

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

高 V_{EBO} , 高 h_{FE} .

High emitter-base voltage, High DC current gain.

用途 / Applications

用于开关。

For muting and switching applications.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN 1 : Base PIN 2 : Emitter PIN 3 : Collector

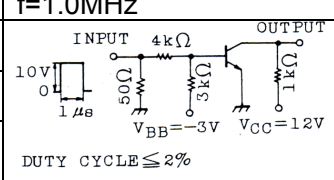
放大及印章代码 / h_{FE} Classifications & Marking

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

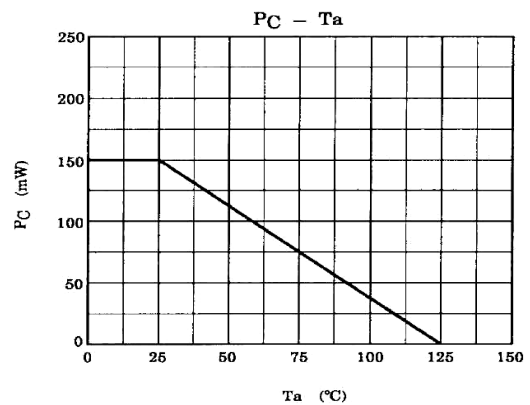
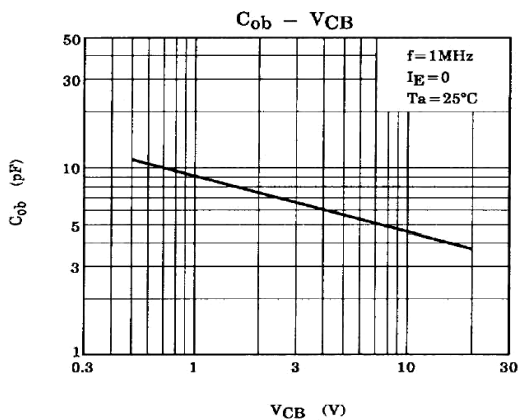
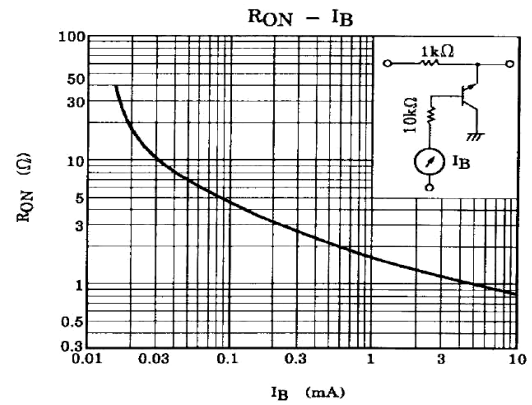
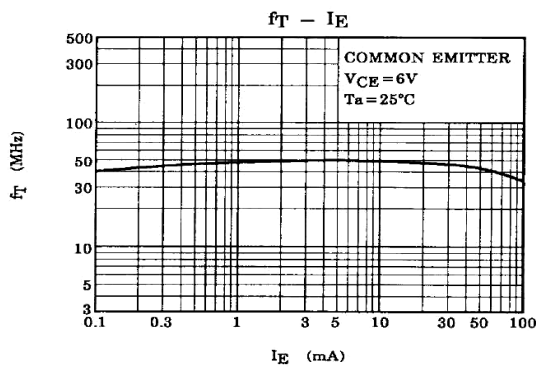
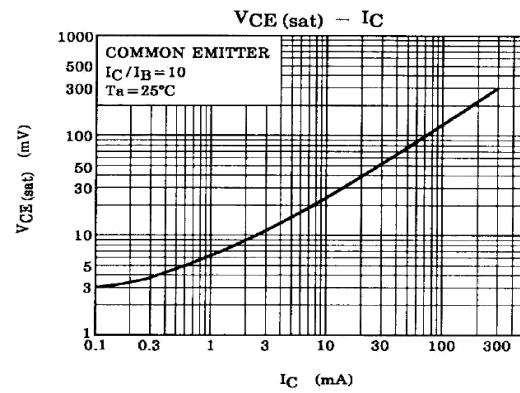
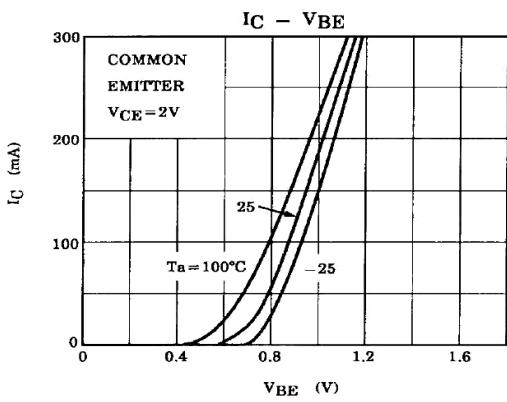
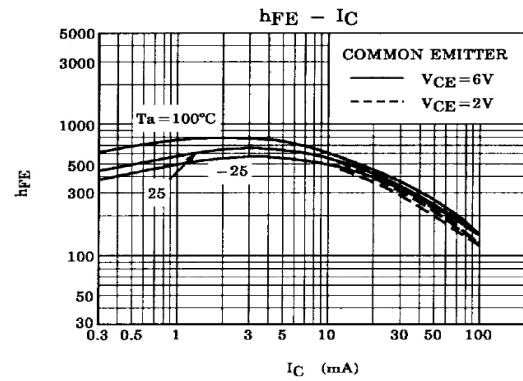
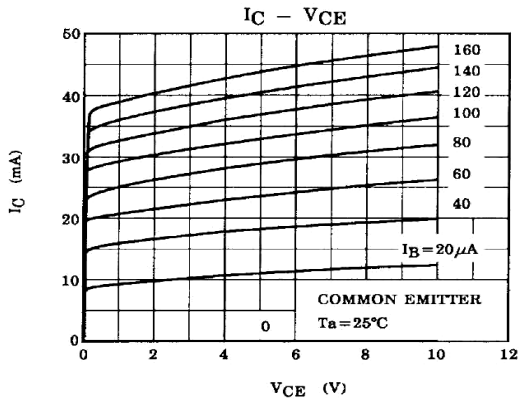
极限参数 / Absolute Maximum Ratings(Ta=25°C)

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}	12	V
Collector Current	I_C	300	mA
Base Current	I_B	60	mA
Collector Power Dissipation	P_C	150	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 Cut-Off Current	I_{CBO}	$V_{CB}=50V$ $I_E=0$			0.1	μA	
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=8.0V$ $I_C=0$			0.1	μA	
DC Current Gain	h_{FE}	$V_{CE}=2.0V$ $I_C=4.0mA$	200		1200		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=30mA$ $I_B=3.0mA$		0.042	0.3	V	
Base-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	
Collector output capacitance	C_{ob}	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$		4.8	7.0	pF	
Turn-on time	t_{on}	 <p>DUTY CYCLE $\leq 2\%$</p>		160		nS	
Storage time	t_{stg}				500		nS
Fall time	t_f				130		nS

电参数曲线图 / Electrical Characteristic Curve



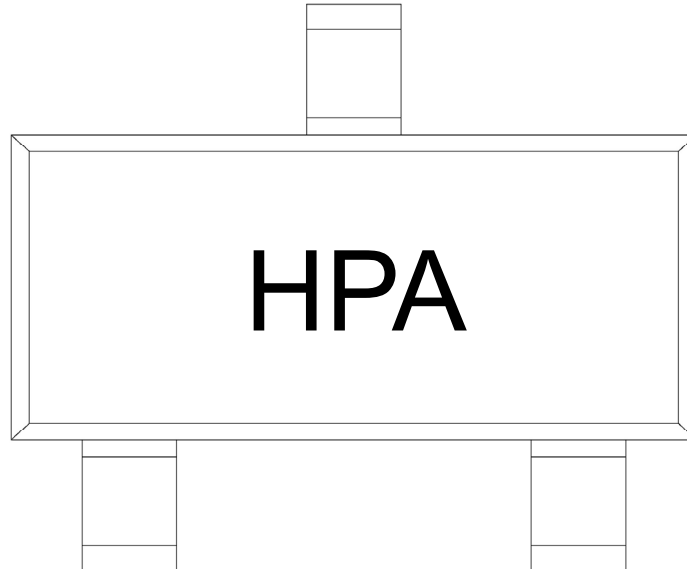
外形尺寸图 / Package Dimensions

SOT-23

单位: mm



印章说明 / Marking Instructions



说明：

- H： 为公司代码
- P： 为型号代码
- A： 为 h_{FE} 档次代码

Note:

- H： Company Code
- P： Product Type Code
- A： 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