描述 / Descriptions

TO-126 塑封封装 NPN 半导体三极管。Silicon NPN transistor in a TO-126 Plastic Package.

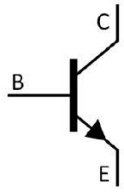
特征 / Features

饱和压降 $V_{CE(sat)}$小,h_{FE} 高且线性极好。
Excellent h_{FE} linearity and high h_{FE}.

用途 / Applications

用于 3 瓦音频放大输出,电压调节器,电源转换和继电器驱动。
Output stage of 3 watts audio amplifier, voltage regulator, DC-DC converter and relay driver.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning

PIN1：Emitter　　PIN 2：Collector　　PIN 3：Base

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

h_{FE} Classifications Symbol	R	Q	P	E
h_{FE} Range	60～120	100～200	160～320	200～400

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

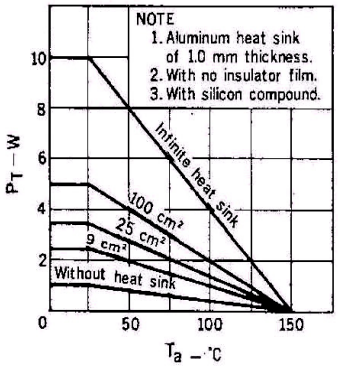
参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	40	V
Collector to Emitter Voltage	V_{CEO}	30	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	3.0	A
Collector Power Dissipation	P_C	1.0	W
	$P_C(T_C=25℃)$	10	W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55～150	℃

电性能参数 / Electrical Characteristics(Ta=25℃)

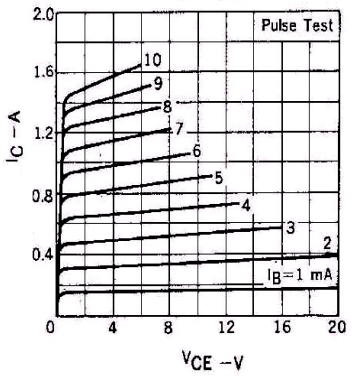
参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Collector Cut-Off Current	I_{CBO}	V_{CB}=30V I_E=0			1.0	μA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=3.0V I_C=0			1.0	μA
DC Current Gain	$h_{FE(1)}$	V_{CE}=2.0V I_C=1.0A	60	160	400	
	$h_{FE(2)}$	V_{CE}=2.0V I_C=20mA	30	150		
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=2.0A I_B=0.2A		0.3	0.5	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=2.0A I_B=0.2A		1.0	2.0	V
Transition Frequency	f_T	V_{CE}=5.0V I_C=0.1A		90		MHz
Collector Output Capacitance	C_{ob}	V_{CB}=10V I_E=0 f=1.0MHz		45		pF

电参数曲线图 / Electrical Characteristic Curve

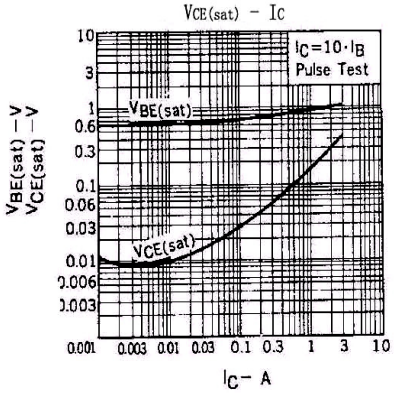
P_T – T_a



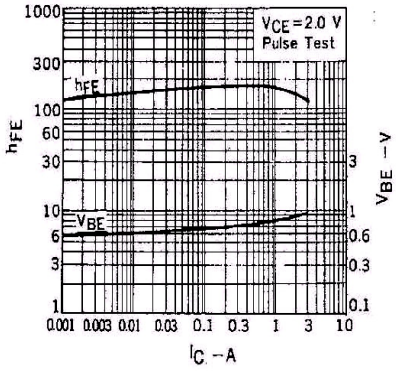
I_C – V_{CE}



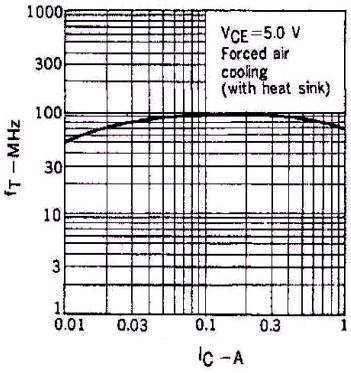
$V_{BE(sat)}$ – I_C
$V_{CE(sat)}$ – I_C



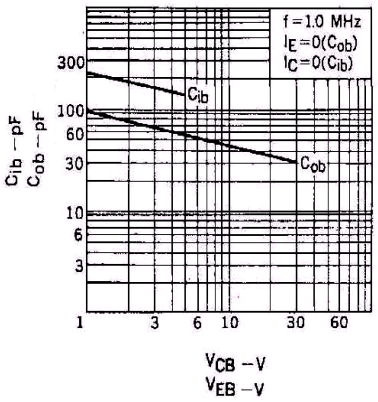
h_{FE} – I_C
V_{BE} – I_C



f_T – I_C

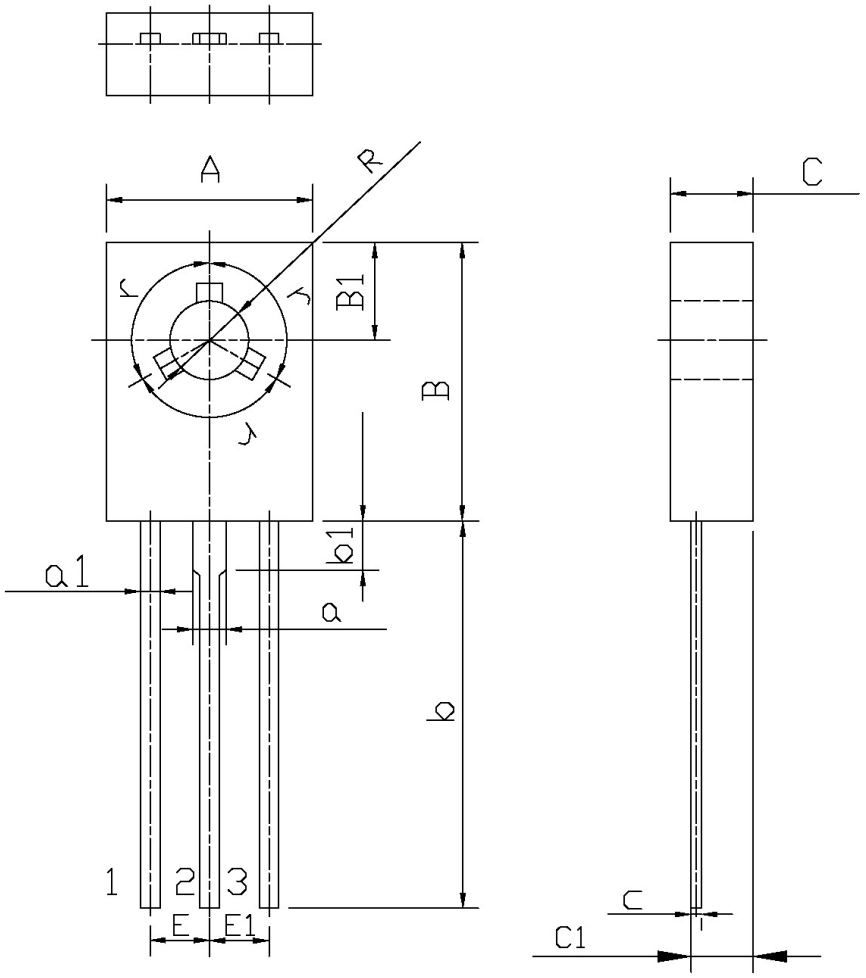


C_{ib} – V_{CB}
C_{ob} – V_{EB}



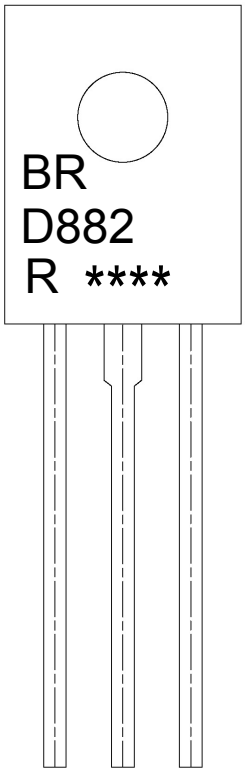
外形尺寸图 / Package Dimensions

TO-126 单位：mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	7.8	8.2	a1	0.66	0.86
B	10.6	11.0	E	2.1	2.5
B1	3.6	4.0	C	2.7	2.9
R	2.9	3.3	C1	1.57	1.77
b	14	16	c	0.3	0.6
b1	1.9		a	1.37	
E1	2.1	2.5	r	120°	

印章说明 / Marking Instructions



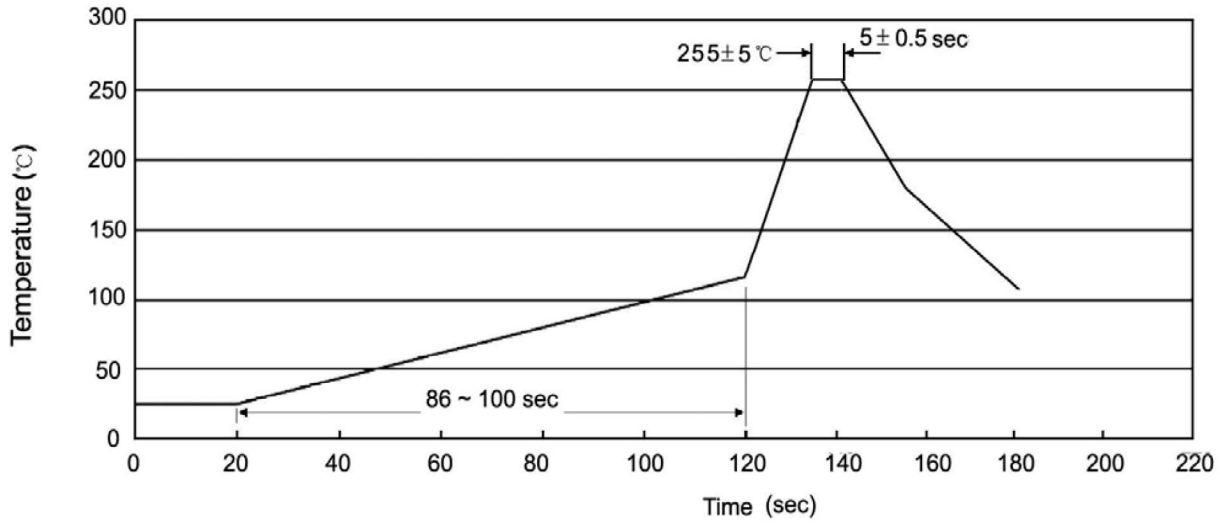
说明：

BR：	为公司代码
D882：	为产品型号
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
D882:	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℃，时间 60～90sec;

2、峰值温度 255±5℃，时间持续为 5±0.5sec;

3、焊接制程冷却速度为 2～10℃/sec.

Note:

1.Preheating:25~150℃, Time:60~90sec.

2.Peak Temp.:255±5℃, Duration:5±0.5sec.

3. Cooling Speed: 2~10℃/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：270±5℃　　时间：10±1 sec.　　Temp.:270±5℃　　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: 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-126/F	500	6	3,000	5	15,000	135×190	237×172×102	560×245×195

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-126/F	65	26	1,690	5	8,450	532×31×5.6	555×164×50	575×290×180

使用说明 / Notices