

# DTC143TKA

Rev.G Feb.-2022

DATA SHEET

## 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。

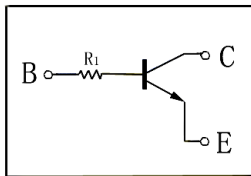
With built-in bias resistors, simplify circuit design, reduce a quantity of parts and manufacturing process. HF Product.

## 用途 / Applications

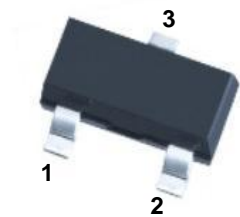
用于开关、反相电路、界面电路以及驱动电路中。

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<sub>FE</sub> Classifications & Marking

Marking	H03
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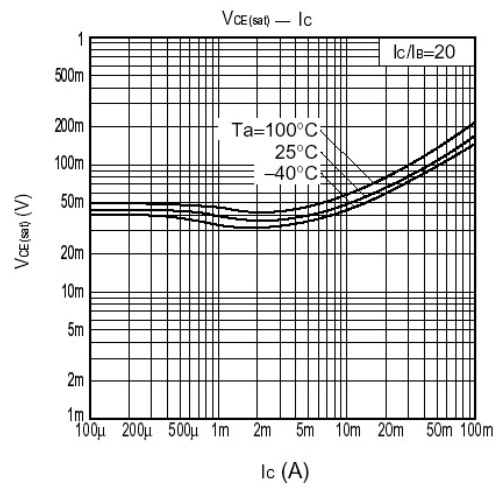
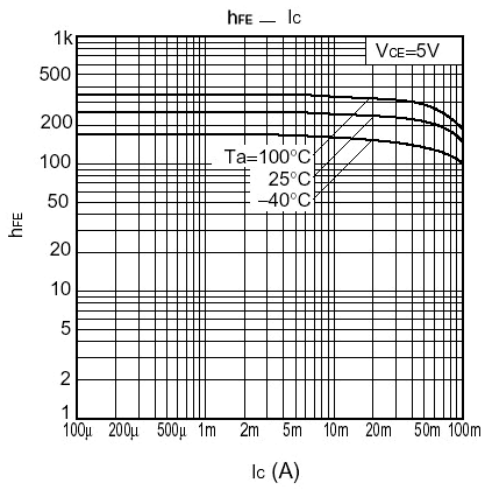
**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

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
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-Base Voltage	$V_{CBO}$	$I_C=50\mu A$	50			V
Collector-Emitter Voltage	$V_{CEO}$	$I_C=1.0mA$	50			V
Emitter-Base Voltage	$V_{EBO}$	$I_E=50\mu A$	5.0			V
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=50V$			0.5	$\mu A$
Emitter 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	250	600	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=5.0mA$ $I_B=0.25mA$			0.3	V
Transition Frequency	$f_T$	$V_{CE}=10V$ $I_C=5.0mA$ $f_T=100MHz$		250		MHz
Resistance1	R1		3.29	4.7	6.11	K $\Omega$

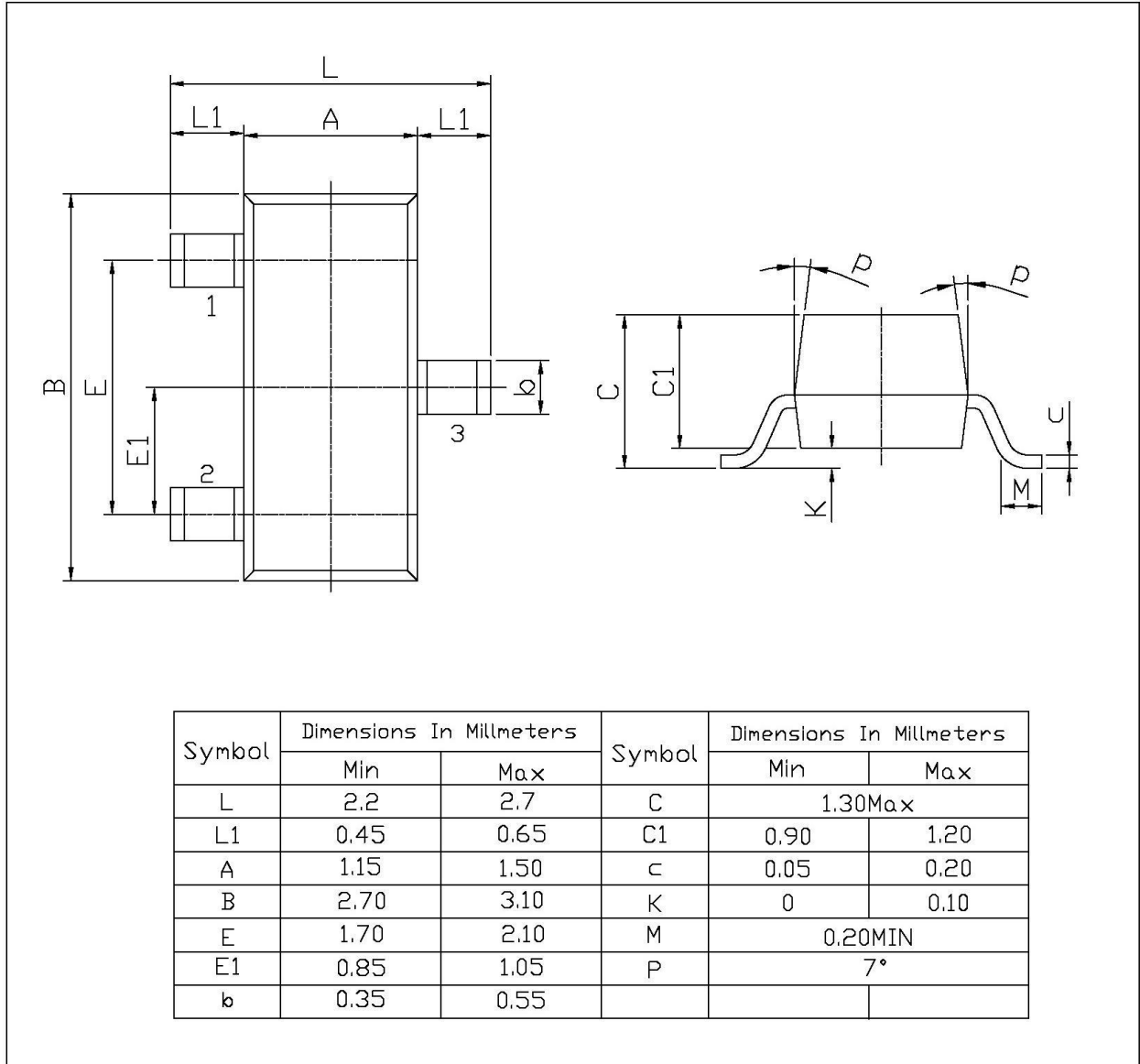
电参数曲线图 / Electrical Characteristic Curve



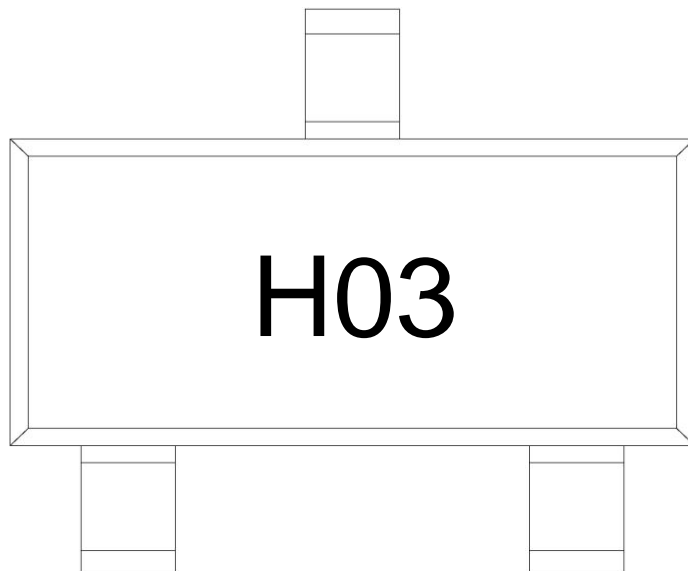
外形尺寸图 / Package Dimensions

SOT-23

单位: mm



印章说明 / Marking Instructions



说明：

H： 为公司代码

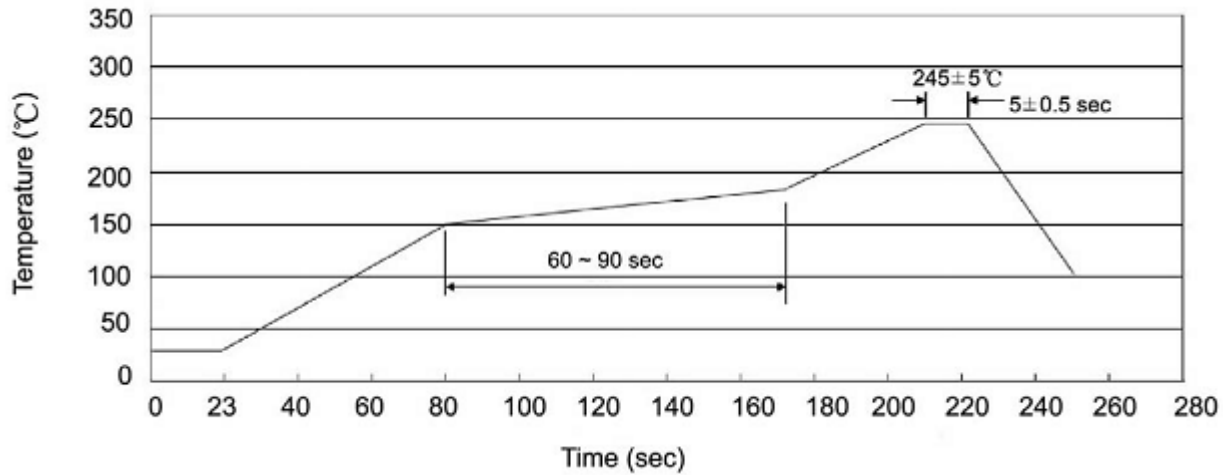
03： 为型号代码

Note:

H： Company Code

03： 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 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-23	3,000	10	30,000	6	180,000	7" ×8	180×120×180	390×385×205

使用说明 / Notices