

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

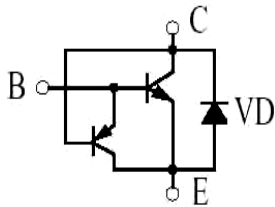
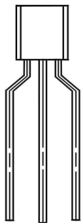
耐压高，快速转换。无卤产品。

High Voltage Capability High Speed Switching. HF Product.

用途 / Applications

主要用于节能灯、日光灯电子镇流器及其它开关、振荡电路。

High frequency electronic lighting ballast applications, converters, inverters, switching regulators, etc.

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

1 2 3

PIN1 : Base

PIN 2 : Collector

PIN 3 : Emitter

放大及印章代码 / hFE Classifications & Marking

见印章说明。See Marking Instructions.

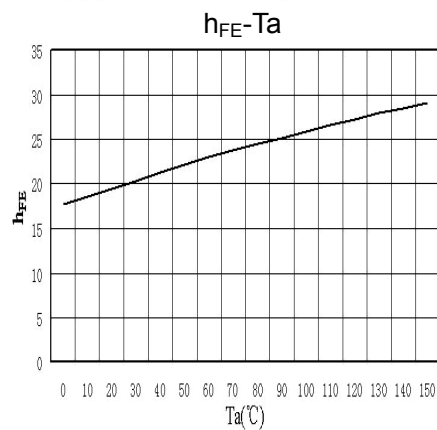
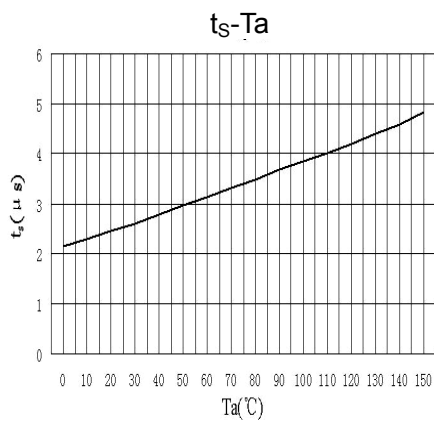
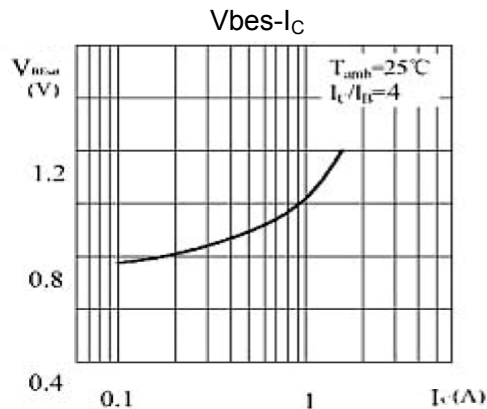
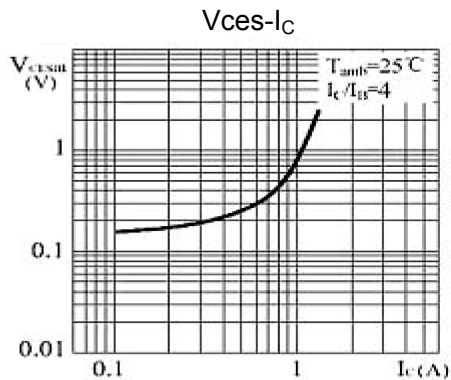
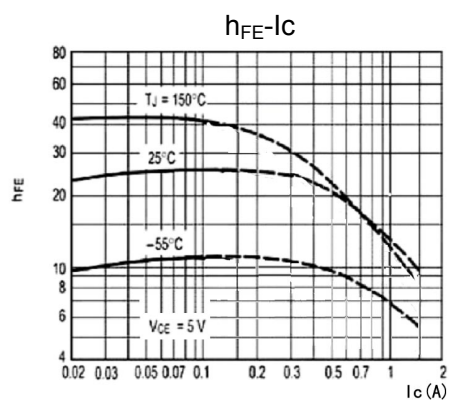
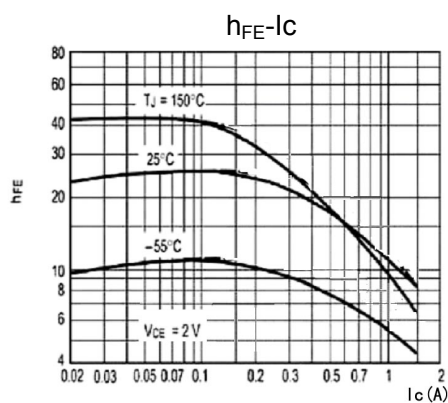
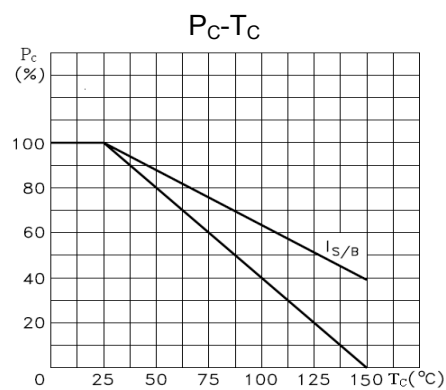
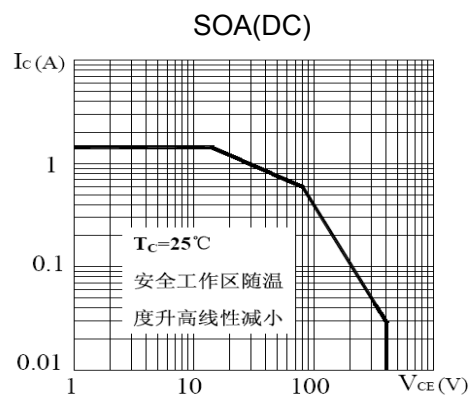

极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	800	V
Collector to Emitter Voltage	V_{CEO}	500	V
Emitter to Base Voltage	V_{EBO}	9.0	V
Collector Current - Continuous	I_C	1.5	A
Collector Power Dissipation	P_C	1.0	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{sag}	-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}	$I_C=100\mu A$ $I_E=0$	800			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1mA$ $I_B=0$	500			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=1mA$ $I_C=0$	9.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=800V$ $I_E=0$			0.1	mA
Collector cut-off current	I_{CEO}	$V_{CE}=500V$ $I_B=0$			0.1	mA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=9.0V$ $I_C=0$			0.1	mA
DC Current Gain	h_{FE}	$V_{CE}=5.0V$ $I_C=200mA$	30		40	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1A$ $I_B=250mA$			0.8	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=1A$ $I_B=250mA$			1.2	V
Transition Frequency	f_T	$V_{CE}=10V$ $f=1.0MHz$ $I_C=100mA$	5.0			MHz
Fall time	t_f	$V_{CE}=5V$ $I_C=250mA$ (UI9600)			0.6	μs
Storage time	t_S				3.5	μs

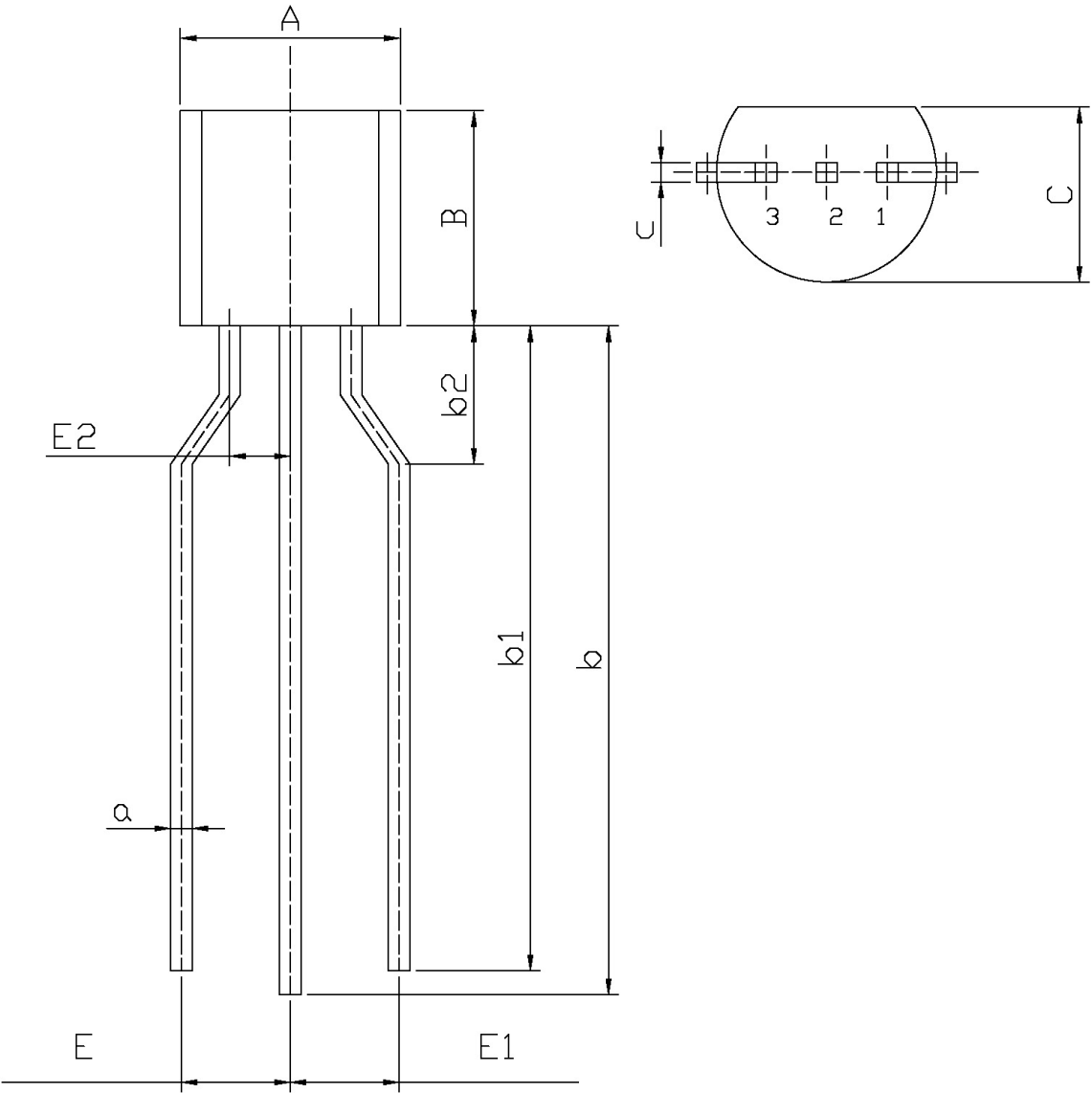
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

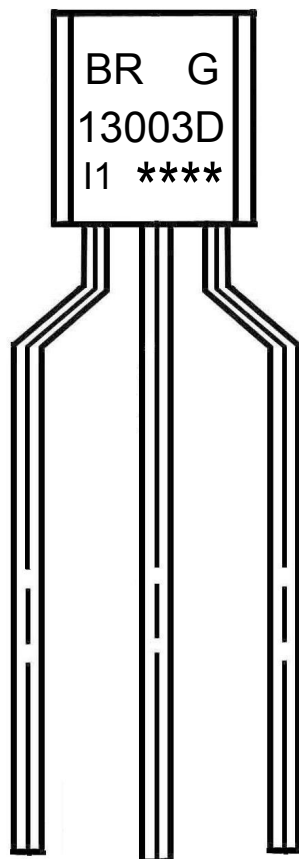
T0-92

Unit:mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
C	3.40	3.80	b2	2.0	3.0
c	0.30	0.50	E	2.4	2.8
A	4.40	4.80	E1	2.4	2.8
B	4.30	4.70	E2	1.22	1.32
b	13	15	a	0.40	0.60
b1	12.5	14.5			

印章说明 / Marking Instructions



说明：

BR: 为公司代码

G： 为无卤产品代码

13003D： 为型号代码

I1: 规格代码

****： 为生产批号代码，随生产批号变化。

Note:

BR: Company Code.

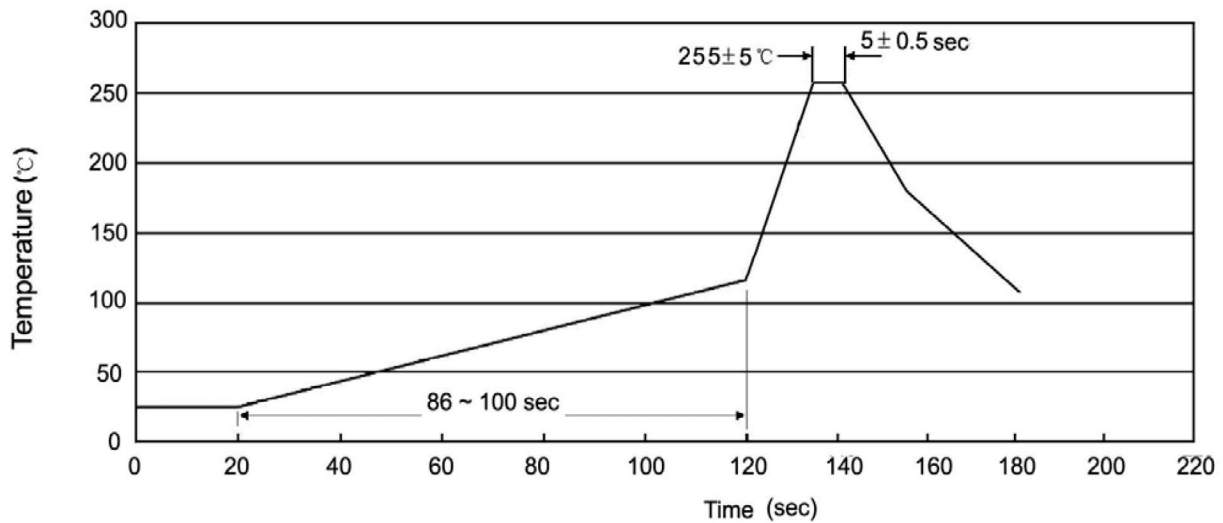
G: HF Product Code

13003D: Product Type.

I1: Specification Code.

****: 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