

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

反向直流电流增益高,导通电阻低。

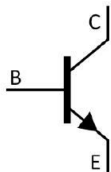
High reverse h_{FE} reverse: $h_{FE}=150(V_{CE}=-2V, I_C=-4mA)$, low on resistance.

用途 / Applications

用于抑制及开关电路。

For muting and switching applications.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN1 : Base PIN 2 : Collector PIN 3 : Emitter

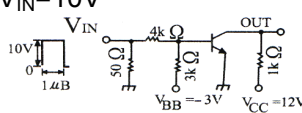
放大及印章代码 / h_{FE} Classifications & Marking

h_{FE} Classifications Symbol	A	B
h_{FE} Range	200~700	350~1200

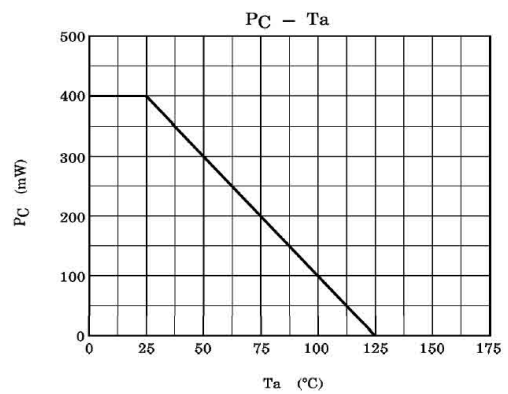
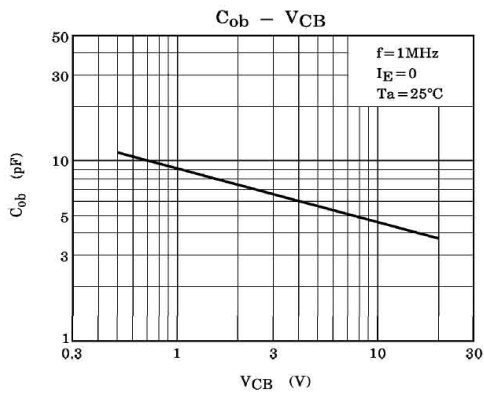
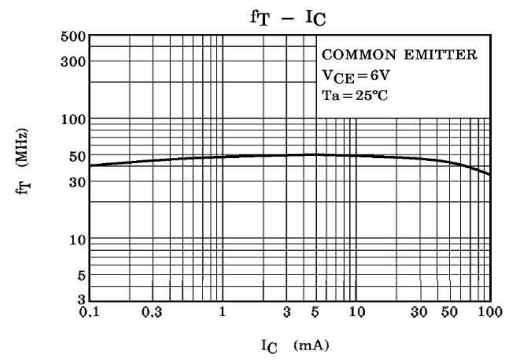
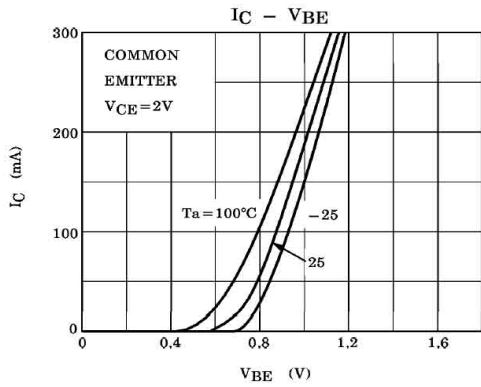
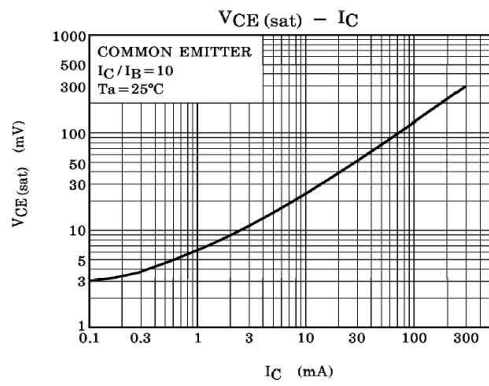
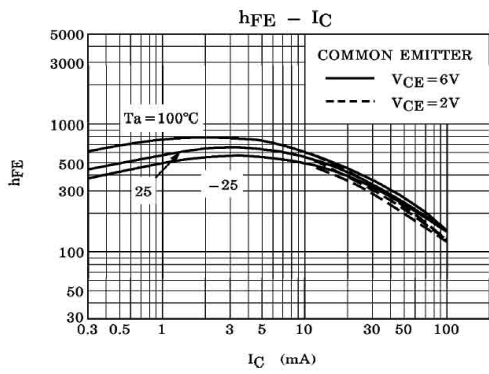
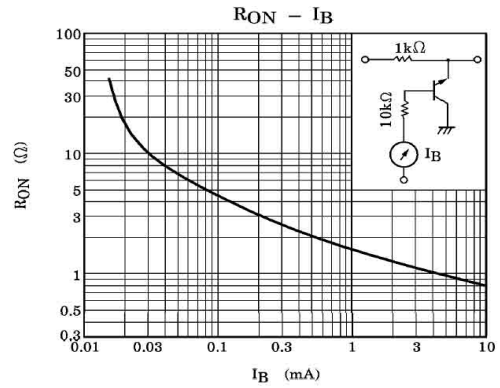
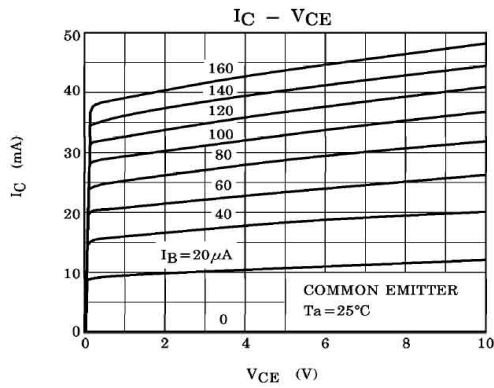
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	50	V
Collector to Emitter Voltage	V_{CEO}	20	V
Emitter to Base Voltage	V_{EBO}	25	V
Collector Current - Continuous	I_C	300	mA
Base Current - Continuous	I_B	60	mA
Collector Power Dissipation	P_C	400	mW
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_{stg}	-55 ~ 125	°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}	$V_{CB}=50V$ $I_E=0$			0.1	μA	
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=25V$ $I_C=0$			0.1	μA	
DC Current Gain	h_{FE}	$V_{CB}=2.0V$ $I_C=4.0mA$	200		1200		
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=30mA$ $I_B=3.0mA$		0.042	0.1	V	
Base-to-Emitter Voltage	V_{BE}	$V_{CE}=2.0V$ $I_C=4.0mA$		0.61		V	
Transition Frequency	f_T	$V_{CE}=6.0V$ $I_C=4.0mA$		30		MHz	
Output Capacitance	C_{ob}	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$		4.8	7.0	pF	
Turn-On Time	t_{on}	$V_{IN}=10V$  开关时间测试电路		160		ns	
Turn-Off Time	t_{off}				130		ns
Storage Time	t_{stg}				500		ns

电参数曲线图 / Electrical Characteristic Curve



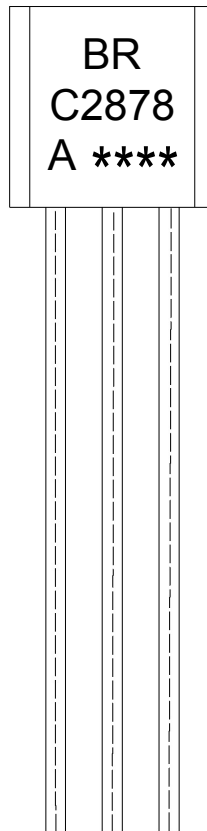
外形尺寸图 / Package Dimensions

TO-92

Unit: mm



印章说明 / Marking Instructions



说明：

BR: 为公司代码

C2878 : 为型号代码

A: 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.

C2878: Product Type.

A: 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