

描述 / Descriptions

TO-92 塑封封装 NPN 半导体三极管。Silicon NPN transistor in a TO-92 Plastic Package.

特征 / Features

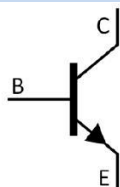
高频率，低饱和压降，开关速度快。

High transition frequency, low saturation voltage, high speed switching time.

用途 / Applications

用于高速开关。

Ultra high speed switching applications.

内部等效电路 / Equivalent Circuit**引脚排列 / Pinning**

PIN1 : Base PIN 2 : Collector PIN 3 : Emitter

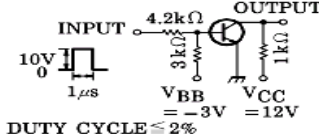
放大及印章代码 / hFE Classifications & Marking

h _{FE} Classifications Symbol	R	O	Y
h _{FE} Range	40~80	70~140	120~240

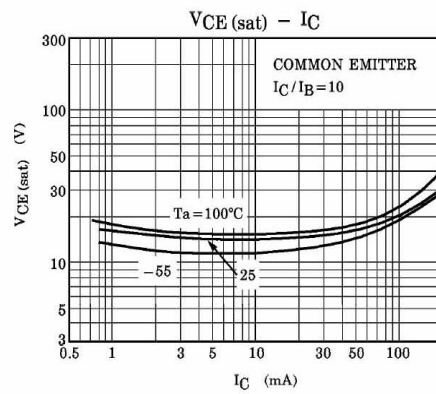
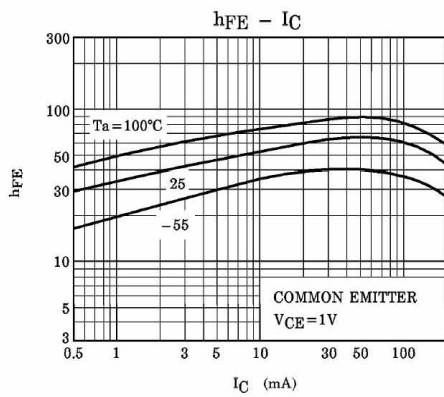
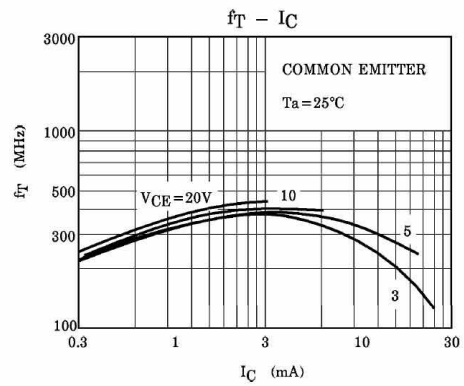
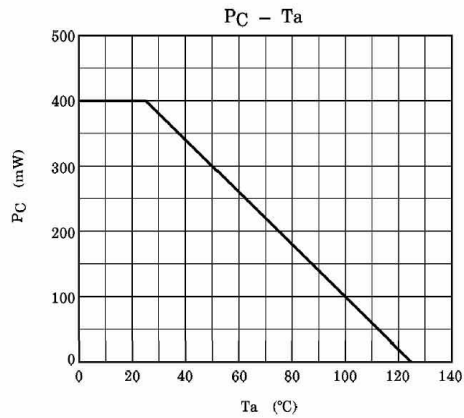
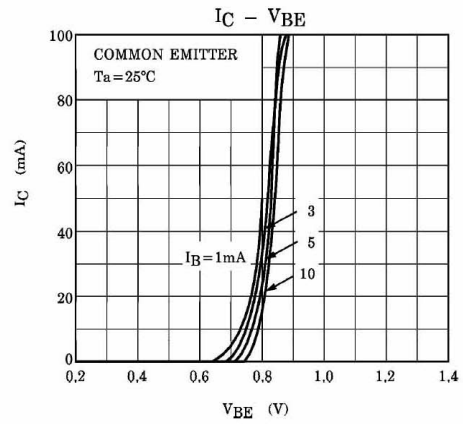
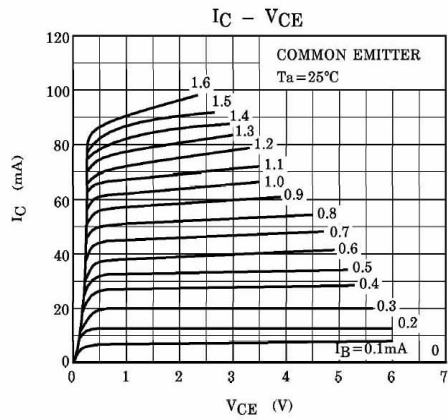
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	40	V
Collector to Emitter Voltage	V_{CEO}	15	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	200	mA
Base Current – Continuous	I_B	40	mA
Collector Power Dissipation	P_C	400	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 Cut-Off Current	I _{CBO}	V _{CB} =40V I _E =0			0.1	μA	
Emitter Cut-Off Current	I _{EBO}	V _{EB} =5.0V I _C =0			0.1	μA	
DC Current Gain	h _{FE(1)}	V _{CE} =1.0V I _C =10mA	40		240		
	h _{FE(2)}	V _{CE} =1.0V I _C =100mA	20				
Collector to Emitter Saturation Voltage	V _{CE(sat)}	I _C =20mA I _B =1.0mA			0.3	V	
Base to Emitter Saturation Voltage	V _{BE(sat)}	I _C =20mA I _B =1.0mA			1.0	V	
Transition Frequency	f _T	V _{CE} =10V I _C =10mA	200	400		MHz	
Collector Output Capacitance	C _{ob}	V _{CB} =10V I _E =0 f=1.0MHz		4.0	6.0	pF	
Turn-On Time	t _{on}	V_{IN}=10V (如图)  DUTY CYCLE ≤ 2%		70	100	nS	
Storage Time	t _{stg}				15	30	nS
Turn-Off Time	t _f				30	70	nS

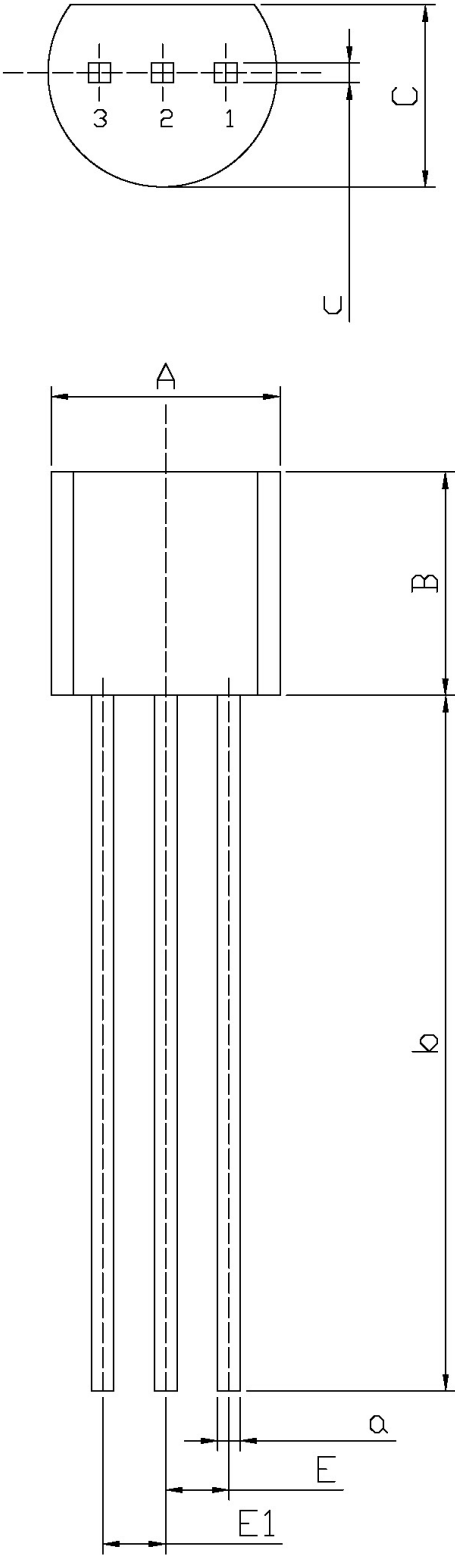
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

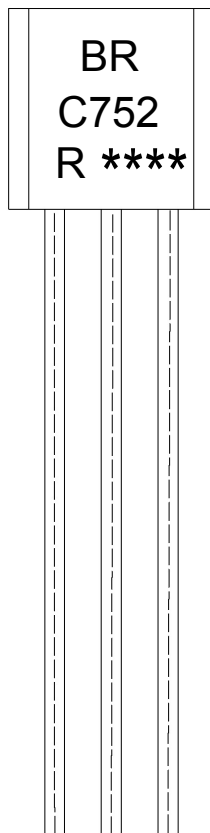
TO-92

Unit: mm



Symbol	Dimensions In Millimeters	
	Min	Max
A	4.4	4.8
B	4.3	4.7
b	13	15
a	0.40	0.60
E	1.22	1.32
E1	1.22	1.32
C	3.4	3.8
c	0.30	0.50

印章说明 / Marking Instructions



说明：

BR: 为公司代码

C752： 为型号代码

R: 为 h_{FE} 分档代码

****： 为生产批号代码，随生产批号变化。

Note:

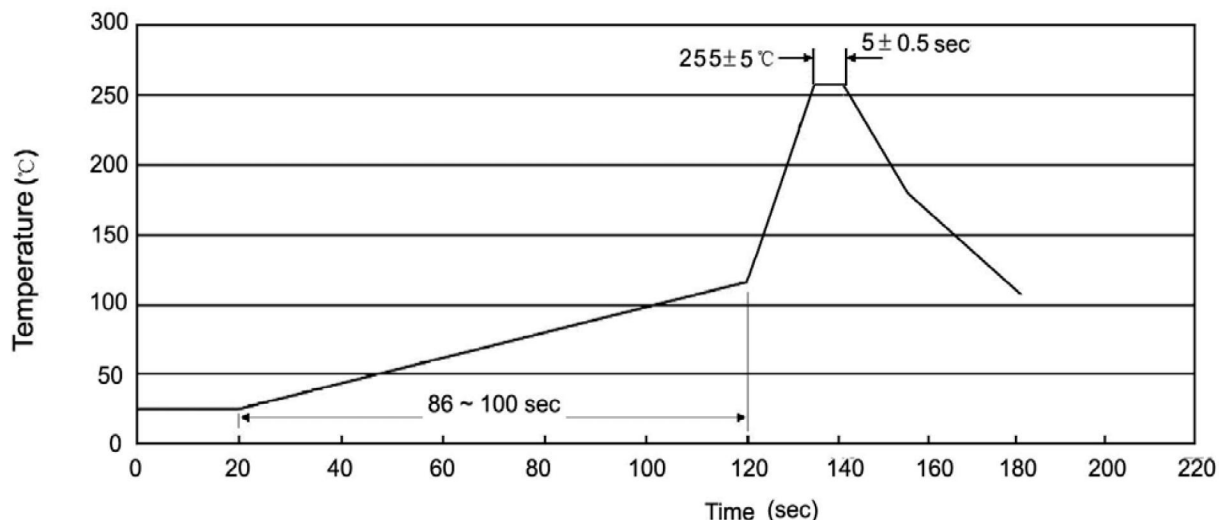
BR: Company Code.

C752: Product Type.

R: 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.

散件包装 / BULK

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm3)		
	Units/Bag 只/袋	Bags/Inner Box 袋/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Bag 袋	Inner Box 盒	Outer Box 箱
TO-92	1,000	10	10,000	5	50,000	135×190	237×172×102	560×245×195
	1,000	10	10,000	10	100,000	135×190	237×172×102	560×245×375

编带包装 / AMMO

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm3)	
	Units/tape 只/纸带	Tape/Inner Box 纸带/盒	Rows/Inner Box 纸带层/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Inner Box 盒	Outer Box 箱
TO-92	3,000	1	120	10	30,000	328×230×42	小箱 480×346×235, 大箱 547×407×268

使用说明 / Notices