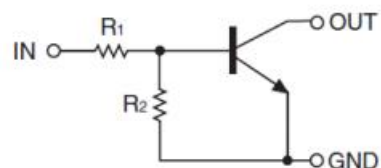
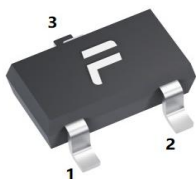


## SOT-523 Digital Transistor 数字晶体管

### ■ Features 特点

1.IN 2.GND 3.OUT  
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       |
|---------------------------------------------|------------------------|-----------------------|---------------|
| Supply Voltage 电源电压                         | $V_{CC}$               | 60                    | V             |
| Input Voltage 输入电压                          | $V_{IN}$               | -7~+20                | V             |
| Output Current 输出电流                         | $I_O$                  | 100                   | mA            |
| Power dissipation 耗散功率                      | $P_C(T_a=25^{\circ}C)$ | 150                   | mW            |
| Thermal Resistance Junction-Ambient 热阻      | $R_{\theta JA}$        | 833                   | $^{\circ}C/W$ |
| Junction and Storage Temperature<br>结温和储藏温度 | $T_J, T_{stg}$         | -55to+150 $^{\circ}C$ |               |

### ■ Device Marking 产品打标

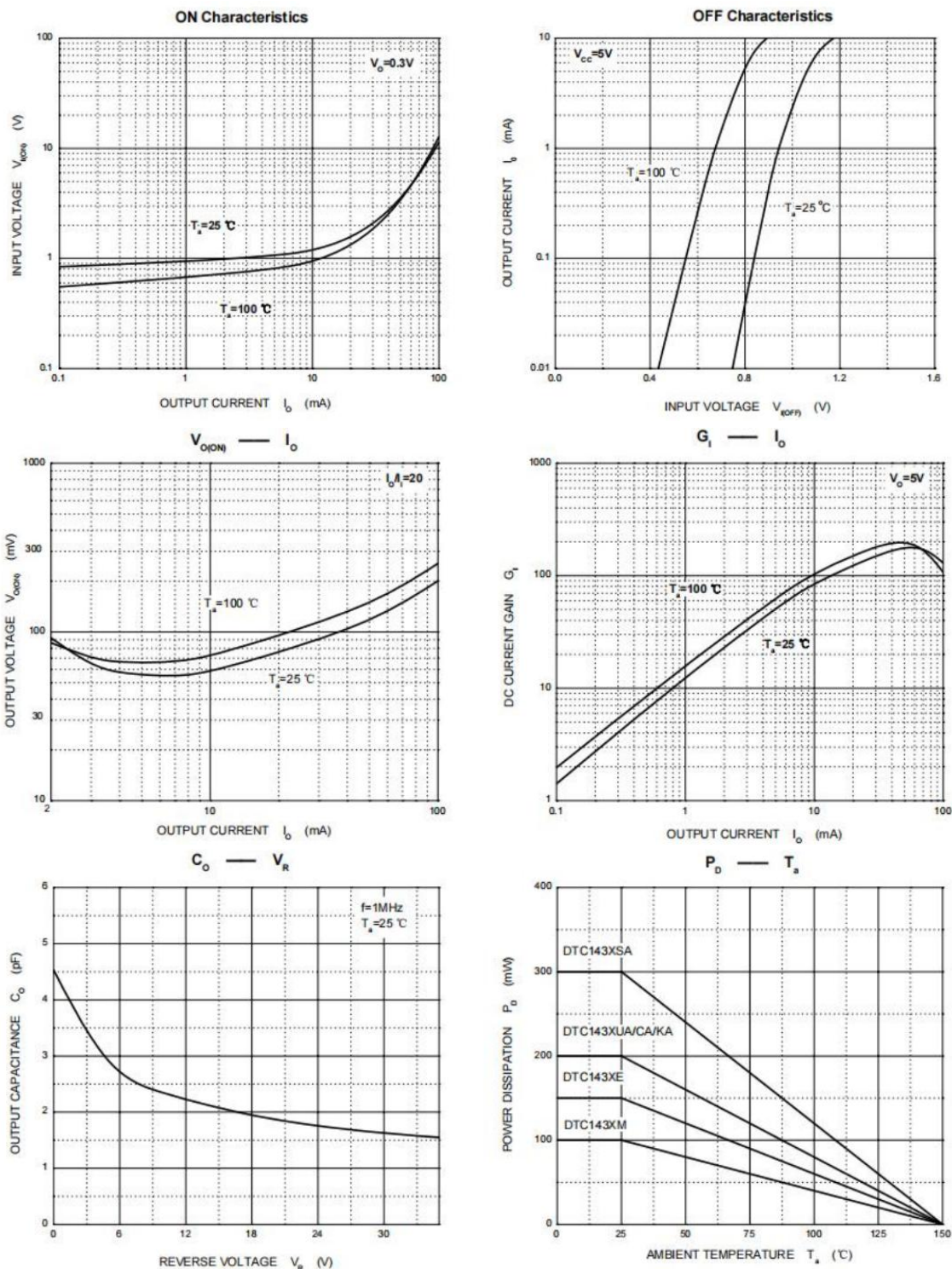
DTC143XE=43

**■Electrical Characteristics 电特性**

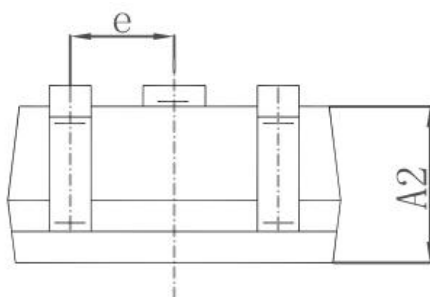
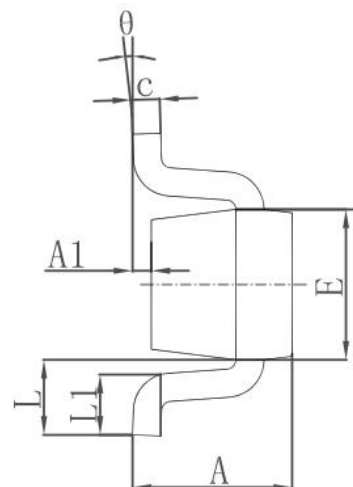
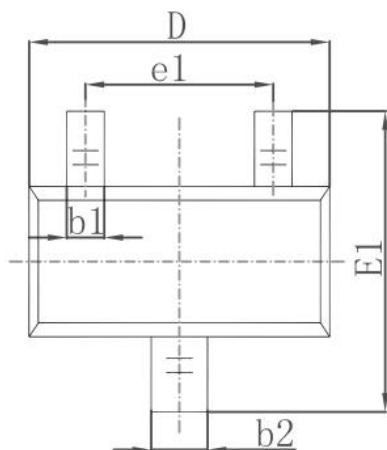
(TA=25℃ unless otherwise noted 如无特殊说明, 温度为 25℃)

| Characteristic<br>特性参数                                                     | Symbol<br>符号                   | Min<br>最小值 | Type<br>典型值 | Max<br>最大值 | Unit<br>单位 |
|----------------------------------------------------------------------------|--------------------------------|------------|-------------|------------|------------|
| Input Voltage 输入电压<br>(V <sub>CC</sub> =5V, I <sub>O</sub> =100μA)         | V <sub>I(off)</sub>            | 0.3        | —           | —          | V          |
| Input Voltage 输入电压<br>(V <sub>O</sub> =0.3V, I <sub>O</sub> =20mA)         | V <sub>I(on)</sub>             | —          | —           | 2.5        | V          |
| Output Voltage 输出电压<br>(I <sub>O</sub> /I <sub>I</sub> =10mA/0.5mA)        | V <sub>O(on)</sub>             | —          | 0.1         | 0.3        | V          |
| Input Current 输入电流<br>(V <sub>I</sub> =5V)                                 | I <sub>I</sub>                 | —          | —           | 1.8        | mA         |
| Output Current 输出电流<br>(V <sub>CC</sub> =50V, V <sub>I</sub> =0)           | I <sub>O(off)</sub>            | —          | —           | 0.5        | μA         |
| DC Current Gain<br>直流电流增益<br>(V <sub>O</sub> =5V, I <sub>O</sub> =10mA)    | G <sub>I</sub>                 | 30         | —           | —          |            |
| Input Resistor<br>输入电阻                                                     | R <sub>I</sub>                 | 3.29       | 4.7         | 6.11       | KΩ         |
| Resistor Ratio<br>电阻比率                                                     | R <sub>2</sub> /R <sub>1</sub> | 1.7        | 2.1         | 2.6        |            |
| Transition frequency<br>特征频率<br>(V <sub>O</sub> =10V, I <sub>O</sub> =5mA) | f <sub>T</sub>                 | —          | 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      | 0.700                     | 0.900 | 0.028                | 0.035 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 0.700                     | 0.800 | 0.028                | 0.031 |
| b1     | 0.150                     | 0.250 | 0.006                | 0.010 |
| b2     | 0.250                     | 0.350 | 0.010                | 0.014 |
| c      | 0.100                     | 0.200 | 0.004                | 0.008 |
| D      | 1.500                     | 1.700 | 0.059                | 0.067 |
| E      | 0.700                     | 0.900 | 0.028                | 0.035 |
| E1     | 1.450                     | 1.750 | 0.057                | 0.069 |
| e      | 0.500 TYP.                |       | 0.020 TYP.           |       |
| e1     | 0.900                     | 1.100 | 0.035                | 0.043 |
| L      | 0.400 REF.                |       | 0.016 REF.           |       |
| L1     | 0.260                     | 0.460 | 0.010                | 0.018 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |