

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

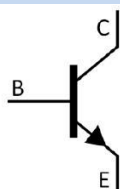
集电极电流大, $V_{CE(sat)}$ 饱和压降低。

High I_C , Low $V_{CE(sat)}$.

用途 / Applications

用于中功率放大。

Medium power transistor.

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

PIN1 : Base

PIN 2 : Emitter

PIN 3 : Collector

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

h_{FE} Classifications Symbol	Q	R
h_{FE} Range	120~270	180~390
Marking	H74Q	H74R

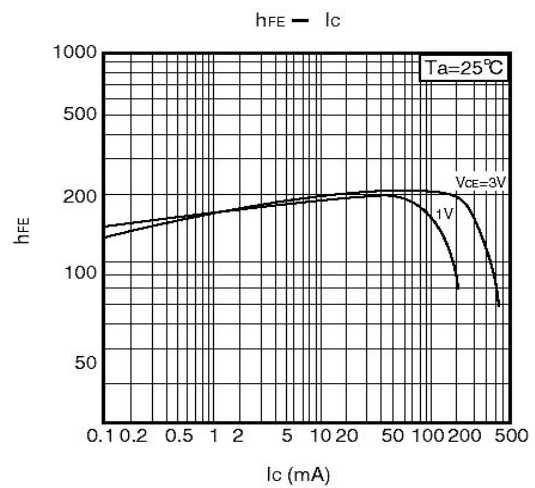
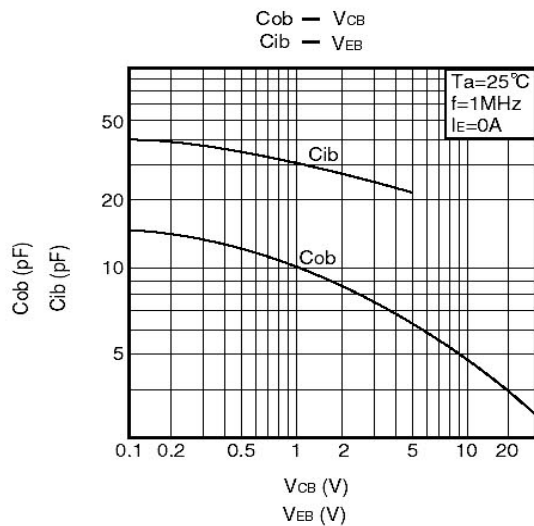
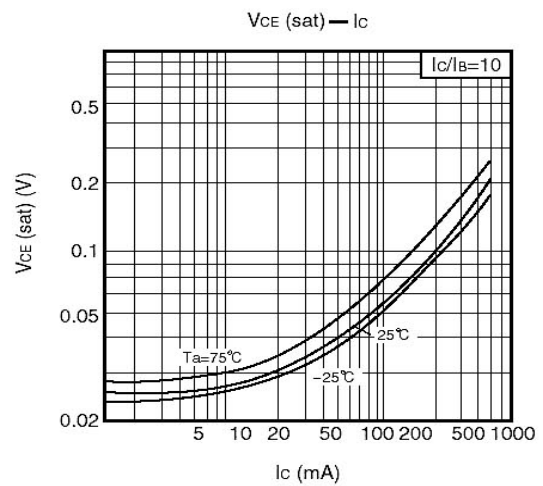
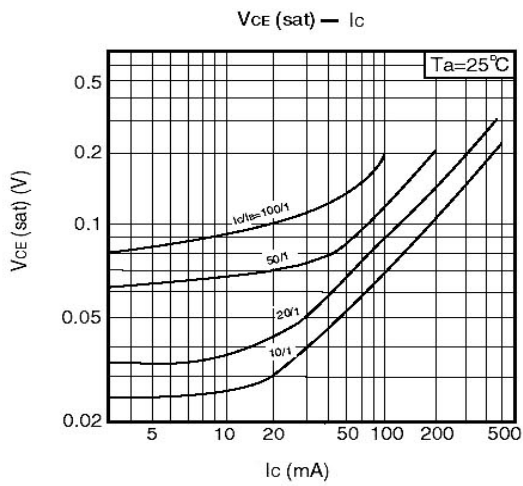
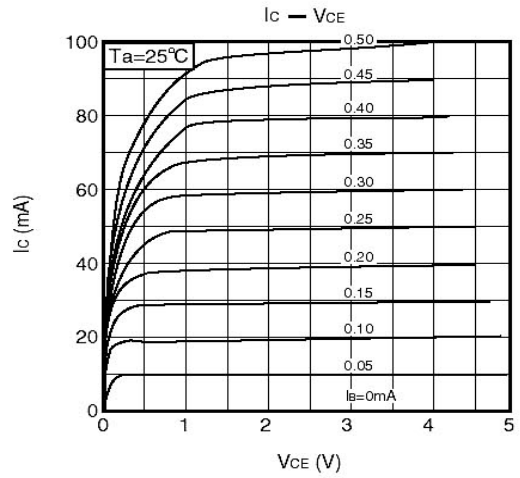
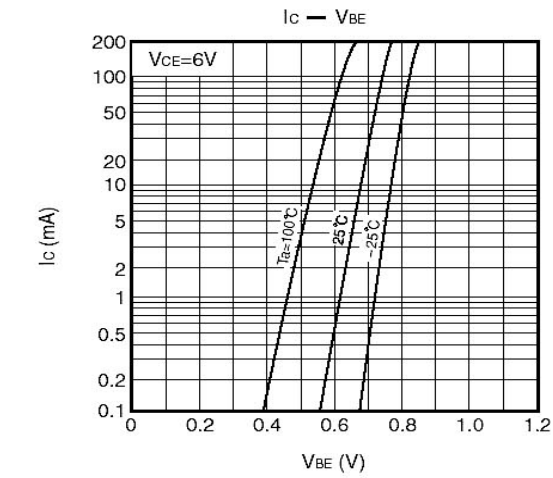
极限参数 / Absolute Maximum Ratings(Ta=25°C)

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}	50	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	0.5	A
Collector Power Dissipation	P_C	0.3	W
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-Base Breakdown voltage	V_{CBO}	$I_C=100\mu A$ $I_E=0$	50			V
Collector-Emitter Breakdown Voltage	V_{CEO}	$I_C=1.0mA$ $I_B=0$	50			V
Emitter-Base Breakdown Voltage	V_{EBO}	$I_E=100\mu A$ $I_C=0$	5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=30V$ $I_E=0$			0.5	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=4.0V$ $I_C=0$			0.5	μA
DC Current Gain	h_{FE}	$V_{CE}=3.0V$ $I_C=0.1A$	120		390	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=150mA$ $I_B=15mA$			0.4	V
Transition Frequency	f_T	$V_{CE}=5.0V$ $f=100MHz$ $I_E=20mA$		250		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$ $f=1.0MHz$ $I_E=0$		6.5		pF

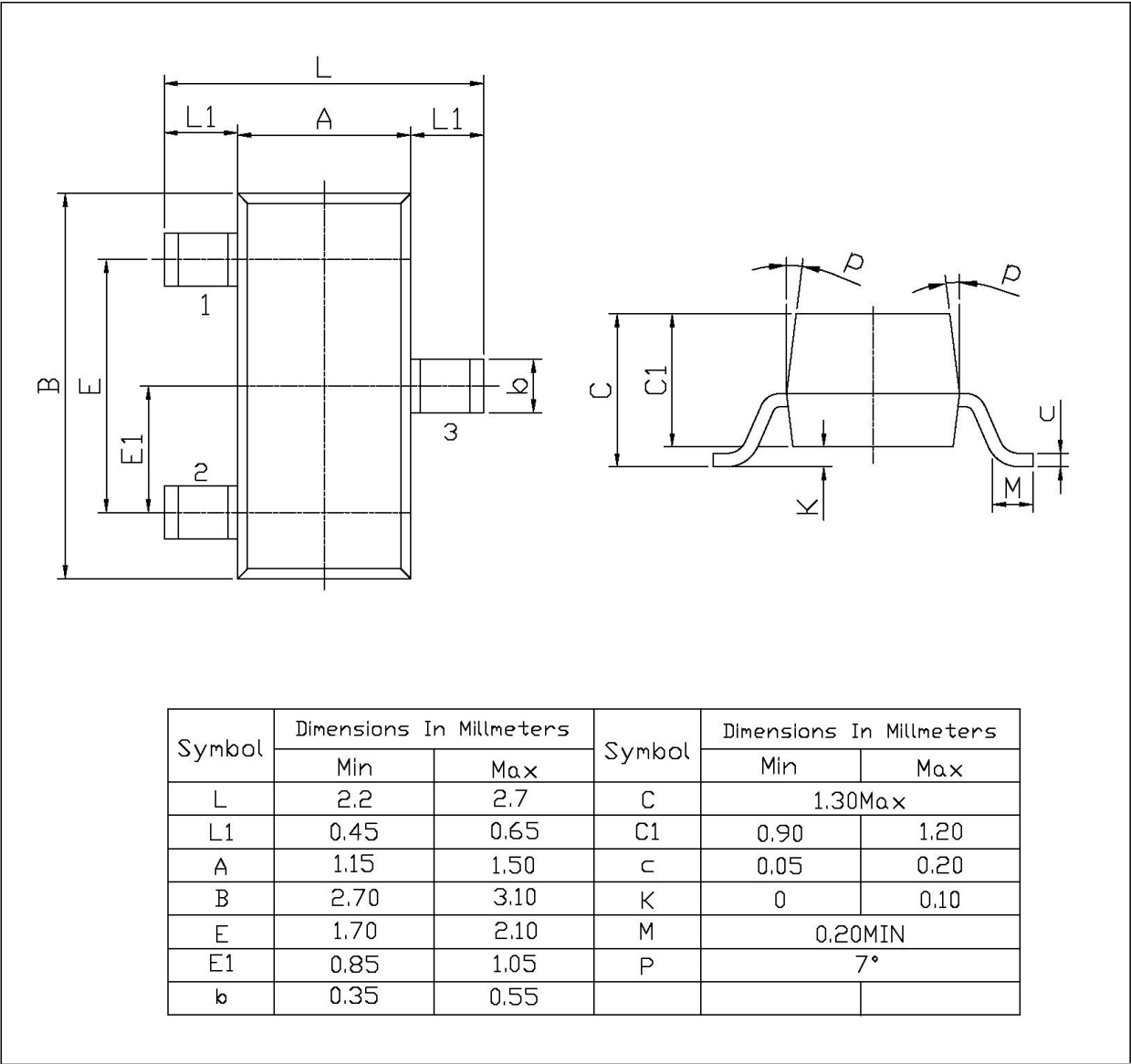
电参数曲线图 / Electrical Characteristic Curve



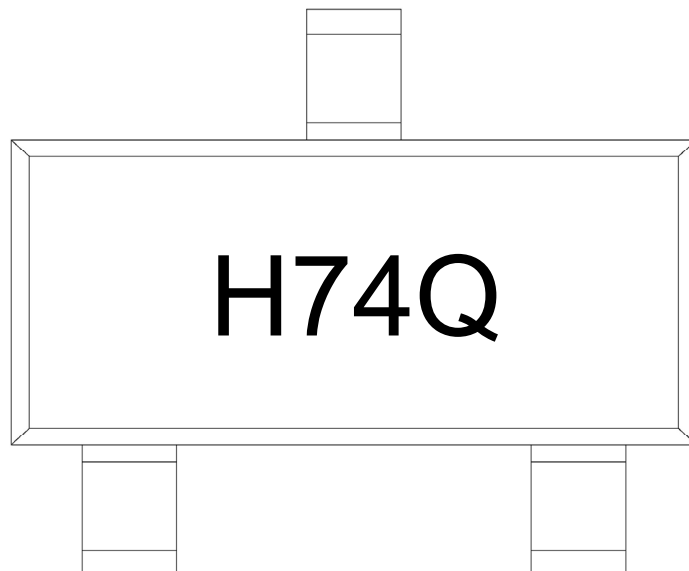
外形尺寸图 / Package Dimensions

SOT-23

单位：mm



印章说明 / Marking Instructions



说明：

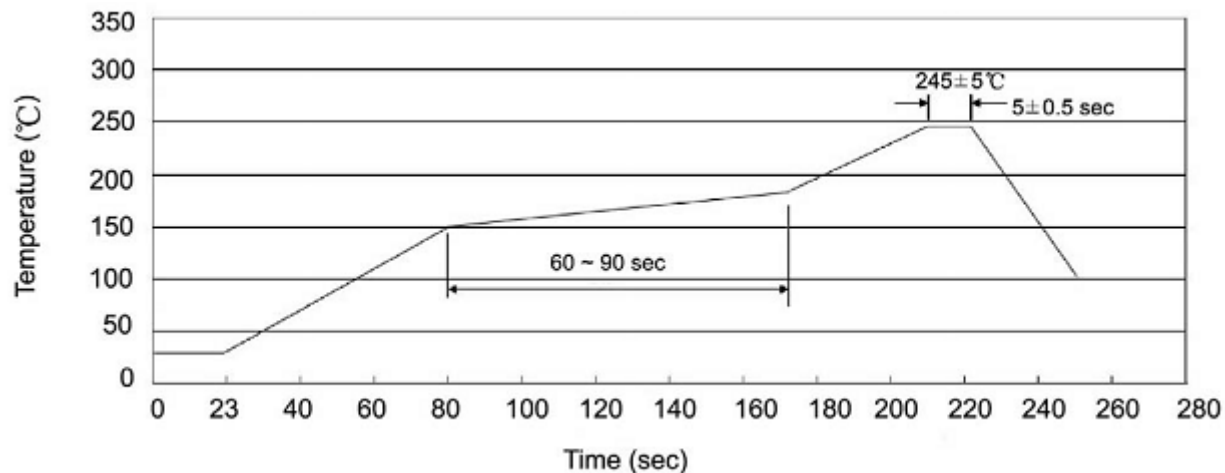
H： 为公司代码
74： 为型号代码
Q： 为 h_{FE} 档次代码

Note:

H: Company Code
74: Product Type Code
Q: h_{FE} Classifications Symbol 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 $25 \sim 150^{\circ}\text{C}$ ，时间 60 ~ 90sec;
- 2、峰值温度 $245 \pm 5^{\circ}\text{C}$ ，时间持续为 $5 \pm 0.5 \text{ sec}$;
- 3、焊接制程冷却速度为 $2 \sim 10^{\circ}\text{C/sec}$.

Note:

- 1.Preheating: $25 \sim 150^{\circ}\text{C}$, Time: 60~90sec.
- 2.Peak Temp.: $245 \pm 5^{\circ}\text{C}$, Duration: $5 \pm 0.5 \text{ sec}$.
3. Cooling Speed: $2 \sim 10^{\circ}\text{C/sec}$.

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

温度： $260 \pm 5^{\circ}\text{C}$

时间： $10 \pm 1 \text{ sec}$.

Temp.: $260 \pm 5^{\circ}\text{C}$

Time: $10 \pm 1 \text{ sec}$

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	6	180,000	7" x8	180×120×180	390×385×205

使用说明 / Notices