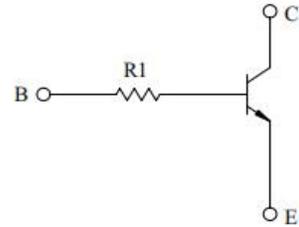
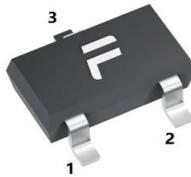


SOT-23 Digital Transistor 数字晶体管

■ Features 特点

1.Base 2.Emitter 3.Collector
NPN With Bias Resistor Network
带偏置电阻



■ Absolute Maximum Ratings 最大额定值

| Characteristic 特性参数 | Symbol 符号 | Rat 额定值 | Unit 单位 |
|--|-----------------------------|----------------------------|---------------------------|
| Collector-Base Voltage 集电极基极电压 | V_{CBO} | 50 | V |
| Collector-Emitter Voltage 集电极发射极电压 | V_{CEO} | 50 | V |
| Collector Current 集电极电流 | I_C | 100 | mA |
| Power dissipation 耗散功率 | $P_C(T_a=25^\circ\text{C})$ | 200 | mW |
| Thermal Resistance Junction-Ambient 热阻 | $R_{\theta JA}$ | 625 | $^\circ\text{C}/\text{W}$ |
| Junction and Storage Temperature 结温和储藏温度 | T_J, T_{stg} | -55to+150 $^\circ\text{C}$ | |

■ Device Marking 产品打标

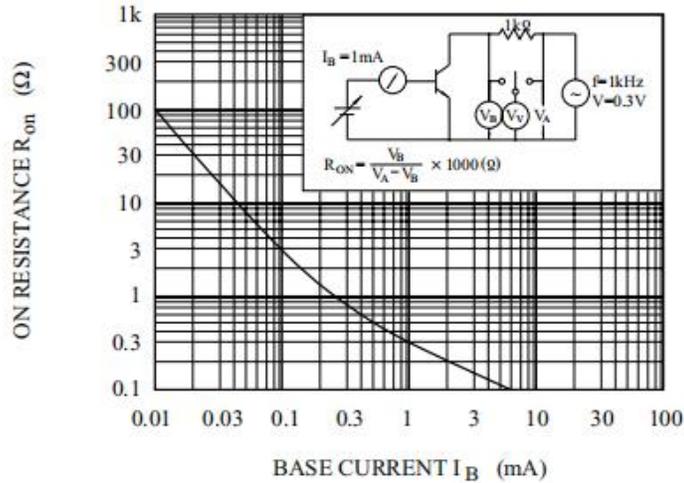
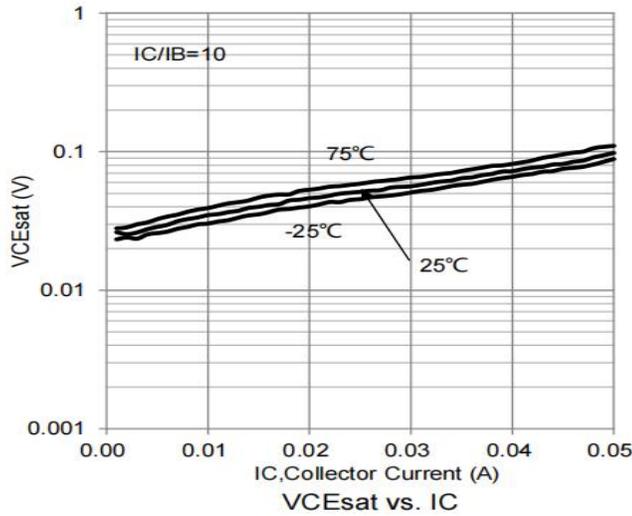
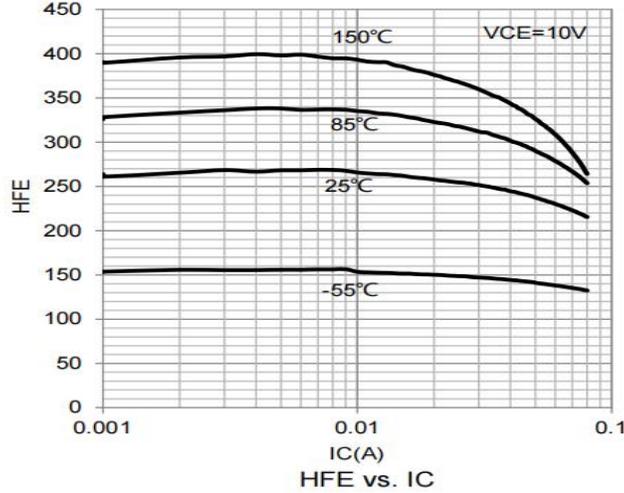
DTC115TCA=9

■ Electrical Characteristics 电特性

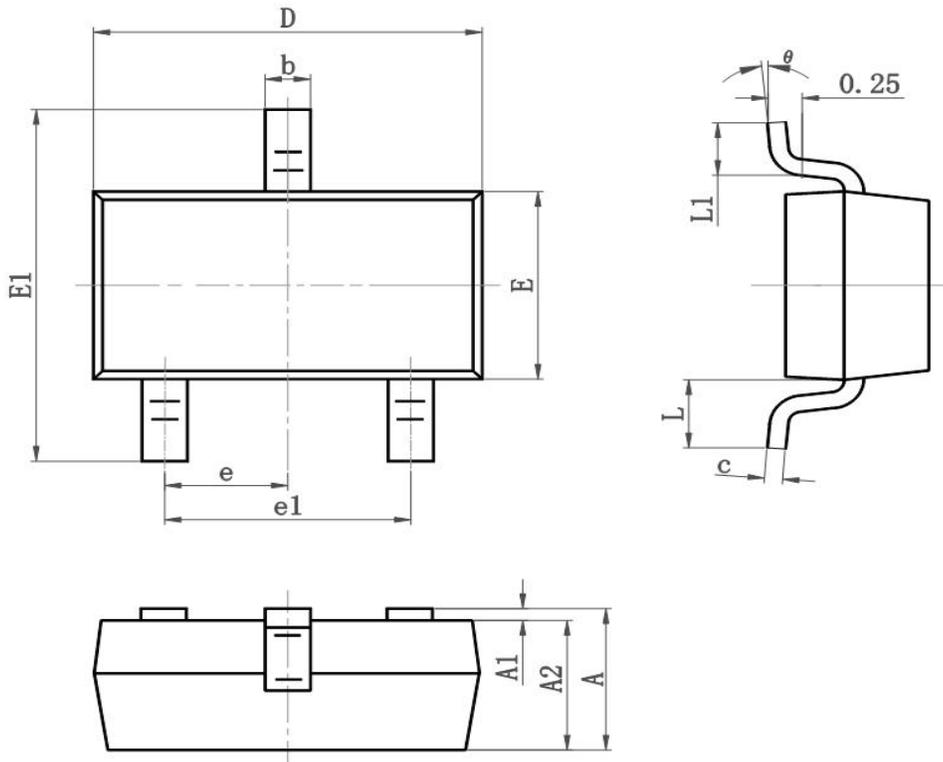
($T_A=25^{\circ}\text{C}$ unless otherwise noted 如无特殊说明, 温度为 25°C)

| Characteristic 特性参数 | Symbol 符号 | Min 最小值 | Type 典型值 | Max 最大值 | Unit 单位 |
|---|---------------|------------|-------------|------------|------------------|
| Collector-Base Breakdown Voltage 集电极基极击穿电压 ($I_C=10\mu\text{A}$, $I_E=0$) | BV_{CBO} | 50 | — | — | V |
| Collector-Emitter Breakdown Voltage 集电极发射极击穿电压 ($I_C=2\text{mA}$, $I_B=0$) | BV_{CEO} | 50 | — | — | V |
| Collector-Base Leakage Current 集电极基极漏电流 ($V_{CB}=50\text{V}$, $I_E=0$) | I_{CBO} | — | — | 50 | nA |
| Collector-Emitter Leakage Current 集电极发射极漏电流 ($V_{CE}=50\text{V}$, $I_E=0$) | I_{CEO} | — | — | 50 | nA |
| Emitter-Base Leakage Current 发射极基极漏电流 ($V_{EB}=6\text{V}$, $I_C=0$) | I_{EBO} | — | — | 0.9 | mA |
| DC Current Gain 直流电流增益 ($V_{CE}=10\text{V}$, $I_C=5\text{mA}$) | H_{FE} | 160 | 350 | — | |
| Collector-Emitter Saturation Voltage 集电极发射极饱和压降 ($I_C=10\text{mA}$, $I_B=1\text{mA}$) | $V_{CE(sat)}$ | — | — | 0.25 | V |
| Output Voltage (on) 输出电压(导通) ($V_{CC} = 5.0\text{V}$, $V_B = 2.5\text{V}$, $R_L = 1.0\text{K}\Omega$) | V_{OL} | — | — | 0.2 | V |
| Output Voltage (on) 输出电压(导通) ($V_{CC} = 5.0\text{V}$, $V_B = 0.25\text{V}$, $R_L = 1.0\text{K}\Omega$) | V_{OH} | 4.9 | — | — | V |
| Input Resistor 输入电阻 | R_I | 70 | 100 | 130 | $\text{K}\Omega$ |
| On Resistance 导通阻抗 ($f=1\text{kHz}$, $I_B=1\text{mA}$, $V_{IN}=0.3\text{V}$) | R_{ON} | — | 0.6 | — | Ω |
| Transition frequency 特征频率 ($V_O=10\text{V}$, $I_O=5\text{mA}$) | f_t | — | 250 | — | MHz |

■ Typical Characteristic Curve 典型特性曲线



■ Dimension 外形封装尺寸



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|----------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 0.900 | 1.150 | 0.035 | 0.045 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.050 | 0.035 | 0.041 |
| b | 0.300 | 0.500 | 0.012 | 0.020 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 2.800 | 3.000 | 0.110 | 0.118 |
| E | 1.200 | 1.400 | 0.050 | 0.055 |
| E1 | 2.250 | 2.550 | 0.089 | 0.100 |
| e | 0.900 | 1.00 | 0.035 | 0.039 |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.500 | 0.600 | 0.020 | 0.024 |
| L1 | 0.300 | 0.500 | 0.012 | 0.020 |
| θ | 0° | 8° | 0° | 8° |