

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

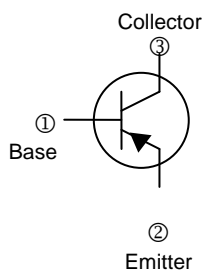
FEATURES

- High Voltage Transistor

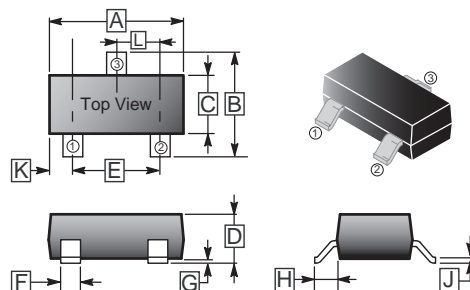
MARKING

| Product | Marking Code |
|---------|--------------|
| MMBTA44 | 4D |

SYMBOL



SOT-23



| REF. | Millimeter | | REF. | Millimeter | |
|------|------------|------|------|------------|------|
| | Min. | Max. | | Min. | Max. |
| A | 2.70 | 3.04 | G | - | 0.18 |
| B | 2.10 | 2.80 | H | 0.40 | 0.60 |
| C | 1.20 | 1.60 | J | 0.08 | 0.20 |
| D | 0.89 | 1.40 | K | 0.6 REF. | |
| E | 1.78 | 2.04 | L | 0.85 | 1.15 |
| F | 0.30 | 0.50 | | | |

MAXIMUM RATINGS (at $T_A = 25^\circ\text{C}$ unless otherwise specified)

| PARAMETER | SYMBOL | RATINGS | UNIT |
|--------------------------------|----------------|--------------|------------------|
| Collector - Base Voltage | V_{CBO} | -400 | V |
| Collector - Emitter Voltage | V_{CEO} | -400 | V |
| Emitter - Base Voltage | V_{EBO} | -5 | V |
| Collector Current - Continuous | I_C | -0.1 | A |
| Collector Power Dissipation | P_C | 350 | mW |
| Junction, Storage Temperature | T_J, T_{STG} | 150, -55~150 | $^\circ\text{C}$ |

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

| PARAMETER | TEST CONDITIONS | SYMBOL | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|---|------------------|------|------|-------|---------------|
| Collector-Base Breakdown Voltage | $I_C = 100\mu\text{A}, I_E = 0$ | $V_{(BR)CBO}$ | -400 | - | - | V |
| Collector-Emitter Breakdown Voltage | $I_C = -1\text{mA}, I_B = 0$ | $V_{(BR)CEO}$ | -400 | - | - | V |
| Emitter-Base Breakdown Voltage | $I_E = -100\mu\text{A}, I_C = 0$ | $V_{(BR)EBO}$ | -5 | - | - | V |
| Collector Cut-Off Current | $V_{CB} = -400\text{V}, I_E = 0$ | I_{CBO} | - | - | -0.1 | μA |
| Emitter Cut-Off Current | $V_{EB} = -4\text{V}, I_C = 0$ | I_{EBO} | - | - | -0.1 | μA |
| DC Current Gain | $V_{CE} = -10\text{V}, I_C = -1\text{mA}$ | h_{FE1}^* | 70 | - | - | |
| | $V_{CE} = -10\text{V}, I_C = -10\text{mA}$ | h_{FE2}^* | 80 | - | 300 | |
| | $V_{CE} = -10\text{V}, I_C = -50\text{mA}$ | h_{FE3}^* | 40 | - | - | |
| | $V_{CE} = -10\text{V}, I_C = -100\text{mA}$ | h_{FE4}^* | 40 | - | - | |
| Collector-Emitter Saturation Voltage | $I_C = -10\text{mA}, I_B = -1\text{mA}$ | $V_{CE(sat)1}^*$ | - | - | -0.2 | V |
| | $I_C = -50\text{mA}, I_B = -5\text{mA}$ | $V_{CE(sat)2}^*$ | - | - | -0.3 | V |
| Base-Emitter Saturation Voltage | $I_C = -10\text{mA}, I_B = -1\text{mA}$ | $V_{BE(sat)}^*$ | - | - | -0.75 | V |
| Transition frequency | $V_{CE} = -20\text{V}, I_C = -10\text{mA}$ | f_T | 50 | - | - | MHz |

*Pulse test

CHARACTERISTIC CURVES

