

描述 / Descriptions

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

特征 / Features

饱和压降小, h_{FE} 高且线性好。

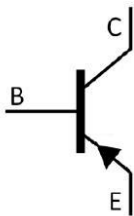
Low saturation voltage, excellent h_{FE} linearity and high h_{FE} .

用途 / Applications

用于音频放大输出,电压调节器,电源转换和继电器驱动。

Output stage of audio amplifier, voltage regulator, DC-DC converter and relay driver.

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	P	E
h_{FE} Range	100~200	160~320	200~400
Marking	H72Q	H72P	H72E

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}	-40	V
Collector to Emitter Voltage	V_{CEO}	-30	V
Emitter to Base Voltage	V_{EBO}	-5	V
Collector Current - DC	I_C	-3	A
Collector Current - Pulse	I_{CP}	-7	A
Collector Power Dissipation	P_C	350	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55 ~ 150	°C

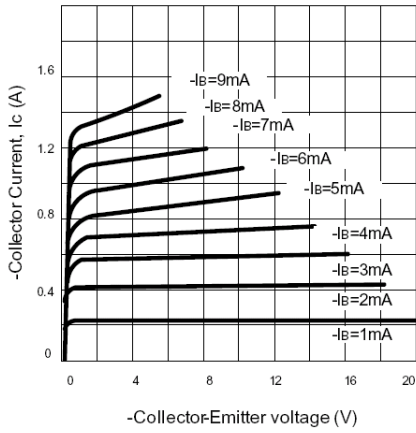
电性能参数 / Electrical Characteristics(Ta=25°C)

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 to Base Breakdown Voltage	V_{CBO}	$I_C = -100\mu A$ $I_E = 0$	-40			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C = -1.0mA$ $I_B = 0$	-30			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E = -100\mu A$ $I_C = 0$	-5			V
Collector Cut-Off Current	I_{CBO}	$V_{CB} = -30V$ $I_E = 0$			-1.0	μA
Emitter Cut-Off Current	I_{CEO}	$V_{CB} = -30V$ $I_B = 0$			-1.0	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB} = -3.0V$ $I_C = 0$			-1.0	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = -2.0V$ $I_C = -1.0A$	100	150	400	
	$h_{FE(2)}$	$V_{CE} = -2.0V$ $I_C = -20mA$	30	200		
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -2.0A$ $I_B = -20mA$		-0.3	-0.5	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -2.0A$ $I_B = -20mA$		-1.0	-2.0	V
Transition Frequency	f_T	$I_C = -10mA$ $V_{CE} = -5.0V$		80		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10V$ $I_E = 0$ $f = 1.0MHz$		45		pF

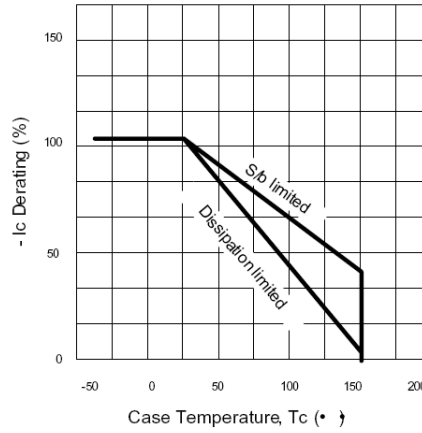
*脉冲测试：脉宽 $\leq 300\mu S$ ，占空比 $\leq 2.0\%$
Pulse test: pulse width $\leq 300\mu S$, duty cycle $\leq 2.0\%$.

电参数曲线图 / Electrical Characteristic Curve

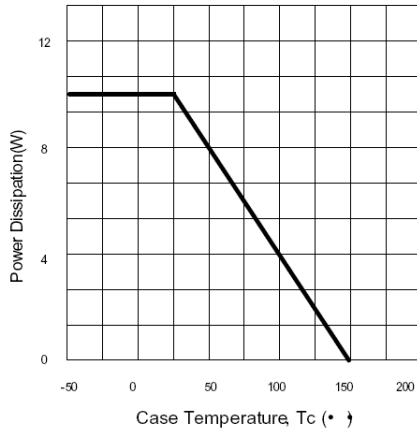
Static Characteristics



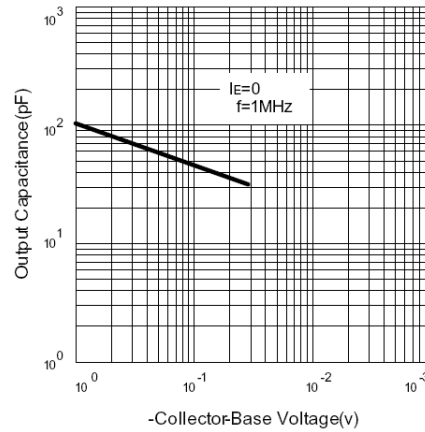
Derating Curve of Safe Operating Areas



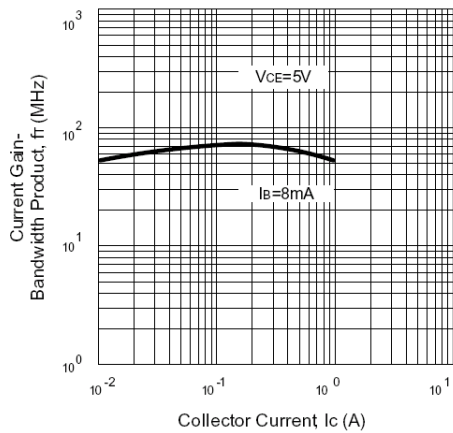
Power Derating



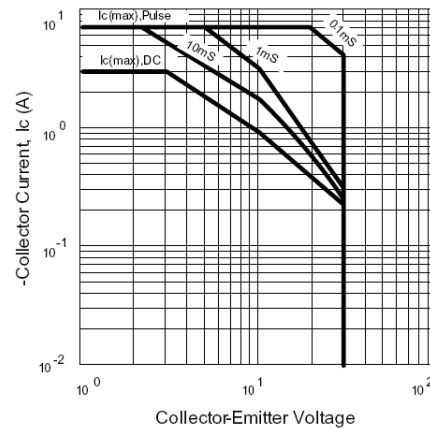
Collector Output Capacitance



Current Gain - Bandwidth Product



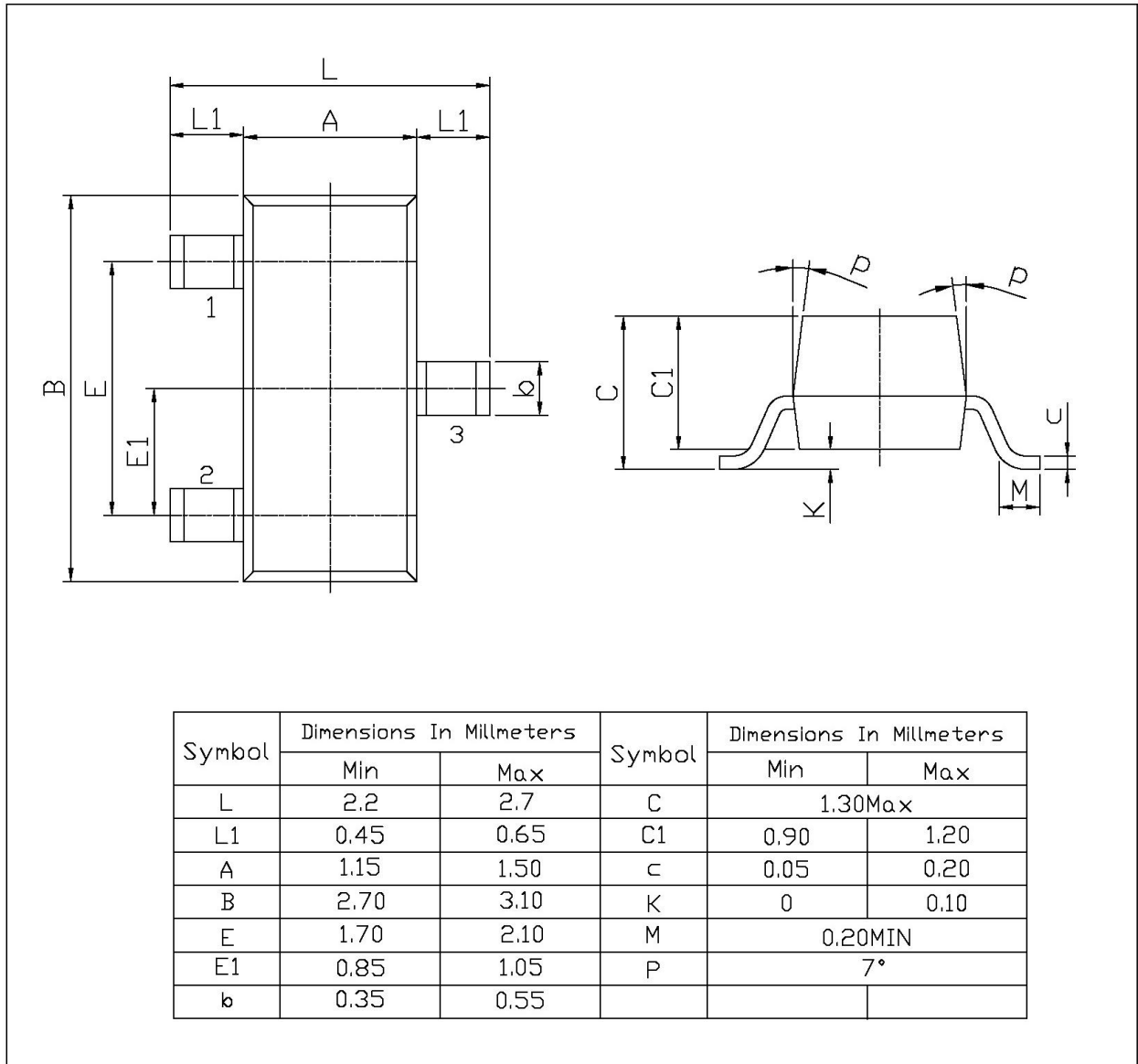
Safe Operating Area



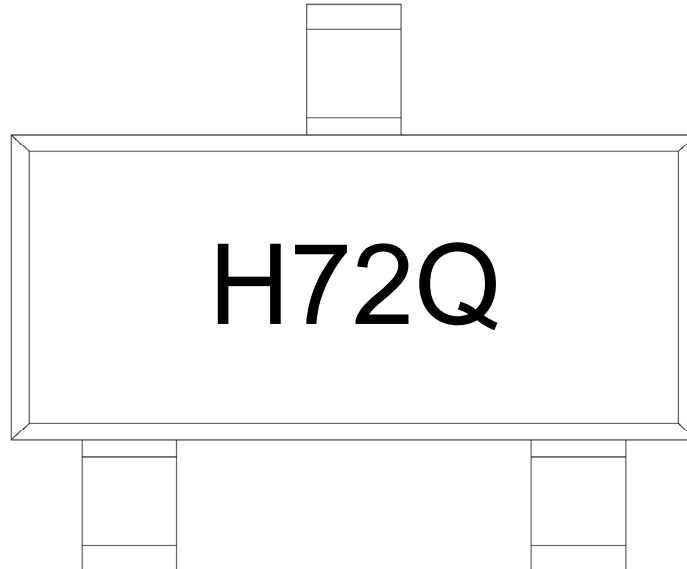
外形尺寸图 / Package Dimensions

SOT-23

单位: mm



印章说明 / Marking Instructions



说明：

H： 为公司代码

72： 为型号代码

Q： 为档次代码

Note:

H: Company Code

72: 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 25~150°C，时间 60~90sec;
- 2、峰值温度 245±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.:245±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：260±5°C

时间：10±1 sec.

Temp.:260±5°C

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

使用说明 / Notices