



DONGGUAN NANJING ELECTRONICS LTD.,
SOT-23 Plastic-Encapsulate Transistors

MMBTA06 TRANSISTOR (NPN)

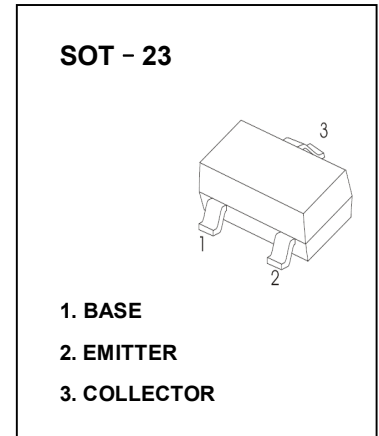
FEATURES

- For Switching and Amplifier Applications
- Complementary Type PNP Transistor MMBTA56

MARKING: 1GM

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

| Symbol | Parameter | Value | Unit |
|-----------------|---|----------|-----------------------------|
| V_{CBO} | Collector-Base Voltage | 80 | V |
| V_{CEO} | Collector-Emitter Voltage | 80 | V |
| V_{EBO} | Emitter-Base Voltage | 4 | V |
| I_C | Collector Current | 500 | mA |
| P_C | Collector Power Dissipation | 300 | mW |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient | 416 | $^{\circ}\text{C}/\text{W}$ |
| T_j | Junction Temperature | 150 | $^{\circ}\text{C}$ |
| T_{stg} | Storage Temperature | -55~+150 | $^{\circ}\text{C}$ |



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

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|--|-----|-----|------|---------------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=0.1\text{mA}, I_E=0$ | 80 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=1\text{mA}, I_B=0$ | 80 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=0.1\text{mA}, I_C=0$ | 4 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=80\text{V}, I_E=0$ | | | 0.1 | μA |
| Collector cut-off current | I_{CES} | $V_{CE}=60\text{V}, I_B=0$ | | | 0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=3\text{V}, I_C=0$ | | | 0.1 | μA |
| DC current gain | $h_{FE(1)}$ | $V_{CE}=1\text{V}, I_C=10\text{mA}$ | 100 | | 400 | |
| | $h_{FE(2)}$ | $V_{CE}=1\text{V}, I_C=100\text{mA}$ | 100 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=100\text{mA}, I_B=10\text{mA}$ | | | 0.25 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C=100\text{mA}, I_B=10\text{mA}$ | | | 1.2 | V |
| Transition frequency | f_T | $V_{CE}=2\text{V}, I_C=10\text{mA}, f=100\text{MHz}$ | 100 | | | MHz |

Typical Characteristics

MMBTA06

