

# DTC114TUA

Rev.A May.-2016

## 描述 / Descriptions

SOT-323 塑封封装硅 NPN 数字三极管。Silicon NPN Digital Transistor in a SOT-323 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。

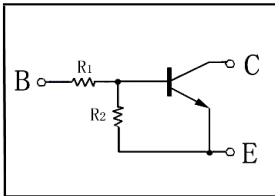
With built-in bias resistors, simplify circuit design, reduce a quantity of parts and manufacturing process.

## 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



PIN1 : Emitter

PIN 2 : Base

PIN 3 : Collector

## 印章代码 / Marking

Marking	H04
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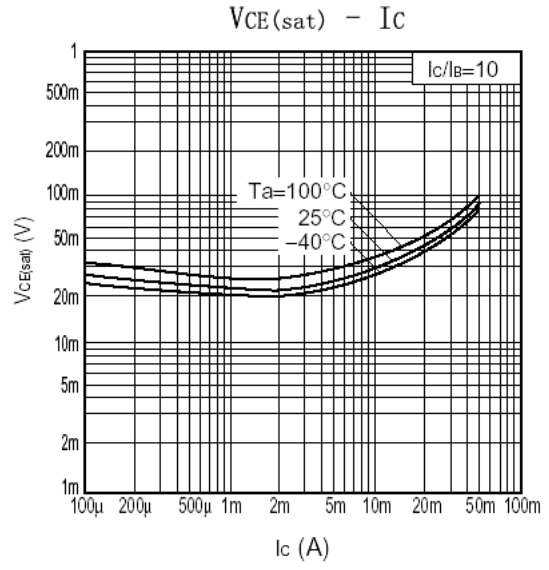
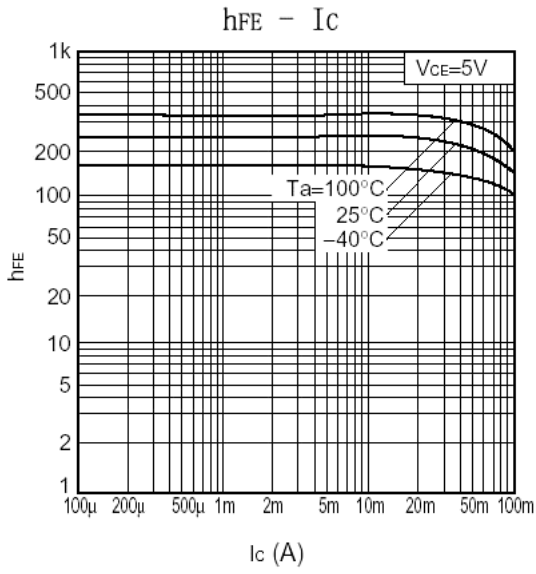
**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector-Base voltage	$V_{CBO}$	50	V
Collector-Emitter voltage	$V_{CEO}$	50	V
Emitter-Base voltage	$V_{EBO}$	5.0	V
Collector Current	$I_C$	100	mA
Collector 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
Collector to Base Breakdown Voltage	$V_{CBO}$	$I_C=50\mu A$	50			V
Collector to Emitter Breakdown Voltage	$V_{CEO}$	$I_C=1.0mA$	50			V
Emitter to Base Breakdown Voltage	$V_{EBO}$	$I_E=50\mu A$	5			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=50V$			0.5	$\mu A$
Emitter Base Cut-Off Current	$I_{EBO}$	$V_{EB}=4.0V$			0.5	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE}=5.0V$ $I_C=1.0mA$	100	300	600	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10mA$ $I_B=1.0mA$			0.3	V
Transition Frequency	$f_T$	$V_{CE}=10V$ $I_C=5.0mA$ $f=100MHz$		250		MHz
Resistance1	R1		7	10	13	K $\Omega$

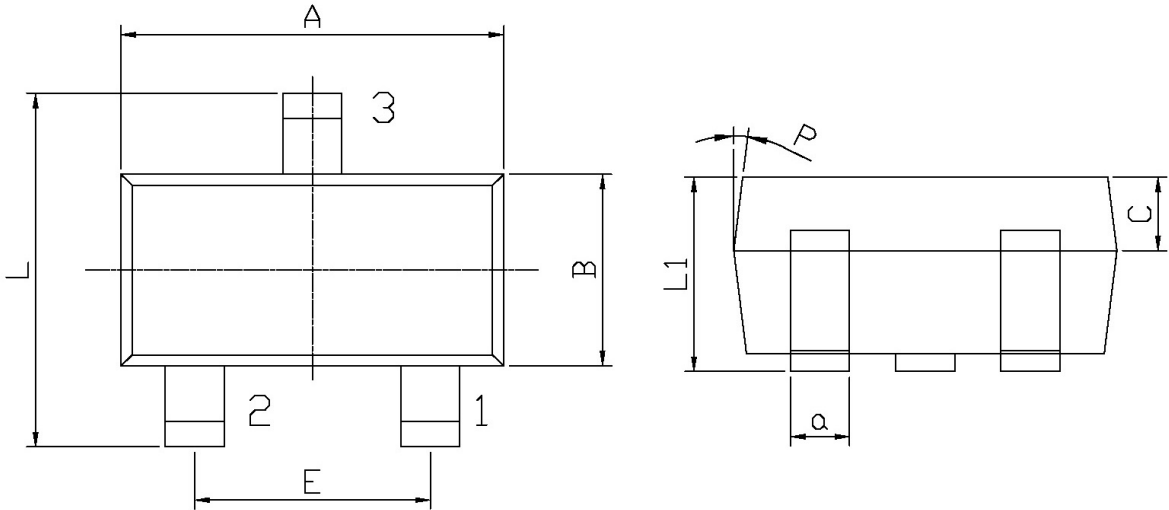
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

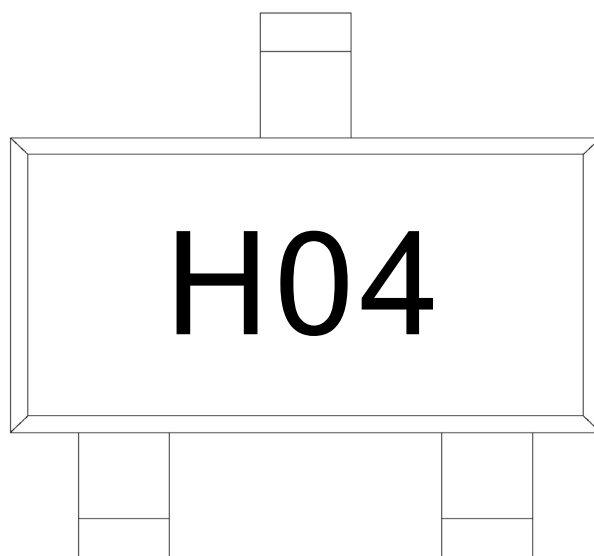
SOT-323

单位: mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	1.95	2.35	C	0.30	0.50
L	2.00	2.2	L1	0.85	1.15
E	1.20	1.40	a	0.20	0.40
B	1.15	1.35	P	7°	

印章说明 / Marking Instructions



说明：

H： 为公司代码

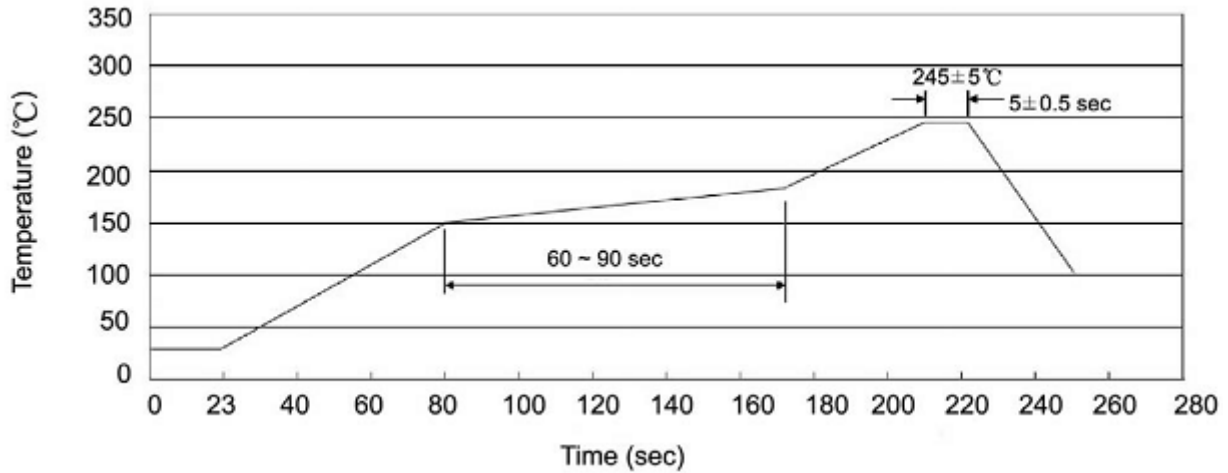
04： 为型号代码

Note:

H： Company Code

04： 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 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 <sup>3</sup> )		
	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-323	3,000	10	30,000	6	180,000	7" x8	180×120×180	390×385×205

**使用说明 / Notices**