

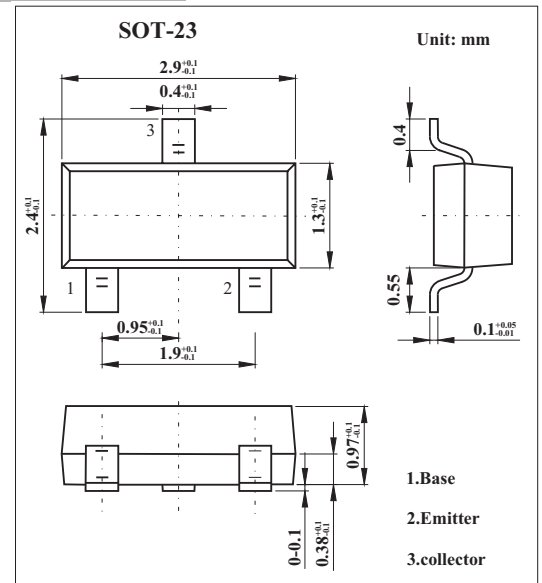
SOT-23 Plastic-Encapsulate Transistors

FEATURES

- Epitaxial planar die construction.
- Complementary NPN type available (MMBT4401).
- Also available in lead free version.
- Ideal for medium power amplification and switching.
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- PNP General Purpose Transistor

MECHANICAL DATA

- Case style: SOT-23 molded plastic
- Mounting position: any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

| Symbol | Parameter | Value | UNIT |
|-----------------|---|-------------|------|
| V_{CBO} | collector-base voltage | -40 | V |
| V_{CEO} | collector-emitter voltage | -40 | V |
| V_{EBO} | emitter-base voltage | -5 | V |
| I_C | collector current (DC) | -0.6 | A |
| P_C | Collector dissipation | 0.35 | W |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 357 | °C/W |
| T_j, T_{stg} | junction and storage temperature | -55 to +150 | °C |

PACKAGE INFORMATION

| Device | Package | Shipping |
|----------|---------|----------------|
| MMBT4403 | SOT-23 | 3000/Tape&Reel |

| Symbol | Parameter | Test conditions | MIN. | MAX. | UNIT |
|---------------|--------------------------------------|---|------------------------------|---------------|---------|
| $V_{(BR)CBO}$ | Collector-base breakdown voltage | $I_C = -100\mu A, I_E = 0$ | -40 | | |
| $V_{(BR)CEO}$ | Collector-emitter breakdown voltage | $I_C = -1mA, I_B = 0$ | -40 | | |
| $V_{(BR)EBO}$ | Emitter-base breakdown voltage | $I_E = -100\mu A, I_C = 0$ | -5 | | |
| I_{CEX} | collector cut-off current | $V_{CE} = -35V, V_{BE} = 0.4V$ | | -0.1 | μA |
| I_{BL} | Base cut-off current | $V_{CE} = -35V, V_{BE} = -0.4V$ | | -0.1 | μA |
| h_{FE} | DC current gain | $V_{CE} = -1V; I_C = -0.1mA$ $V_{CE} = -1V; I_C = -1mA$ $V_{CE} = -1V; I_C = -10mA$ $V_{CE} = -2V; I_C = -150mA$ $V_{CE} = -2V; I_C = -500mA$ | 30 60 100 100 20 | 300 | |
| $V_{CE(sat)}$ | collector-emitter saturation voltage | $I_C = -150mA, I_B = -15mA$ $I_C = -500mA, I_B = -50mA$ | - | -0.4 -0.75 | V |
| $V_{BE(sat)}$ | base-emitter saturation voltage | $I_C = -150mA; I_B = -15mA$ $I_C = -500mA; I_B = -50mA$ | -0.75 | -0.95 -1.3 | V |
| f_T | transition frequency | $I_C = -20mA; V_{CE} = -10V;$ $f = 100MHz$ | 200 | - | MHz |

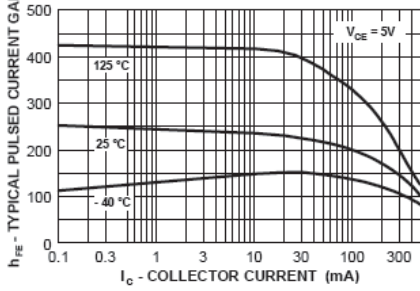
■ Marking

| | |
|---------|----|
| Marking | 2T |
|---------|----|

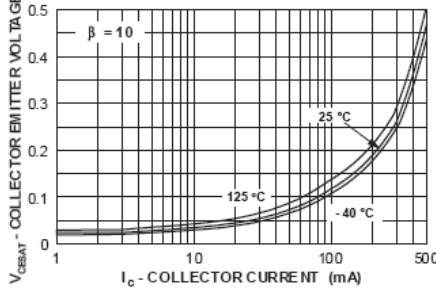


RATINGS AND CHARACTERISTIC CURVES

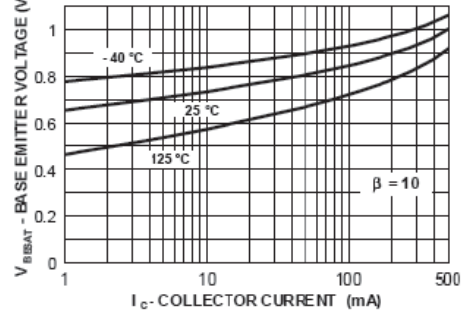
Typical Pulsed Current Gain vs Collector Current



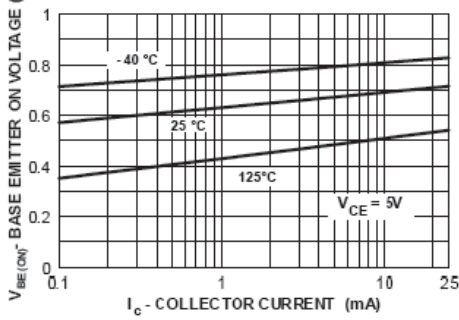
Collector-Emitter Saturation Voltage vs Collector Current



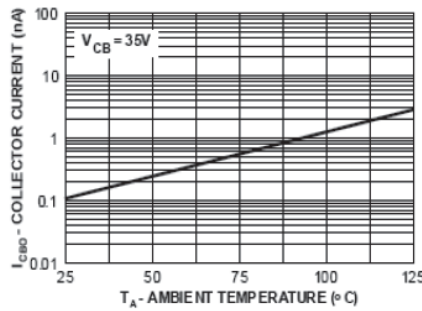
Base-Emitter Saturation Voltage vs Collector Current



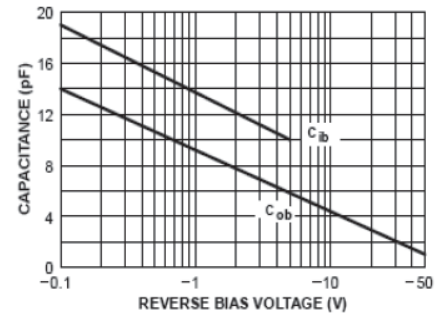
Base Emitter ON Voltage vs Collector Current



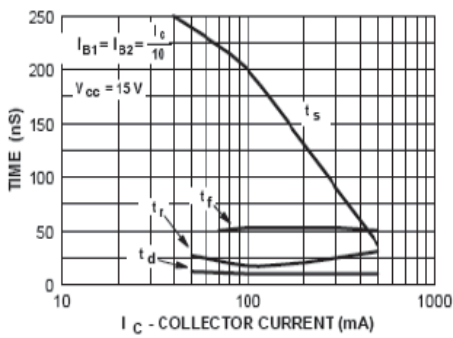
Collector-Cutoff Current vs Ambient Temperature



Input and Output Capacitance vs Reverse Bias Voltage



Switching Times vs Collector Current



Turn On and Turn Off Times vs Collector Current

