



ShenzhenTaimaoTechnology Co.,Ltd.  
**SOT-23 Plastic-Encapsulate Transistors**

**BCV27** TRANSISTOR (NPN)

**FEATURES**

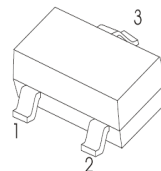
- High Collector Current
- High Current Gain

**MARKING:FF**

**MAXIMUM RATINGS** ( $T_a=25^{\circ}\text{C}$  unless otherwise noted)

| Symbol          | Parameter                                   | Value    | Unit                 |
|-----------------|---------------------------------------------|----------|----------------------|
| $V_{CBO}$       | Collector-Base Voltage                      | 40       | V                    |
| $V_{CEO}$       | Collector-Emitter Voltage                   | 30       | V                    |
| $V_{EBO}$       | Emitter-Base Voltage                        | 10       | V                    |
| $I_C$           | Collector Current                           | 500      | mA                   |
| $P_C$           | Collector Power Dissipation                 | 300      | mW                   |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient | 416      | $^{\circ}\text{C/W}$ |
| $T_J$           | Junction Temperature                        | 150      | $^{\circ}\text{C}$   |
| $T_{stg}$       | Storage Temperature                         | -55~+150 | $^{\circ}\text{C}$   |

**SOT - 23**



1. BASE  
2. EMITTER  
3. COLLECTOR

**ELECTRICAL CHARACTERISTICS** ( $T_a=25^{\circ}\text{C}$  unless otherwise specified)

| Parameter                            | Symbol        | Test conditions                                            | Min   | Typ | Max | Unit          |
|--------------------------------------|---------------|------------------------------------------------------------|-------|-----|-----|---------------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C=100\mu\text{A}$ , $I_E=0$                             | 40    |     |     | V             |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C=10\text{mA}$ , $I_B=0$                                | 30    |     |     | V             |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E=10\mu\text{A}$ , $I_C=0$                              | 10    |     |     | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=30\text{V}$ , $I_E=0$                              |       |     | 0.1 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=4\text{V}$ , $I_C=0$                               |       |     | 0.1 | $\mu\text{A}$ |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE}=1\text{V}$ , $I_C=100\mu\text{A}$                  | 4000  |     |     |               |
|                                      | $h_{FE(2)}$   | $V_{CE}=5\text{V}$ , $I_C=10\text{mA}$                     | 10000 |     |     |               |
|                                      | $h_{FE(3)}$   | $V_{CE}=5\text{V}$ , $I_C=100\text{mA}$                    | 20000 |     |     |               |
|                                      | $h_{FE(4)}$   | $V_{CE}=5\text{V}$ , $I_C=0.5\text{A}$                     | 4000  |     |     |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=100\text{mA}$ , $I_B=0.1\text{mA}$                    |       |     | 1   | V             |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C=100\text{mA}$ , $I_B=0.1\text{mA}$                    |       |     | 1.5 | V             |
| Transition frequency                 | $f_T$         | $V_{CE}=5\text{V}$ , $I_C=50\text{mA}$ , $f=100\text{MHz}$ |       | 170 |     | MHz           |
| Collector output capacitance         | $C_{ob}$      | $V_{CB}=10\text{V}$ , $I_E=0$ , $f=1\text{MHz}$            |       | 3.5 |     | pF            |