

描述 / Descriptions

SOT-23 塑封封装 硅 NPN 数字三极管。

Silicon NPN Digital transistor in a SOT-23 Plastic Package.

特征 / Features

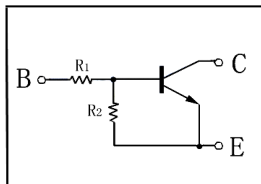
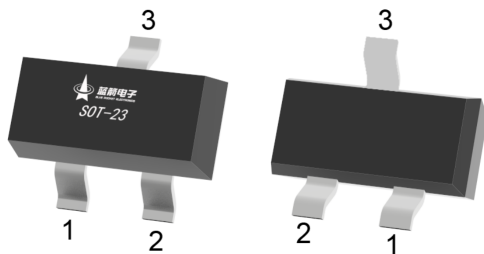
内装偏置电阻，简化线路设计，减少元件和制造流程，无卤产品。

With built-in bias resistors, simplify circuit design, reduce a quantity of parts and manufacturing process, HF Product.

用途 / Applications

用于开关、反相电路、界面电路以及驱动电路中。

Switching, inverter circuit, interface circuit and driver circuit 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

Marking	HE23
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极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Output Voltage	V _{CC}	50	V
Input Voltage	V _{IN}	30	V
		-5.0	V
Output Current	I _O	100	mA
Power Dissipation	P _C	200	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
Input Voltage(OFF)	V _{I(off)}	V _{CC} =5.0V I _O =100μA	0.5			V
Input Voltage(ON)	V _{I(on)}	V _O =0.3V I _O =5.0mA			1.3	V
Output Voltage	V _{O(on)}	I _O =5.0mA I _I =0.25mA		0.1	0.3	V
Input Current	I _I	V _I =5.0V			1.8	mA
Output Cut-off Current	I _{O(off)}	V _{CC} =50V V _I =0V			0.5	μA
DC Current Gain	G _I	V _O =5.0V I _O =10mA	80			
Transition Frequency	f _T	V _{CE} =10V f=100MHz I _E =-5.0mA		250		MHz
Resistance1	R ₁		3.29	4.7	6.11	KΩ
Resistance Ratio	R ₂ /R ₁		8.0	10	12	

电参数曲线图 / Electrical Characteristic Curve

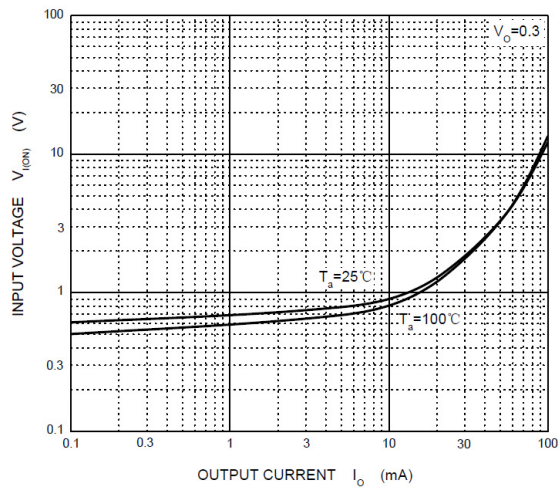


Fig 1. ON Characteristics

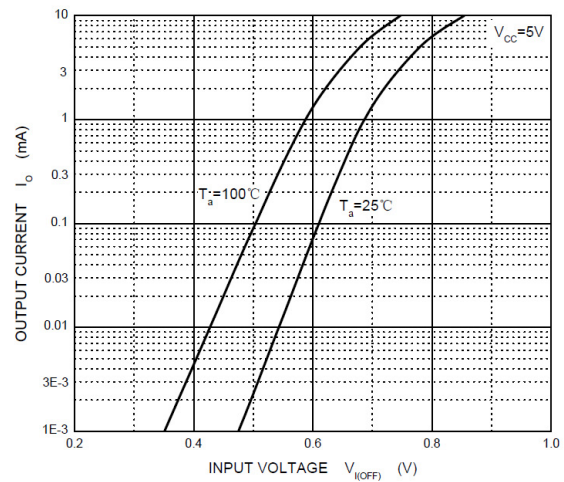
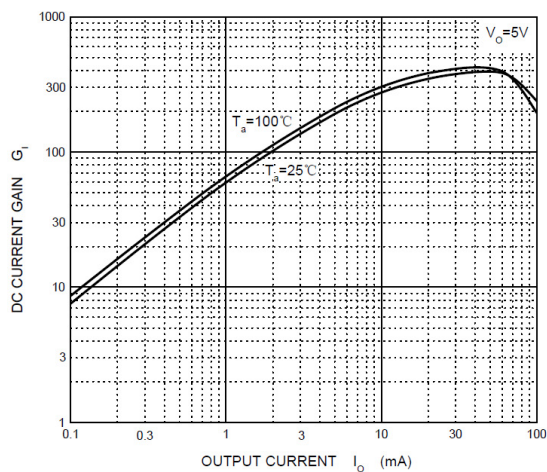
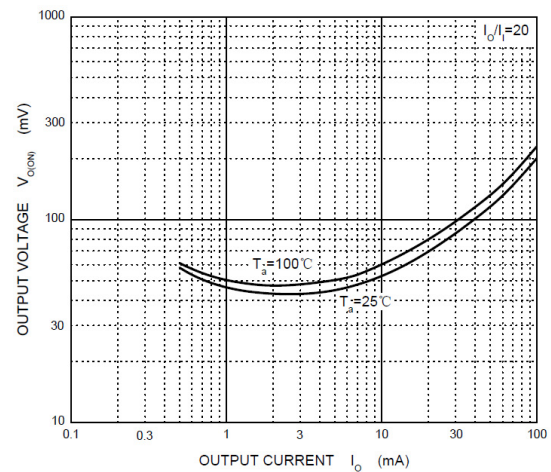
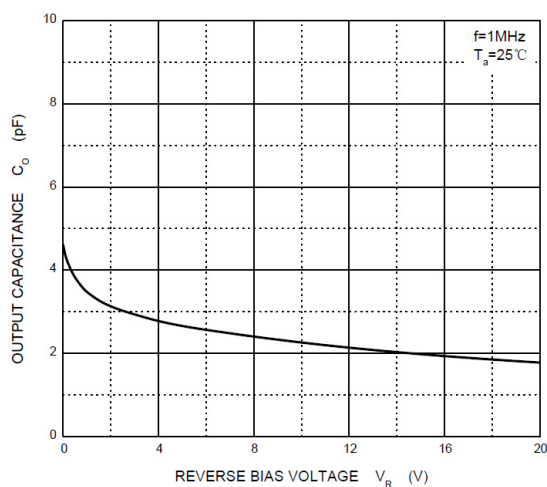
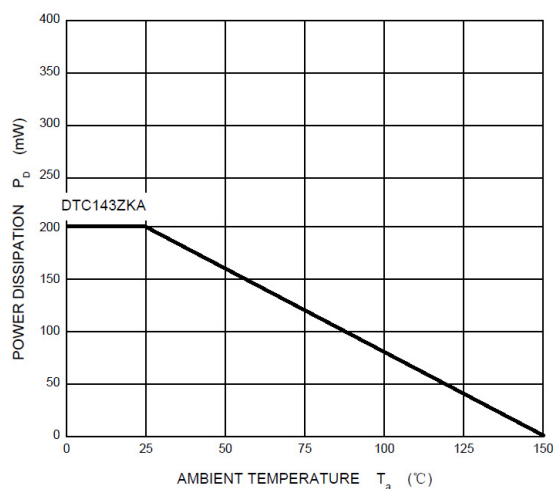


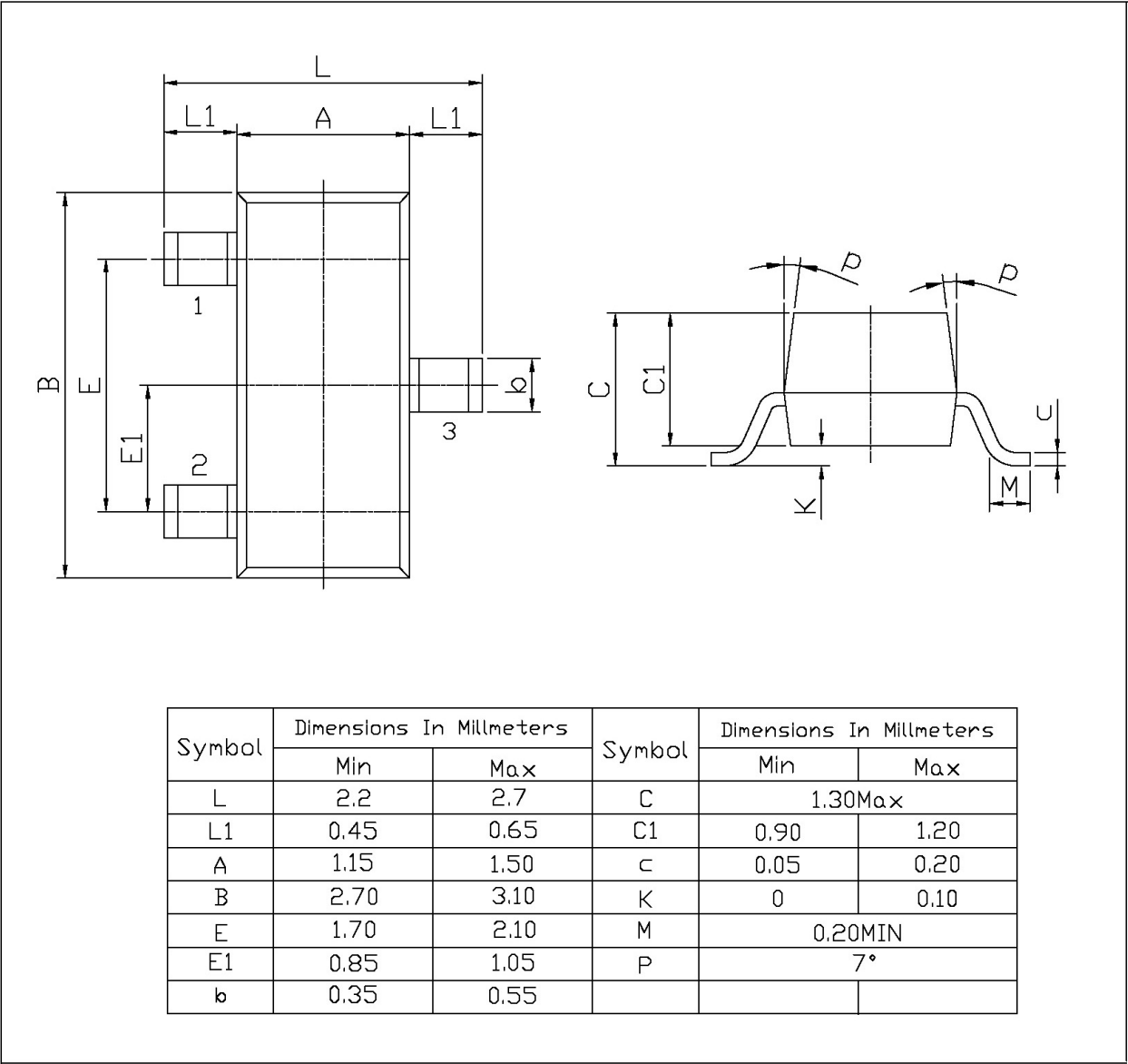
Fig 2. OFF Characteristics

Fig 3. G_I — I_O Fig 4. $V_{O(ON)}$ — I_O Fig 5. C_O — V_R Fig 6. P_D — T_a

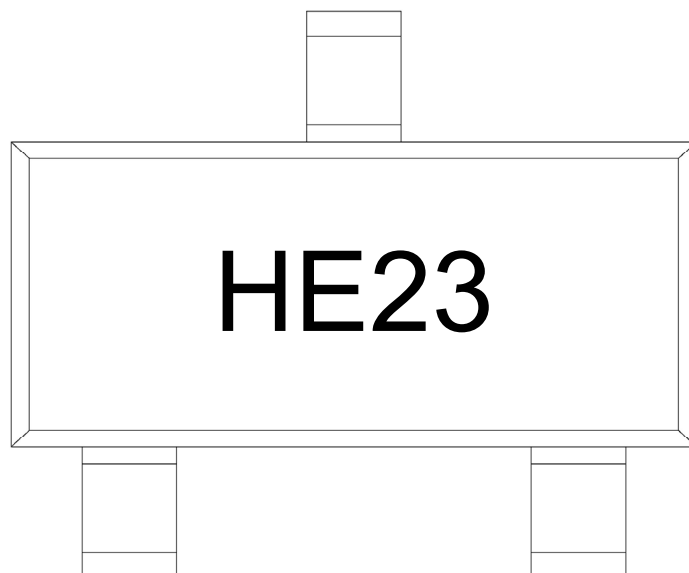
外形尺寸图 / Package Dimensions

SOT-23

单位：mm



印章说明 / Marking Instructions



说明：

H： 为公司代码

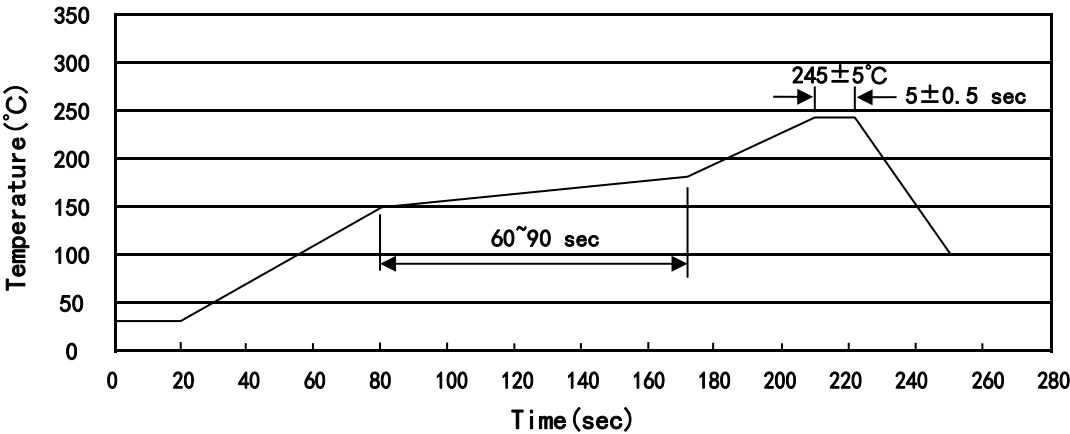
E23： 为型号代码

Note:

H： Company Code

E23： 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 150 ~ 180℃，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:150~180℃, 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	6	180,000	7" ×8	180×120×180	390×385×205

使用说明 / Notices