

描述 / Descriptions

TO-3PH 塑封封装 NPN 半导体三极管。Silicon NPN transistor in a TO-3PH Plastic Package.

特征 / Features

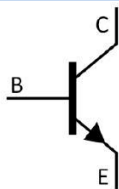
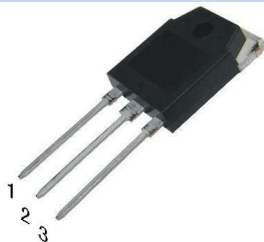
用于 70W 高保真音频功率输出，与 BR2SA1941PH 互补。

Recommend for 70W high fidelity audio frequency amplifier output stage, Complementary to BR2SA1941PH.

用途 / Applications

用于一般功率放大。

Power amplifier 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
h_{FE} Range	55~110	80~160

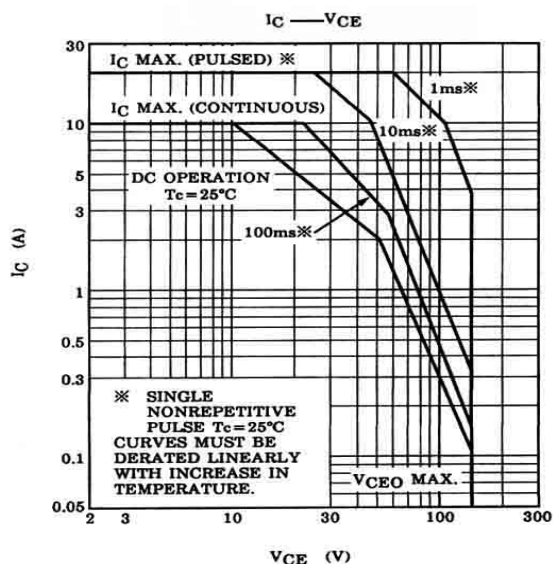
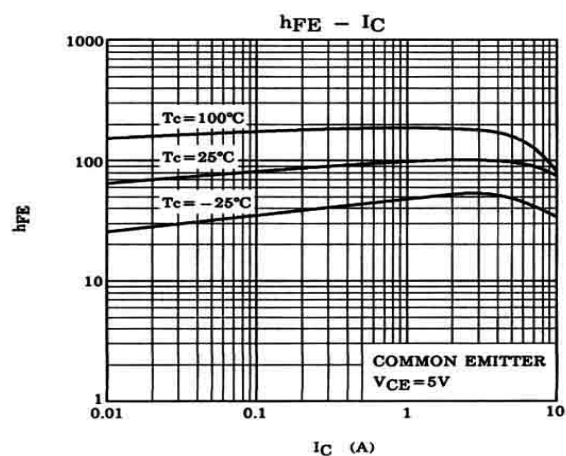
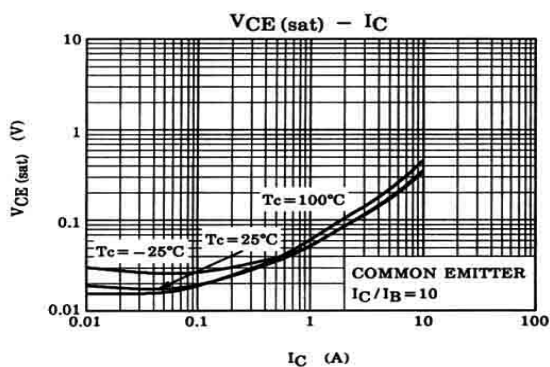
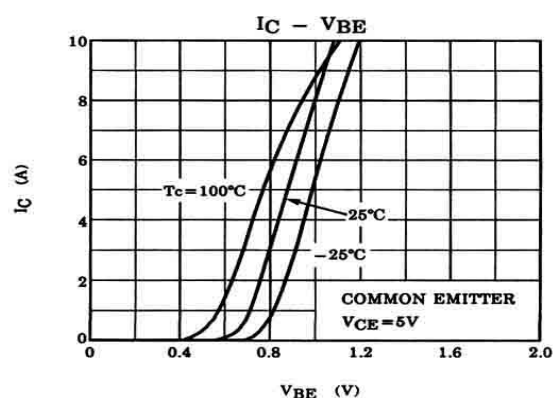
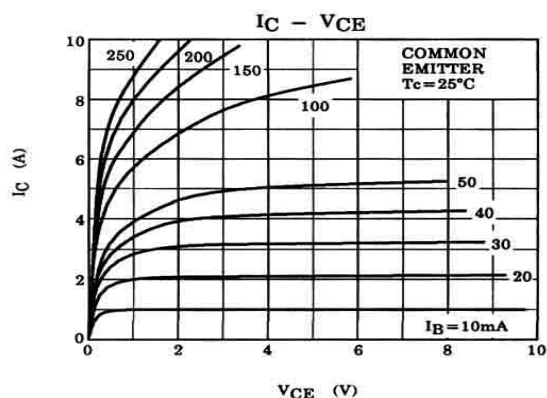
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	140	V
Collector to Emitter Voltage	V_{CEO}	140	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	10	A
Peak Collector Current	I_{CP}	20	A
Base Current	I_B	1.0	A
Collector Power Dissipation	$P_{C(TC=25^{\circ}C)}$	100	W
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 Base Breakdown Voltage	V_{CBO}	$I_C=50mA$ $I_B=0$	140			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=140V$ $I_E=0$			5.0	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=5.0V$ $I_C=0$			5.0	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5.0V$ $I_C=1.0A$	55		160	
	$h_{FE(2)}$	$V_{CE}=5.0V$ $I_C=5.0A$	35	83		
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=7.0A$ $I_B=0.7A$		0.3	2.0	V
Base to Emitter Voltage	V_{BE}	$V_{CE}=5.0V$ $I_C=5.0A$		0.9	1.5	V
Transition Frequency	f_T	$V_{CE}=5.0V$ $I_C=1.0A$		30		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V$ $f=1.0MHz$ $I_E=0$		170		pF

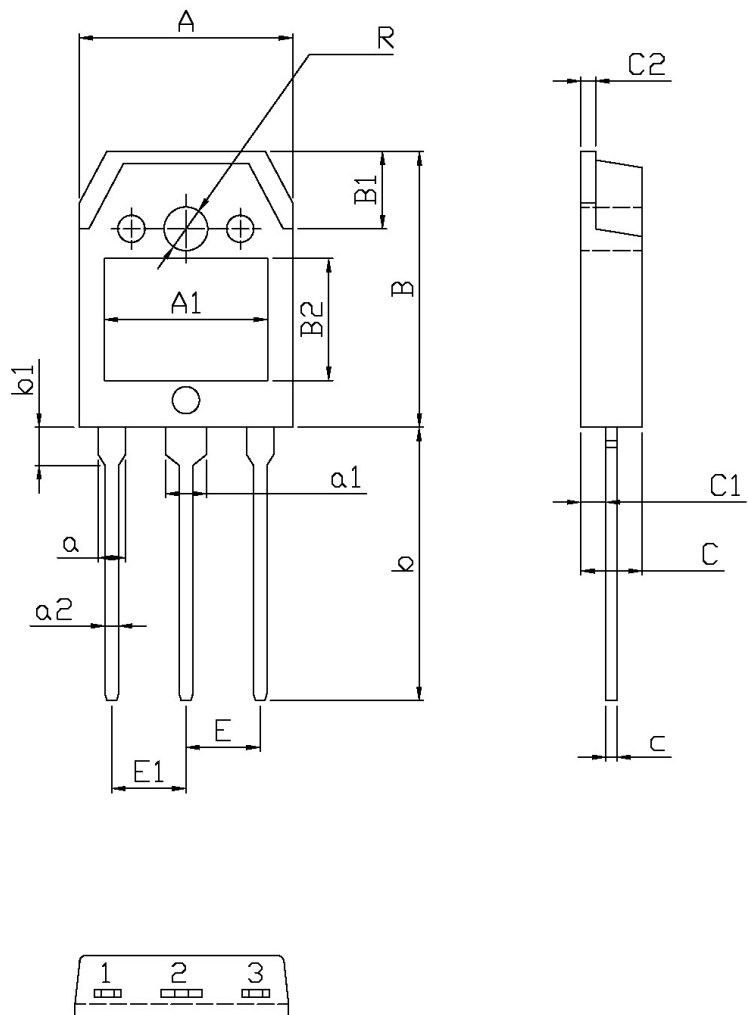
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

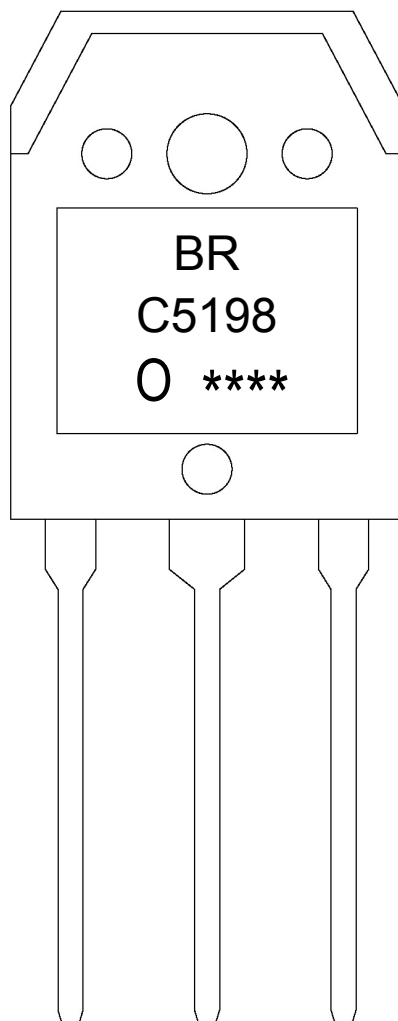
TQ-3PH

Unit:mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	15.4	16.0	a2	0.8	1.2
R	3.1	3.5	E	5.45	
B	19.8	20.8	E1	5.45	
B1	5.5	5.9	C	4.6	5.0
B2	8.5		C1	2.2	2.6
A1	12.0		C2	1.4	1.6
b	19.6	20.6	c	0.5	0.7
b1	2.6	3.0			
a	1.8	2.2			
a1	2.8	3.2			

印章说明 / Marking Instructions



说明：

BR： 为公司代码

C5198： 为型号代码

O： 为 h_{FE} 分档代码

****： 为生产批号代码，随生产批号变化。

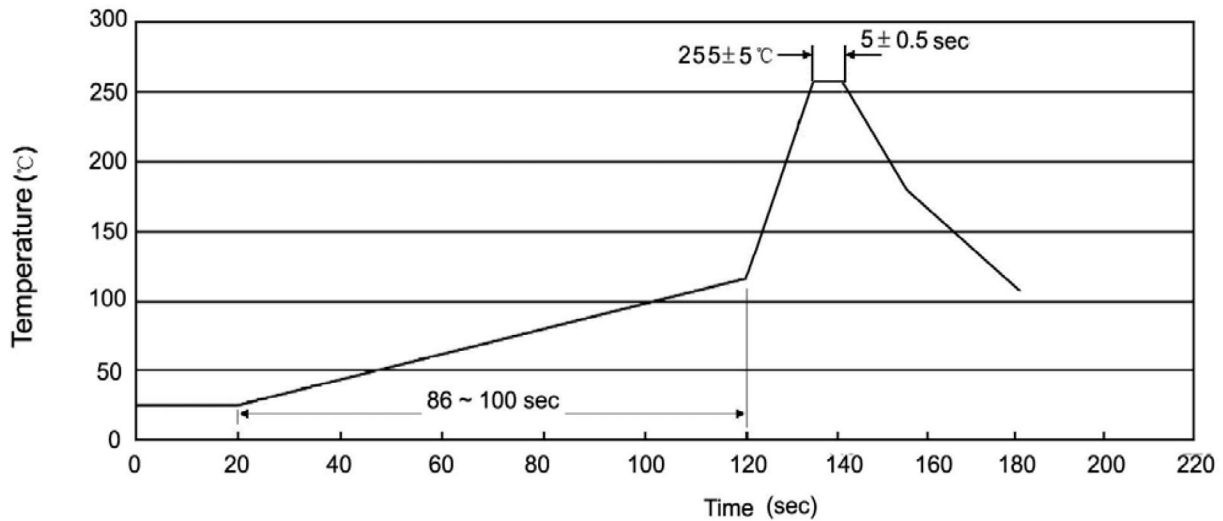
Note:

BR: Company Code.

C5198: Product Type.

O: h_{FE} Classifications Symbol.

****: Lot No. Code, code change with Lot No.

波峰焊温度曲线图(无铅) / Temperature Profile for Dip Soldering(Pb-Free)


说明：

- 1、预热温度 25~150°C，时间 60~90sec;
- 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:25~150°C, Time:60~90sec.
- 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：270±5°C

时间：10±1 sec.

Temp.:270±5°C

Time:10±1 sec

包装规格 / Packaging SPEC.

套管包装 / TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Tube 套管	Inner Box 盒	Outer Box 箱
TO-3PH	30	15	450	5	2250	497.5×46×8	555×164×50	575×290×180

使用说明 / Notices