

描述 / Descriptions

SOT-523 塑封封装 NPN 半导体三极管。
Silicon NPN transistor in a SOT-523 Plastic Package.

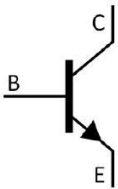
特征 / Features

低电压，低电流。无卤产品。
Low current, Low voltage。HF Product.

用途 / Applications

用于普通放大及开关。
General purpose amplifier and switching.

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	Q	R	S
h_{FE} Range	120~270	180~390	270~560
Marking	H1Q	H1R	H1S

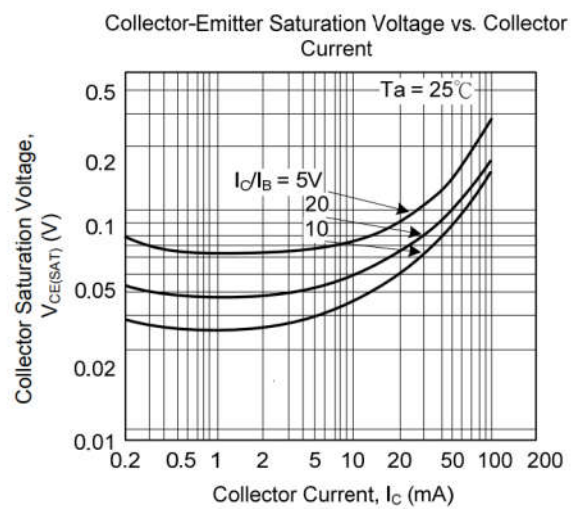
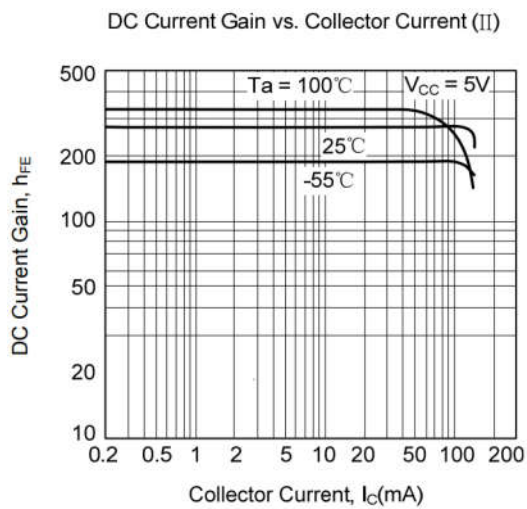
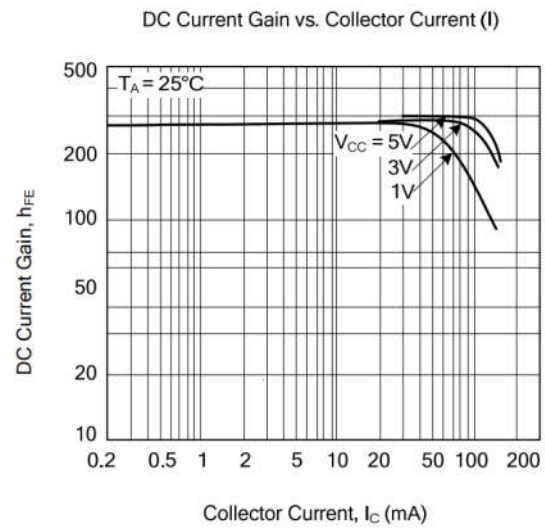
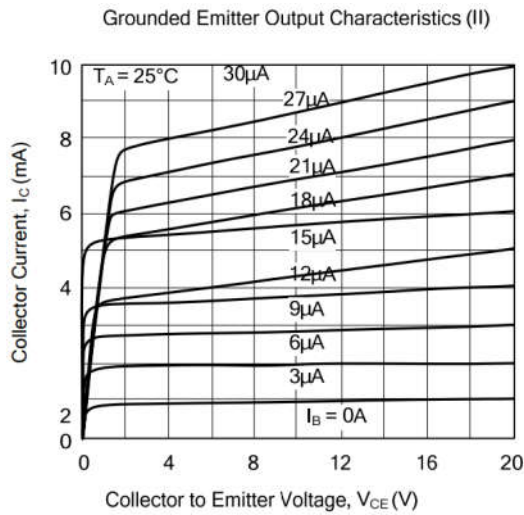
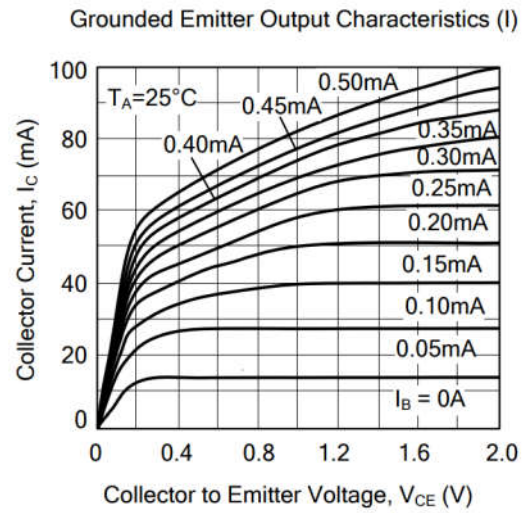
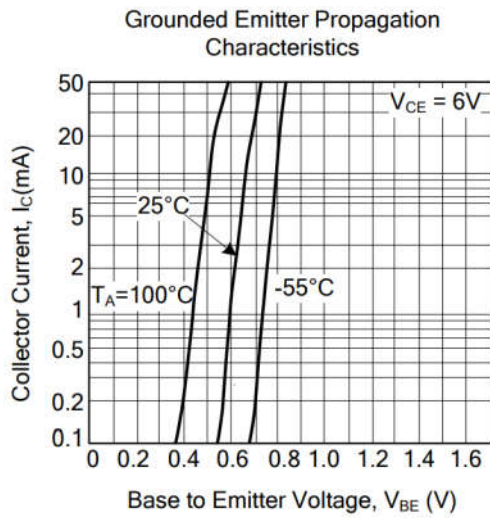
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V_{CBO}	60	V
Collector to Emitter Voltage	V_{CEO}	50	V
Emitter to Base Voltage	V_{EBO}	7	V
Collector Current	I_C	150	mA
Collector Power Dissipation	P_C	150	mW
Thermal resistance, junction to Ambient	$R_{\theta JA}$	833	°C/W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

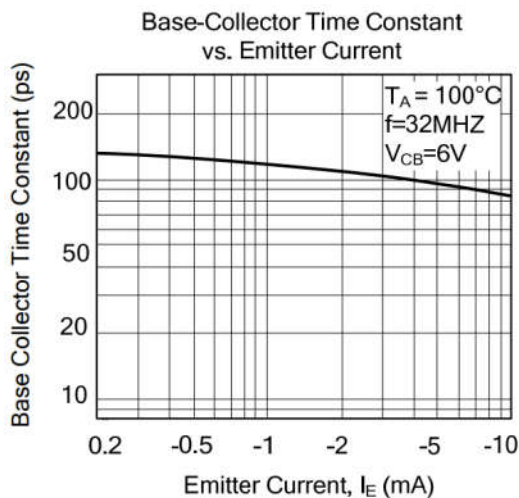
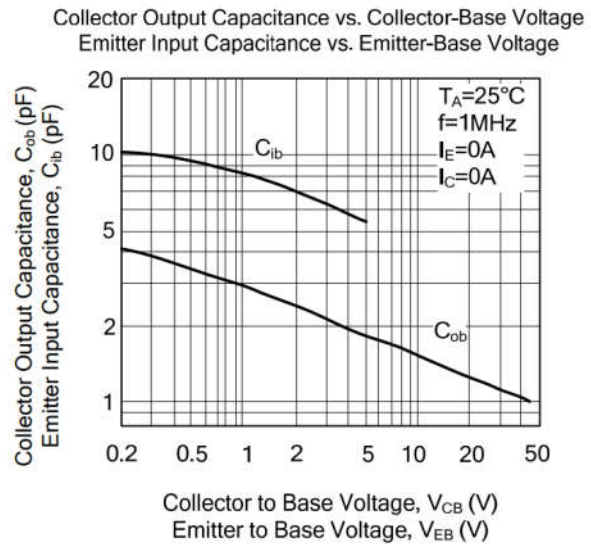
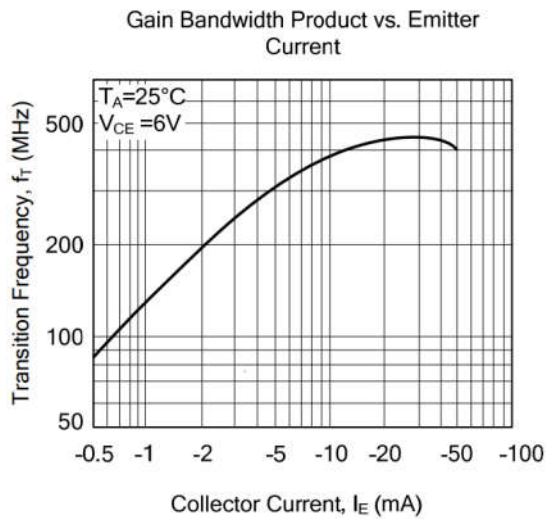
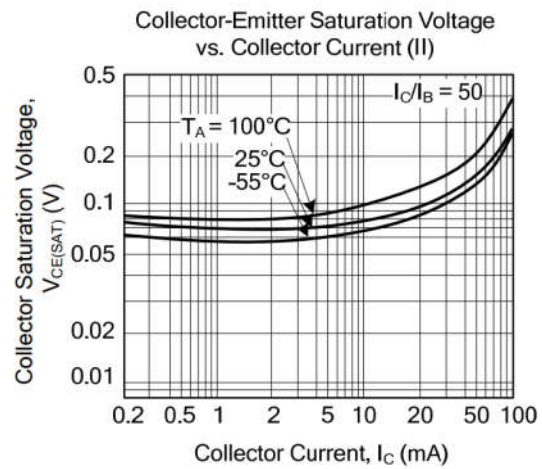
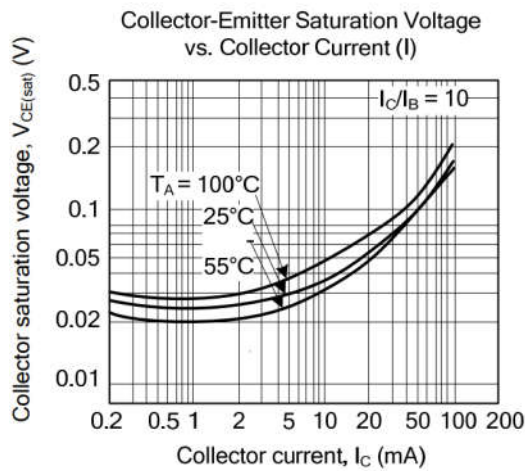
电性能参数 / Electrical Characteristics(Ta=25°C)

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 to Base Breakdown Voltage	V_{CBO}	$I_C=50\mu A$ $I_E=0$	60			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1.0mA$ $I_B=0$	50			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=50\mu A$ $I_C=0$	7			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=60V$ $I_E=0$			0.1	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=7.0V$ $I_C=0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=6.0V$ $I_C=1mA$	120		560	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=50mA$ $I_B=5.0mA$			0.4	V
Output Capacitance	C_{ob}	$V_{CB}=12V$ $f=1.0MHz$			3.5	pF
Transition Frequency	f_T	$V_{CE}=20V$ $I_C=2.0mA$ $f=30MHz$		180		MHz

电参数曲线图 / Electrical Characteristic Curve



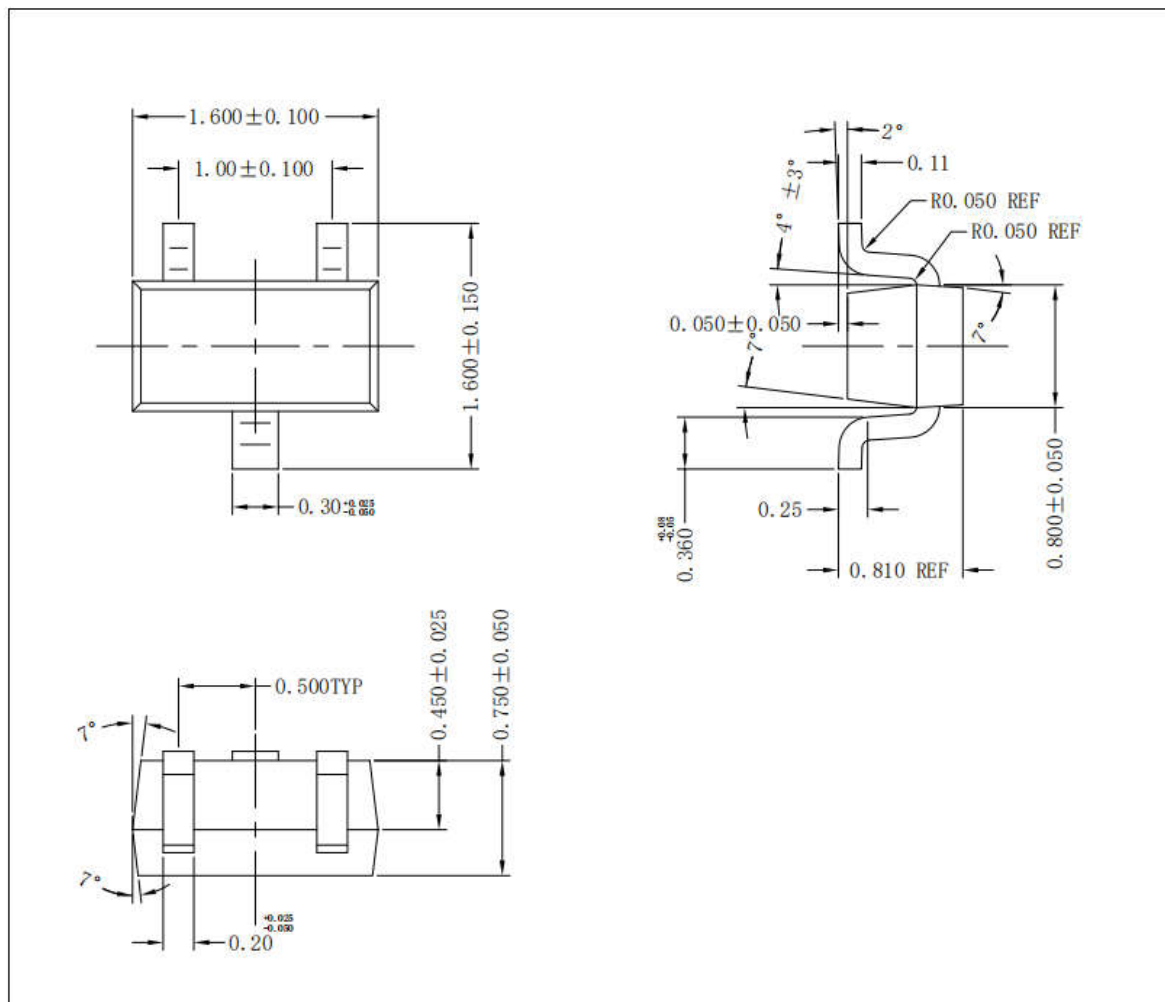
电参数曲线图 / Electrical Characteristic Curve



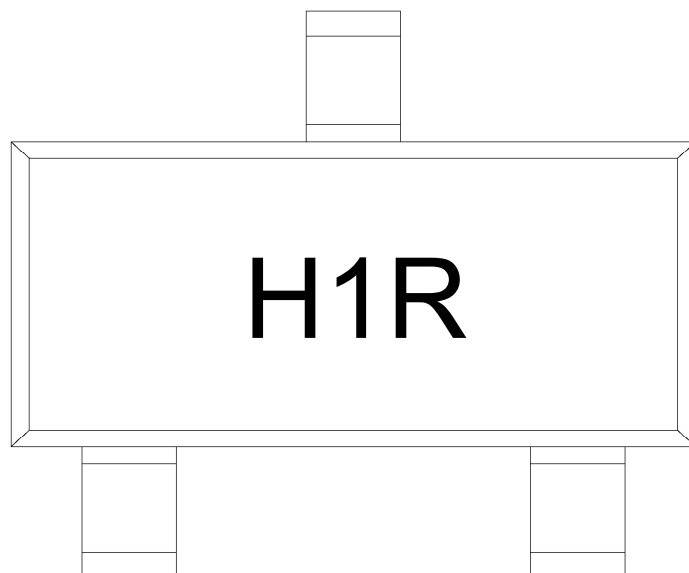
外形尺寸图 / Package Dimensions

SOT-523

单位 ; mm



印章说明 / Marking Instructions



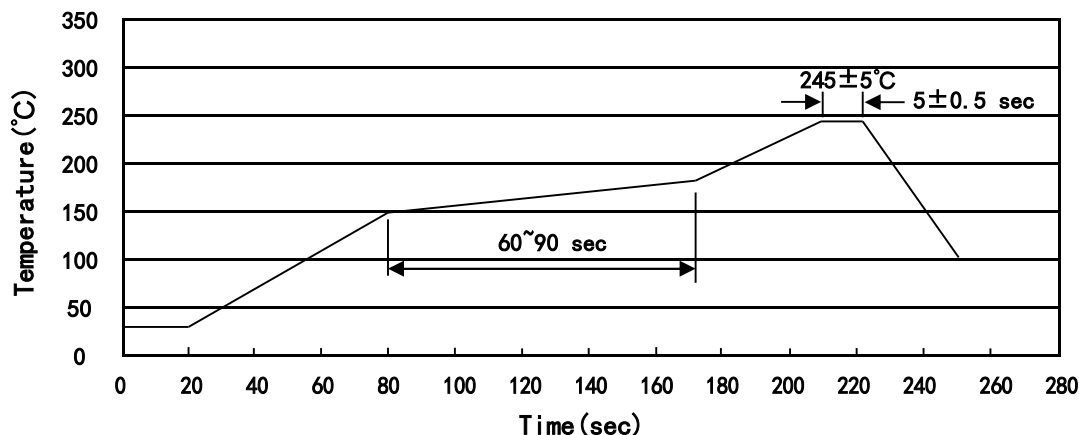
说明：

H： 为公司代码
1： 为型号代码
R： 为 h_{FE} 档次代码

Note:

H： Company Code
1： Product Type Code
R： 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 150~180°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:150~180°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-523	3,000	10	30,000	6	180,000	7" ×8	180×120×180	390×385×205

使用说明 / Notices