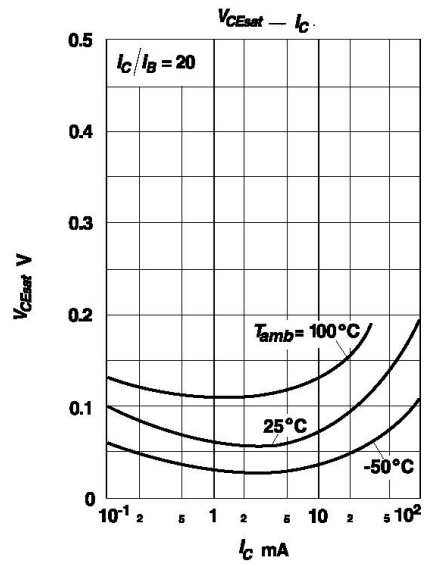
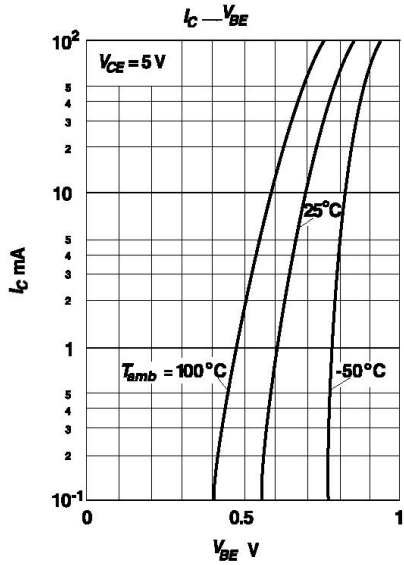
电性能参数 / Electrical Characteristics(Ta=25°C) (NPN)

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}	$V_{CB}=50V$ $I_E=0$			15	nA
		$V_{CB}=30V$ $I_E=0$ $T_J=150^\circ C$			5	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=6.0V$ $I_C=0$			100	nA
DC Current Gain	h_{FE}	$V_{CE}=5.0V$ $I_C=2.0mA$	200	300	450	
		$V_{CE}=5.0V$ $I_C=10\mu A$		280		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10mA$ $I_B=0.5mA$		55	100	mV
		$I_C=100mA$ $I_B=5.0mA$		200	300	mV
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=10mA$ $I_B=0.5mA$		755	850	mV
		$I_C=100mA$ $I_B=5.0mA$		1000		mV
Base-emitter voltage	V_{BE}	$V_{CE}=5.0V$ $I_C=2.0mA$	580	650	700	mV
		$V_{CE}=5.0V$ $I_C=10mA$			770	mV
Transition Frequency	f_T	$V_{CE}=5.0V$ $I_C=10mA$ $f=100MHz$	100			MHz
Collector Capacitance	C_c	$V_{CB}=10V$ $f=1.0MHz$ $I_E=i_e=0A$		1.9		pF
Emitter Capacitance	C_e	$V_{EB}=0.5V$ $f=1.0MHz$ $I_E=i_e=0A$		11		pF
Noise figure	NF	$V_{CE}=5.0V$ $I_C=0.2mA$ $R_S=2k\Omega$ $f=10Hz$ to $15.7kHz$		1.9		dB
		$V_{CE}=5.0V$ $I_C=0.2mA$ $R_S=2k\Omega$ $f=1.0kHz$ $B=200Hz$		3.1		dB

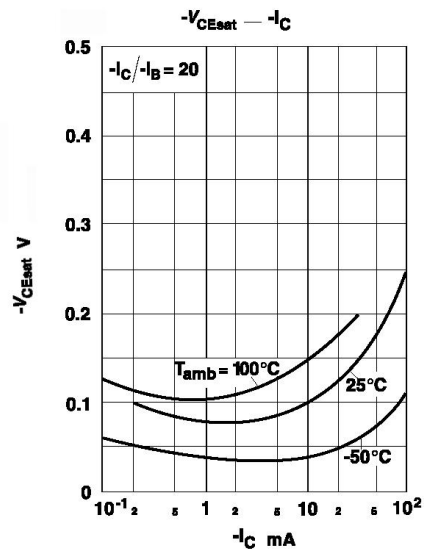
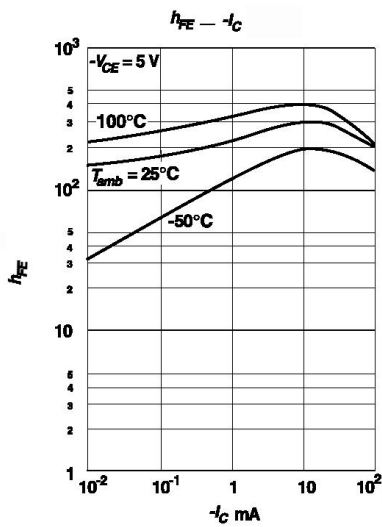
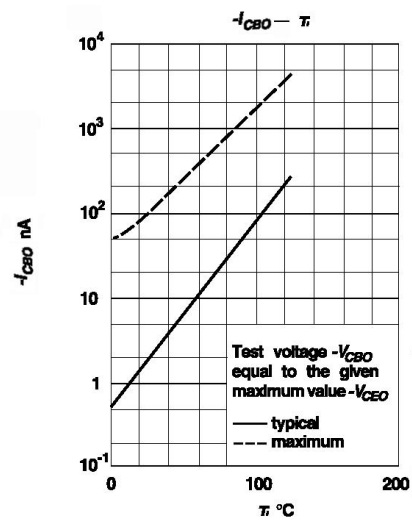
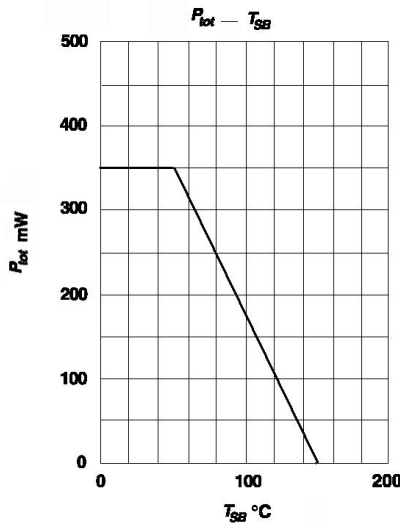
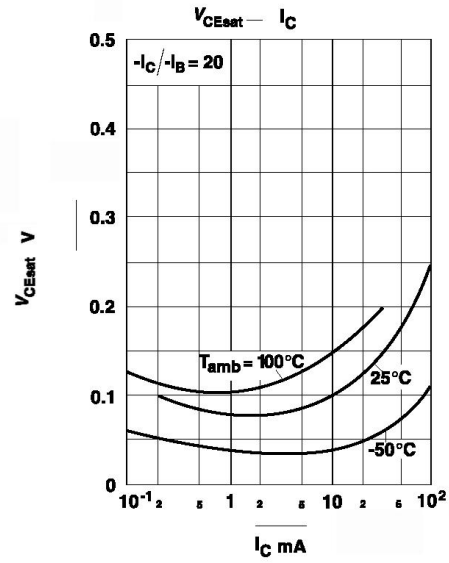
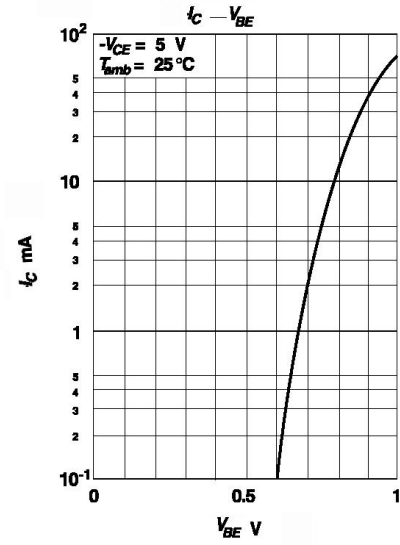
电性能参数 / Electrical Characteristics(Ta=25°C) (PNP)

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			-15	nA
		V _{CB} =-30V I _E =0 T _J =150°C			-5.0	μA
Emitter Cut-Off Current	I _{EBO}	V _{EB} =-6.0V I _C =0			-100	nA
DC Current Gain	h _{FE}	V _{CE} =-5.0V I _C =-2.0mA	200	290	450	
		V _{CE} =-5.0V I _C =-10μA		270		
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C =-10mA I _B =-0.5mA		-55	-100	mV
		I _C =-100mA I _B =-5.0mA		-200	-300	mV
Base-Emitter Saturation Voltage	V _{BE(sat)}	I _C =-10mA I _B =-0.5mA		-755	-850	mV
		I _C =-100mA I _B =-5.0mA		-900		mV
Base-emitter voltage	V _{BE}	V _{CE} =-5.0V I _C =-2.0mA	-600	-650	-750	mV
		V _{CE} =-5.0V I _C =-10mA			-820	mV
Transition Frequency	f _T	V _{CE} =-5.0V I _C =-10mA f=100MHz	100			MHz
Collector Capacitance	C _c	V _{CB} =-10V f=1.0MHz I _E =I _e =0A		2.3		pF
Emitter Capacitance	C _e	V _{EB} =-0.5V f=1.0MHz I _E =I _e =0A		10		pF
Noise figure	NF	V _{CE} =-5.0V I _C =-0.2mA R _S =2kΩ f=10Hzto15.7kHz		1.6		dB
		V _{CE} =-5.0V I _C =-0.2mA R _S =2kΩ f=1.0kHz B=200Hz		2.9		dB

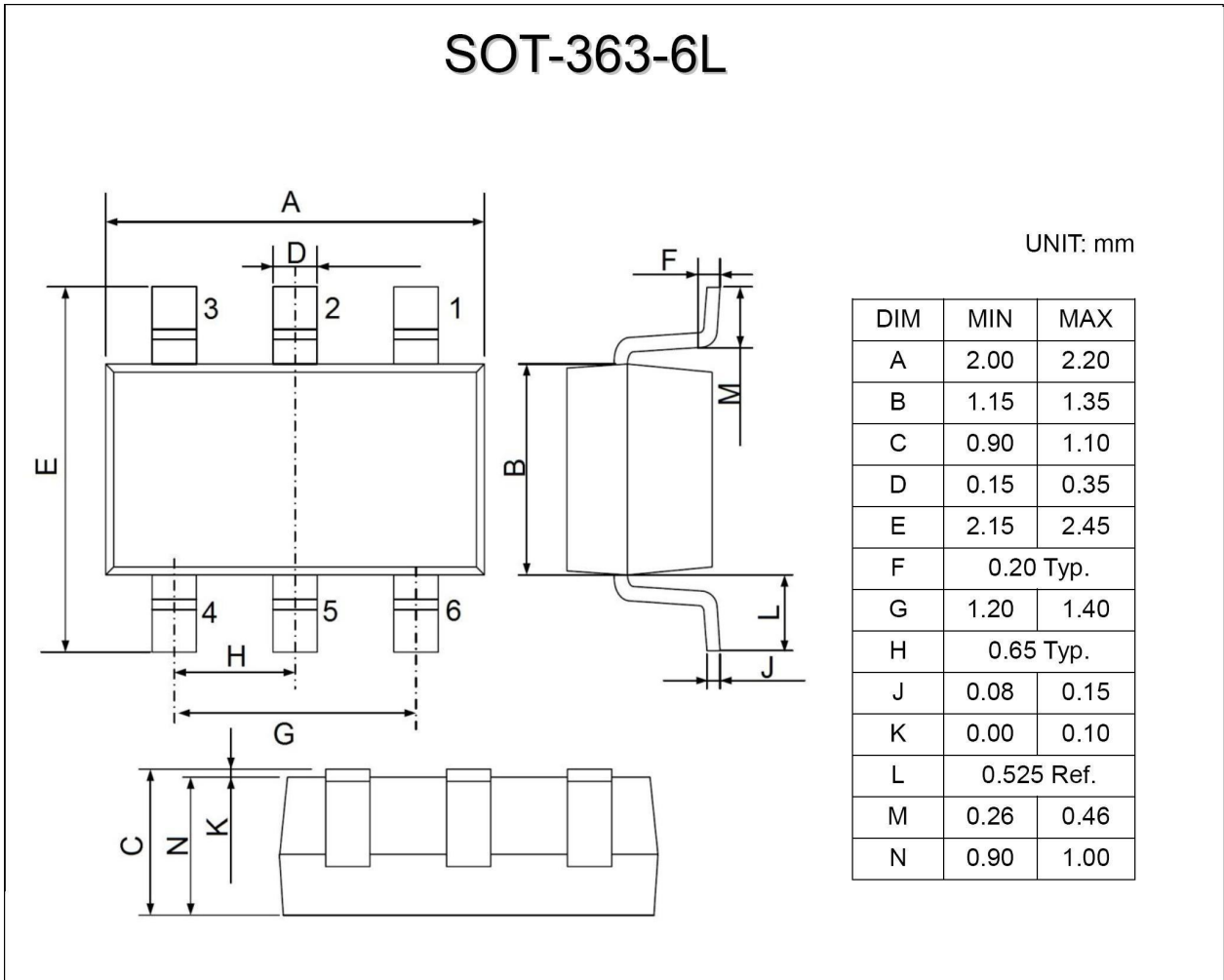
电参数曲线图 / Electrical Characteristic Curve (NPN)



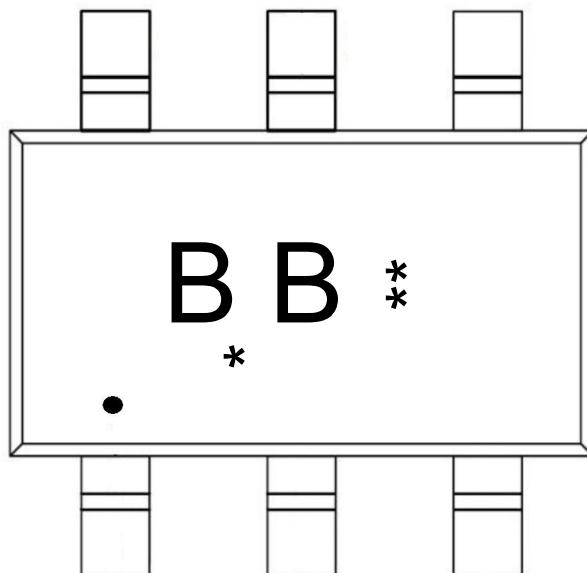
电参数曲线图 / Electrical Characteristic Curve (PNP)



外形尺寸图 / Package Dimensions



印章说明 / Marking Instructions

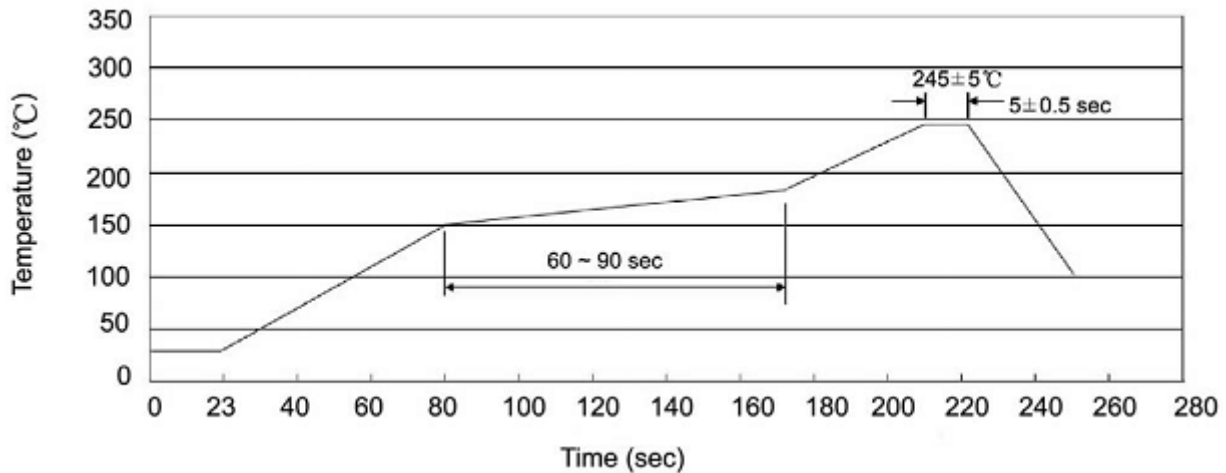


说明：

- ： 为“1”脚
- BB： 为型号代码
- ***： 为生产批号代码，随生产批号变化

Note:

- ： “1” Pin
- BB： Product Type Code
- ***： 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 25~150°C，时间 60~90sec;
- 2、峰值温度 245±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:25~150°C, Time:60~90sec.
- 2.Peak Temp.:245±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-363	3,000	10	30,000	8	240,000	7" x8	180×120×180	385×257×392

使用说明 / Notices