

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

内置偏置电阻器可以在不连接外部输入电阻器的情况下配置逆变器电路（参见等效电路）；偏置电阻器由完全隔离的薄膜电阻器组成，以允许输入负偏置；还具有几乎完全消除寄生效应的优势；操作只需设置开/关条件，使设备设计简单，无卤产品。

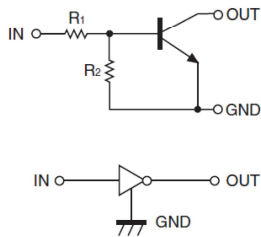
Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors(see equivalent circuit); The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input; They also have the advantage of almost completely eliminating parasitic effects; Only the on/off conditions need to be set for operation, making device design easy, 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 : IN PIN 2 : GND PIN 3 : OUT

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

Marking	HE21
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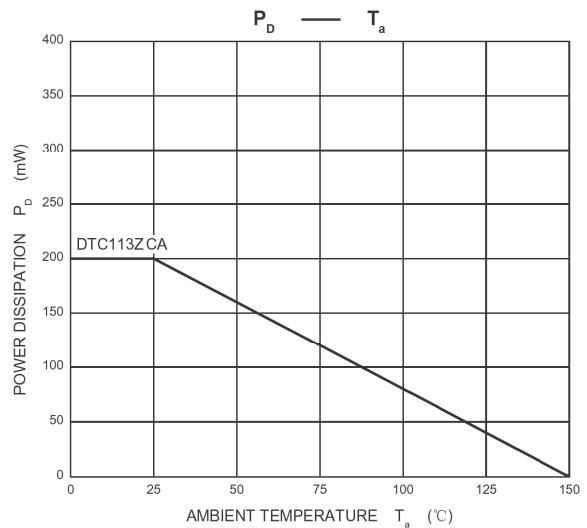
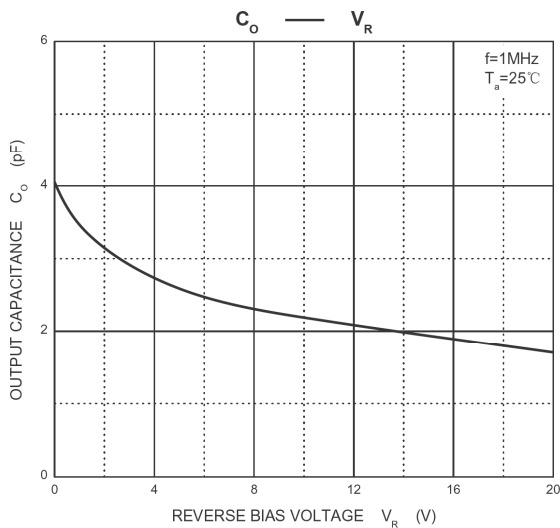
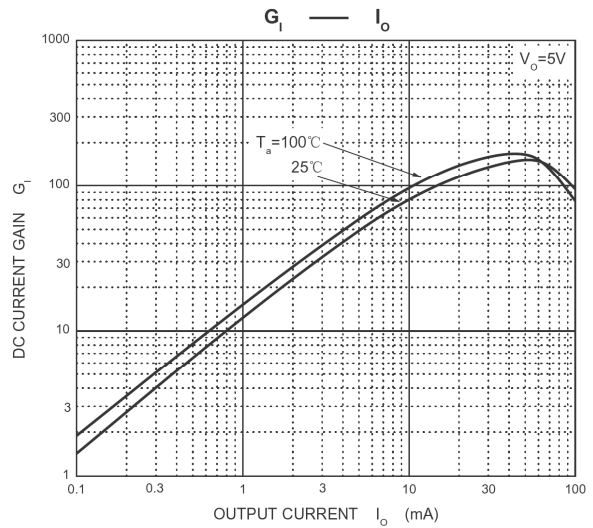
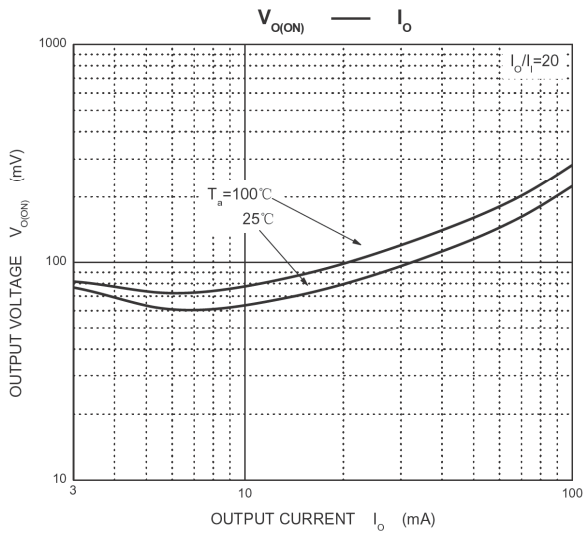
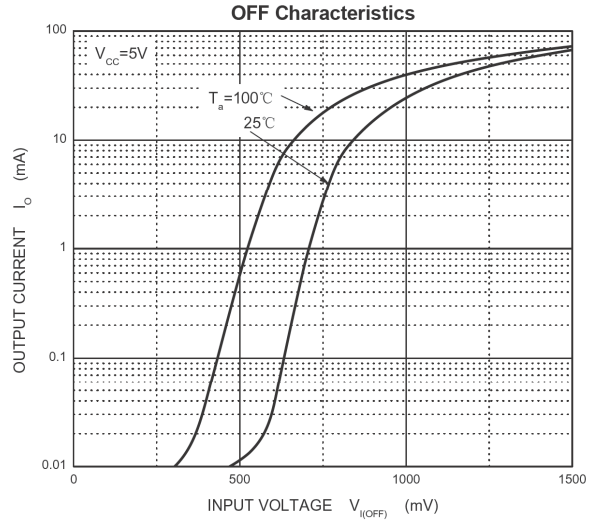
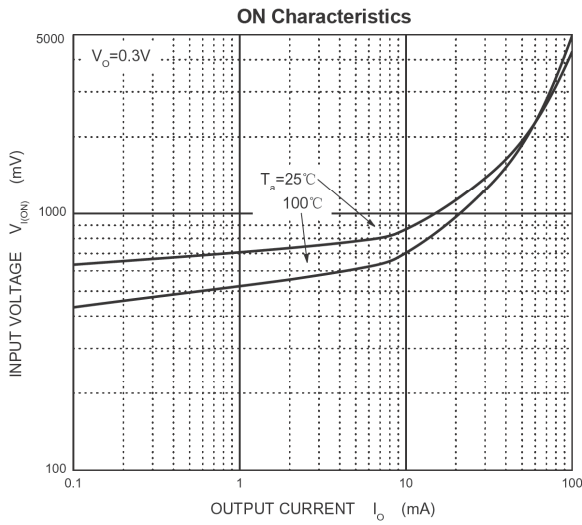
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Supply Voltage	V_{CC}	50	V
Input Voltage	V_{IN}	-5~10	V
Output Current	I_O	100	mA
Power Dissipation	P_D	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	$V_{I(off)}$	$V_{CC}=5.0V$ $I_O=100\mu A$	0.3			V
Input Voltage	$V_{I(on)}$	$V_O=0.3V$ $I_O=10mA$			3	V
Output Voltage	$V_{O(on)}$	$I_O=10mA$ $I_I=0.5mA$			0.3	V
Input Current	I_I	$V_I=5.0V$			7.2	mA
Output Cut-off Current	$I_{O(off)}$	$V_{CC}=50V$ $V_I=0V$			0.5	μA
DC Current Gain	G_I	$V_O=5.0V$ $I_O=5.0mA$	33			
Resistance1	R_1		0.7	1	1.3	K Ω
Resistance Ratio	R_2/R_1		8	10	12	
Transition Frequency	f_T	$V_O=10V$ $f=100MHz$ $I_O=5.0mA$		250		MHz

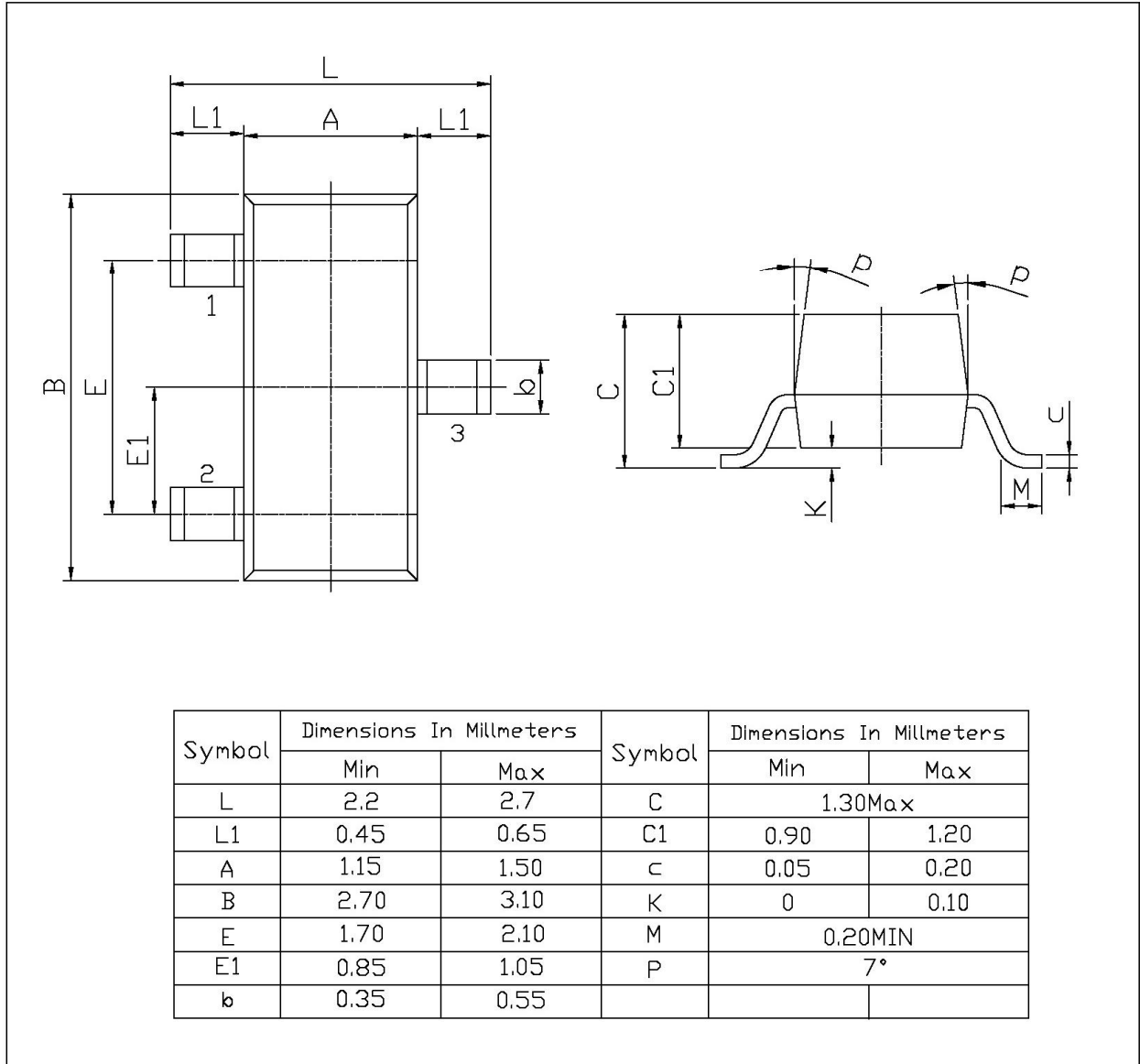
电参数曲线图 / Electrical Characteristic Curve



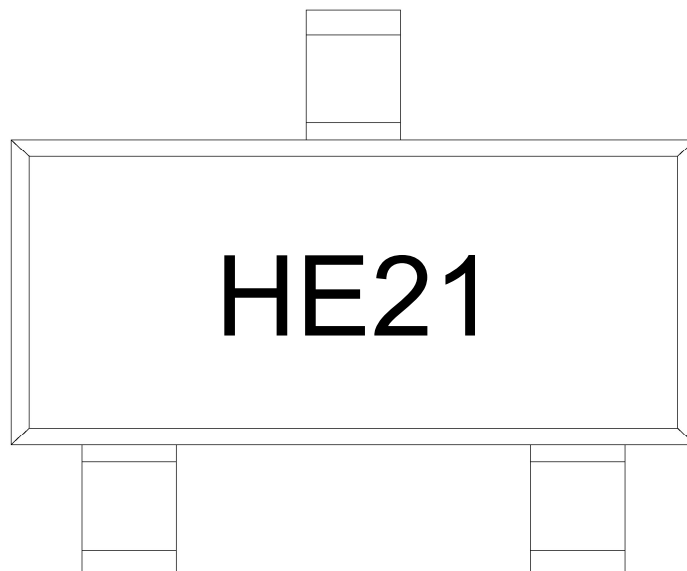
外形尺寸图 / Package Dimensions

SOT-23

单位: mm



印章说明 / Marking Instructions



说明：

H： 为公司代码

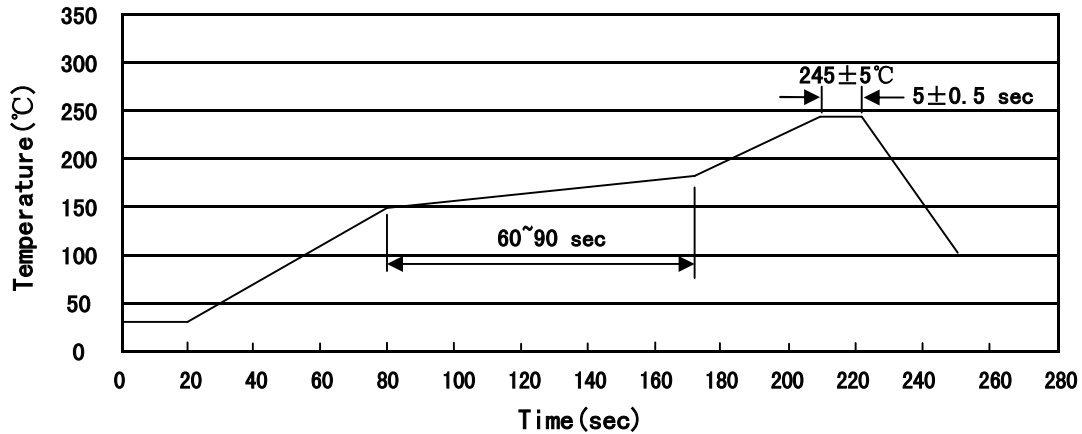
E21： 为型号代码

Note:

H： Company Code

E21： Product Type

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-23	3,000	10	30,000	6	180,000	7" ×8	180×120×180	390×385×205

使用说明 / Notices