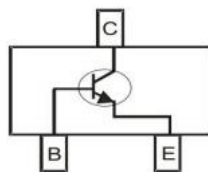


## SOT-23 Bipolar Transistor 双极型三极管

### ■ Features 特点

NPN General Purpose 通用



### ■ Absolute Maximum Ratings 最大额定值

| Characteristic<br>特性参数                      | Symbol<br>符号                  | Rat<br>额定值                   | Unit<br>单位                  |
|---------------------------------------------|-------------------------------|------------------------------|-----------------------------|
| Collector-Base Voltage<br>集电极基极电压           | $V_{CBO}$                     | 50                           | V                           |
| Collector-Emitter Voltage<br>集电极发射极电压       | $V_{CEO}$                     | 45                           | V                           |
| Emitter-Base Voltage<br>发射极基极电压             | $V_{EBO}$                     | 5                            | V                           |
| Collector Current<br>集电极电流                  | $I_C$                         | 500                          | mA                          |
| Power dissipation<br>耗散功率                   | $P_C(T_a=25^{\circ}\text{C})$ | 225                          | mW                          |
| Thermal Resistance<br>Junction-Ambient 热阻   | $R_{\theta JA}$               | 556                          | $^{\circ}\text{C}/\text{W}$ |
| Junction and Storage Temperature<br>结温和储藏温度 | $T_J, T_{stg}$                | -55to+150 $^{\circ}\text{C}$ |                             |

### ■ Device Marking 产品打标

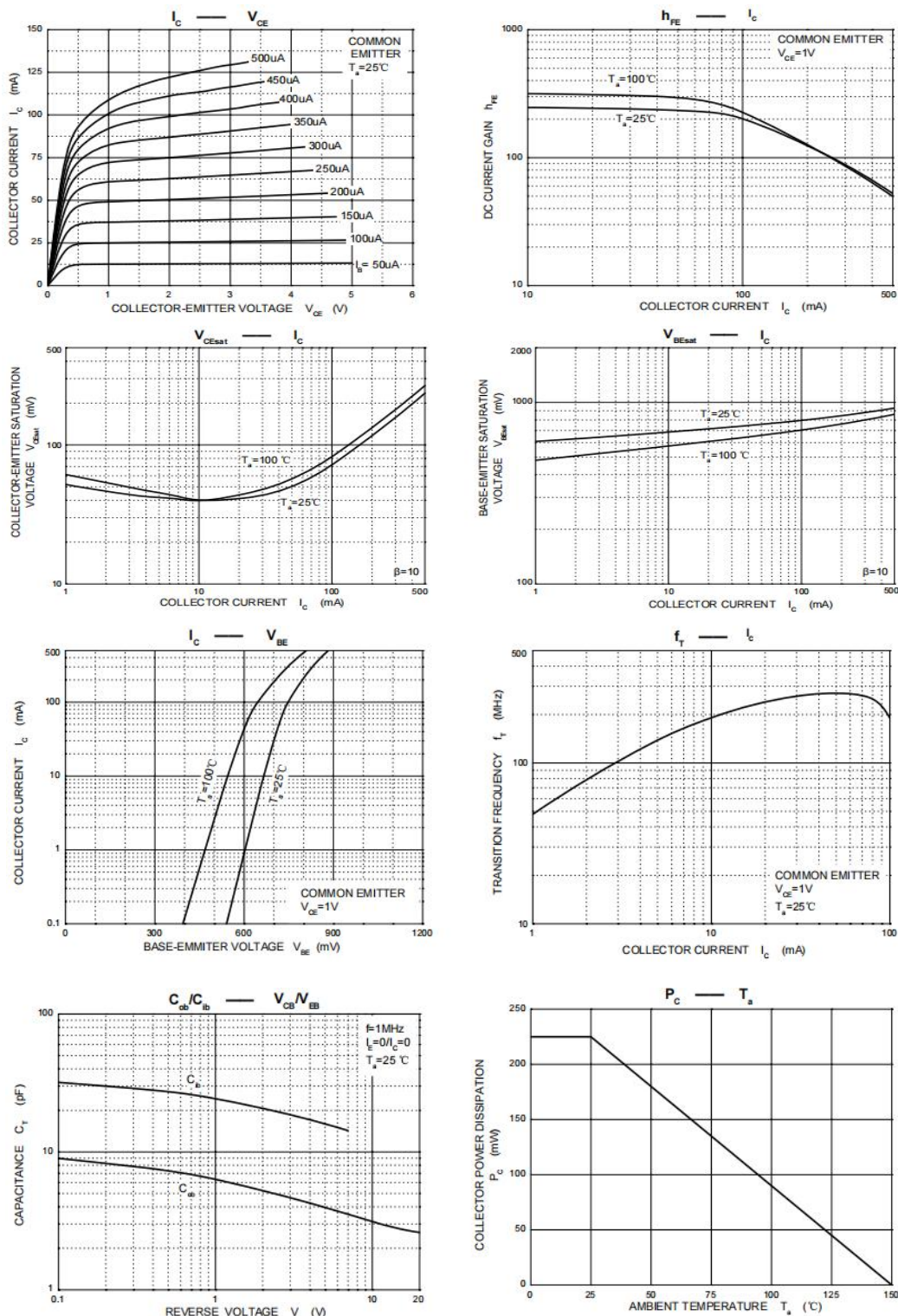
BCX19=U1

**■Electrical Characteristics 电特性**

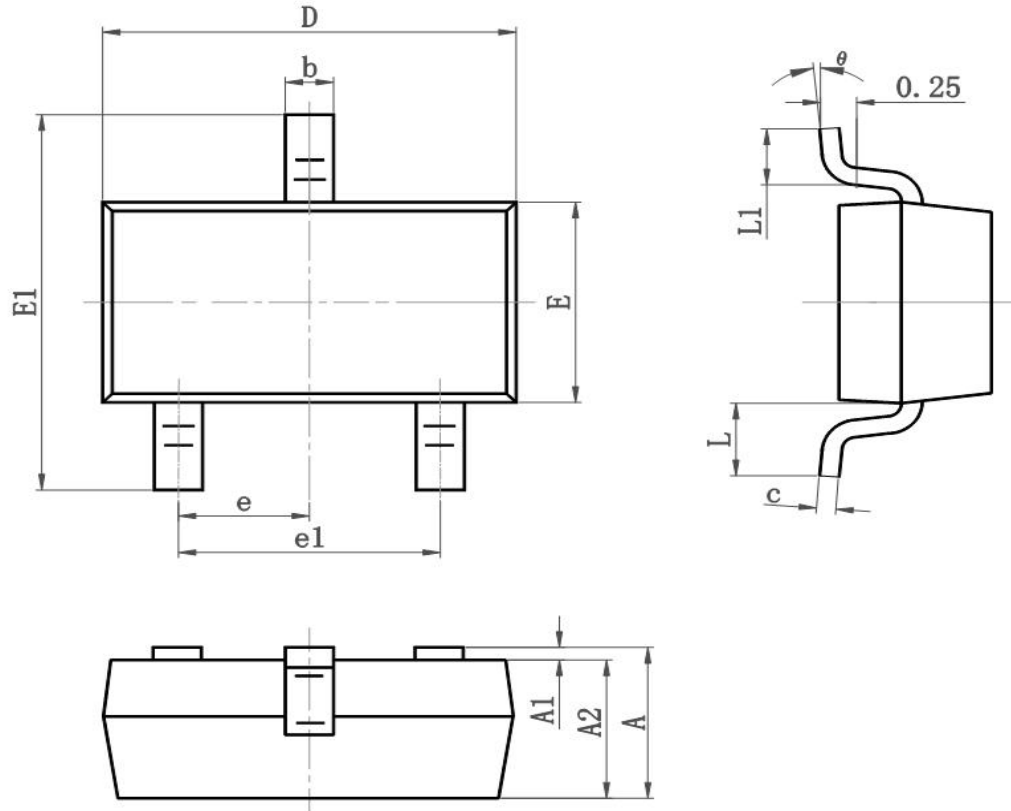
(TA=25℃ unless otherwise noted 如无特殊说明, 温度为 25℃)

| 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 |
|-------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------------|-------------|------------|------------|
| Collector-Base Breakdown Voltage<br>集电极基极击穿电压(IC= 100μA, IE=0)                                                                | BV <sub>CBO</sub>    | 50              | —           | —          | V          |
| Collector-Emitter Breakdown Voltage<br>集电极发射极击穿电压(IC= 10mA, IB=0)                                                             | BV <sub>CEO</sub>    | 45              | —           | —          | V          |
| Emitter-Base Breakdown Voltage<br>发射极基极击穿电压(IE= 100μA, IC=0)                                                                  | BV <sub>EBO</sub>    | 5               | —           | —          | V          |
| Collector-Base Leakage Current<br>集电极基极漏电流(V <sub>CB</sub> =30V,IE=0)                                                         | I <sub>CBO</sub>     | —               | —           | 100        | nA         |
| Collector-Emitter Leakage Current<br>集电极发射极漏电流(V <sub>CB</sub> =20V,IB=0)                                                     | I <sub>CEO</sub>     | —               | —           | 100        | nA         |
| Emitter-Base Leakage Current<br>发射极基极漏电流(V <sub>EB</sub> =5V, IC=0)                                                           | I <sub>EBO</sub>     | —               | —           | 10         | μA         |
| DC Current Gain(V <sub>CE</sub> = 1V,IC= 100mA)<br>直流电流增益(V <sub>CE</sub> = 1V,IC= 300mA)<br>(V <sub>CE</sub> = 1V,IC= 500mA) | H <sub>FE</sub>      | 100<br>70<br>40 | —           | 600        |            |
| Collector-Emitter Saturation Voltage<br>集电极发射极饱和压降(IC= 500mA, IB=50mA)                                                        | V <sub>CE(sat)</sub> | —               | —           | 0.62       | V          |
| Base-Emitter Saturation Voltage<br>基极发射极饱和压降(IC= 500mA, IB= 50mA)                                                             | V <sub>BE(sat)</sub> | —               | —           | 1.2        | V          |
| Base-Emitter On Voltage<br>基极发射极导通电压(V <sub>CE</sub> = 1V, IC= 500mA)                                                         | V <sub>BE(on)</sub>  | —               | —           | 1.2        | V          |
| Transition Frequency<br>特征频率(V <sub>CE</sub> = 2V, IC= 10mA)                                                                  | f <sub>T</sub>       | 100             | —           | —          | MHz        |
| Output Capacitance<br>输出电容(V <sub>CB</sub> = 10V, IE=0, f=1MHz)                                                               | C <sub>ob</sub>      | —               | 10          | —          | pF         |

■ 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°    |