描述 / Descriptions

SOT-23 塑封封装 NPN 半导体三极管。Silicon NPN transistor in a SOT-23 Plastic Package.

特征 / Features

与 BCW68 互补。

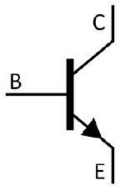
Complementary to BCW68.

用途 / Applications

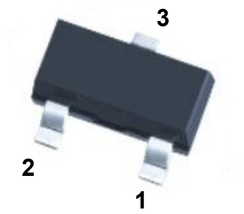
用于中功率放大。

Medium power amplifier applications.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN1：Emitter PIN 2：Base PIN 3：Collector

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

h_{FE} Classifications Symbol	F	G	H
h_{FE} Range	100～250	160～400	250～630
Marking	HDAO	HDAY	HDAG

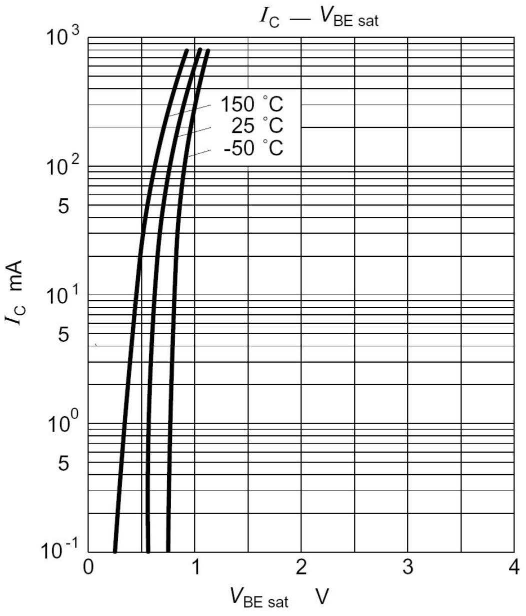
极限参数 / Absolute Maximum Ratings(Ta=25℃)

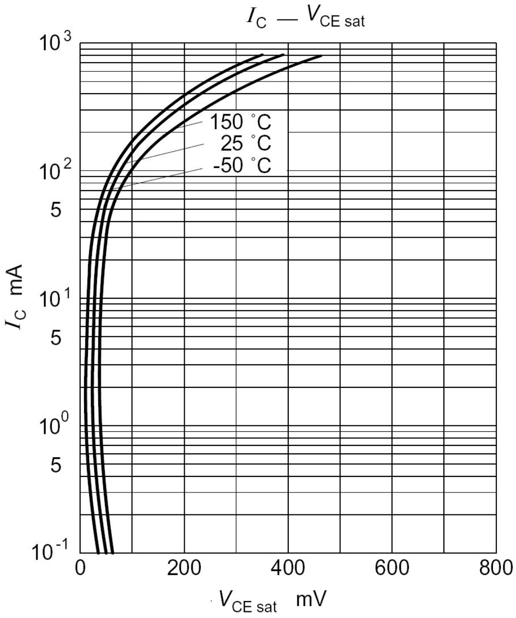
参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	75	V
Collector to Emitter Voltage	V_{CEO}	45	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current(DC)	I_C	800	mA
Peak Collector Current	I_{CM}	1.0	A
Peak Base Current	I_B	100	mA
Collector Power Dissipation	P_C	330	mW
Junction 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 to Base Breakdown Voltage	V_{CBO}	I_C=10μA	75			V
Collector to Emitter Breakdown Voltage	V_{CEO}	I_{CEO}=10mA	45			V
Emitter to Base Breakdown Voltage	V_{EBO}	I_{EBO}=10μA	5.0			V
Collector-Emitter Cut-off Current	I_{CES}	V_{CB}=45 V			0.1	μA
Emitter Base Cut-Off Current	I_{EBO}	V_{EB}=4.0V			0.1	μA
DC Current Gain	$h_{FE(1)}$	V_{CE}=1.0V I_C=100mA	100		630	
	$h_{FE(2)}$	V_{CE}=1.0V I_C=10mA	75			
	$h_{FE(3)}$	V_{CE}=2.0V I_C=500mA	35			
Collector to Emitter Saturation Voltage	$V_{CE(sat)(1)}$	I_C=100mA I_B=10mA			0.3	V
	$V_{CE(sat)(2)}$	I_C=500mA I_B=50mA			0.7	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=500mA I_B=50mA			2.0	V
Transition Frequency	f_T	V_{CE}=10V I_C=20mA f=100MHz	100			MHz
Output Capacitance	C_{obo}	V_{CB}=10V f=1.0MHz		8.0	12	pF
Input Capacitance	C_{ibo}	V_{EB}=0.5V f=1.0MHz			80	pF
Noise Figure	NF	V_{CE}=5.0V I_C=0.2mA R_g=1.0kΩ		2.0	10	dB
Turn-On Time	t_{on}	$I_C=10I_{B1}=-10I_{B2}$=150mA R_L=150Ω			0.1	μs
Turn-Off Time	t_{off}				0.4	μs

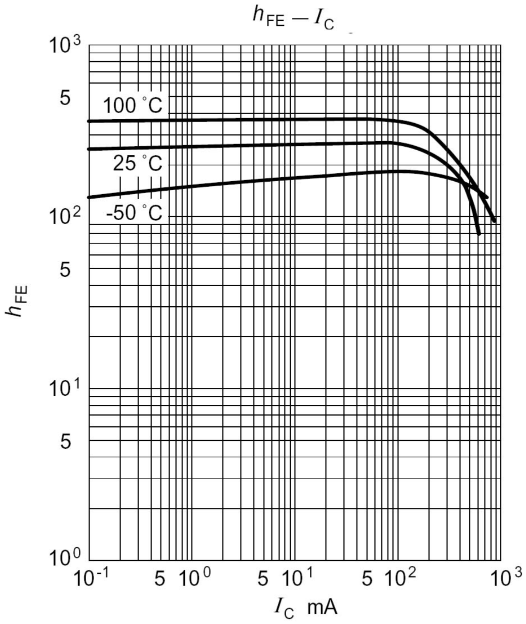
电参数曲线图 / Electrical Characteristic Curve





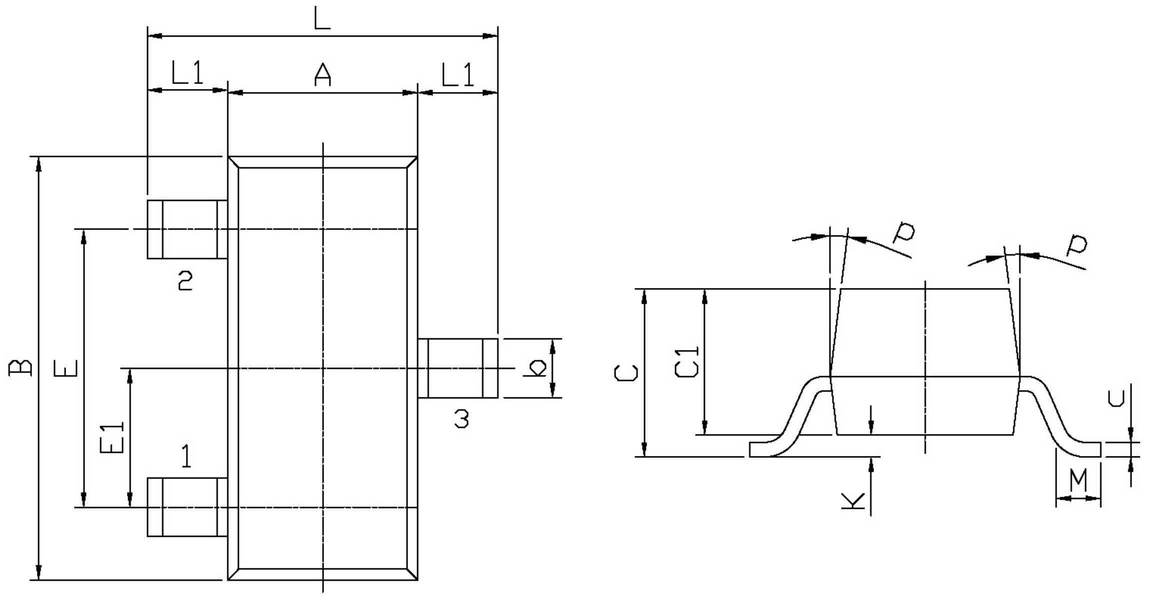
DC current gain $h_{FE} = f(I_C)$

$V_{CE} = 1V$



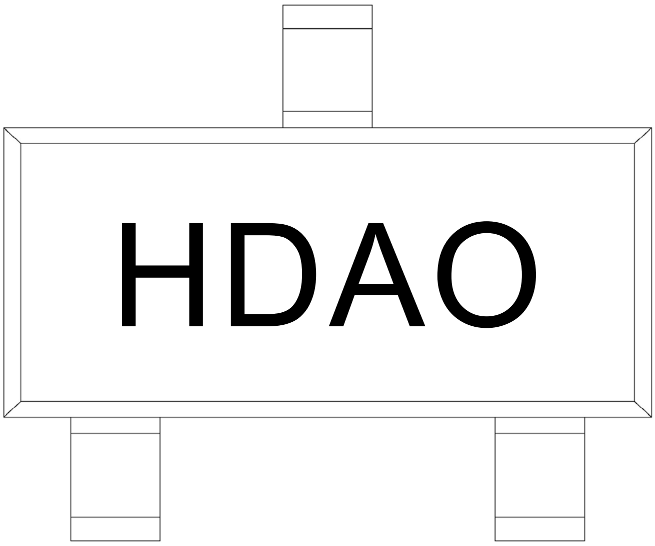
外形尺寸图 / Package Dimensions

SOT-23 单位：mm



Symbol	Dimensions In Millmeters		Symbol	Dimensions In Millmeters	
	Min	Max		Min	Max
L	2.2	2.7	C	1.30Max	
L1	0.45	0.65	C1	0.90	1.20
A	1.15	1.50	c	0.05	0.20
B	2.70	3.10	K	0	0.10
E	1.70	2.10	M	0.20MIN	
E1	0.85	1.05	P	7°	
b	0.35	0.55			

印章说明 / Marking Instructions



说明：

H：为公司代码

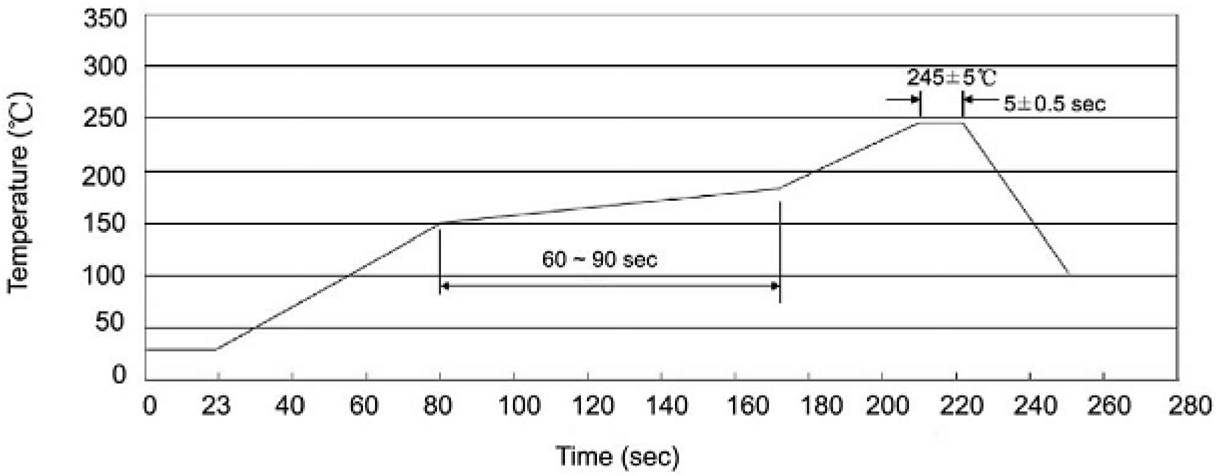
DAO：为型号代码

Note:

H: Company Code

DAO: Product Type Code

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)



说明：

1、预热温度 25 ~ 150℃，时间 60 ~ 90sec;

2、峰值温度 245±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.:245±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：260±5℃　　时间：10±1 sec.

Temp.:260±5℃　　Time:10±1 sec

包装规格 / Packaging SPEC.

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm^3)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOT-23	3,000	10	30,000	8	240,000	7″ ×8	180×120×180	385×257×392

使用说明 / Notices