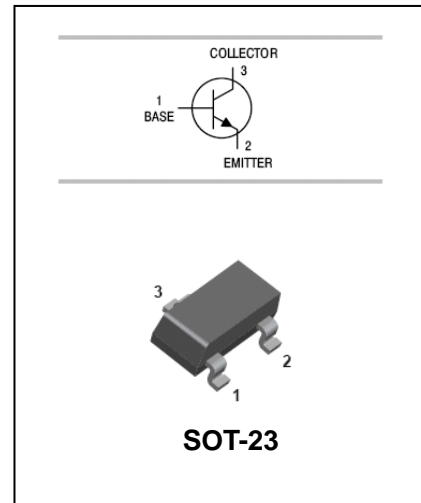


## NPN General Purpose Transistor

## MMBT5551

### FEATURES

- Epitaxial planar die construction.
- Complementary PNP type available (MMBT5401).
- Also available in lead free version.



### APPLICATIONS

- Ideal for medium power amplification and switching

### ORDERING INFORMATION

| Type No. | Marking | Package Code |
|----------|---------|--------------|
| MMBT5551 | G1      | SOT-23       |

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

| Symbol                            | Parameter                               | Value   | UNIT |
|-----------------------------------|---|---------|------|
| V <sub>CBO</sub>                  | collector-base voltage                  | 180     | V    |
| V <sub>CEO</sub>                  | collector-emitter voltage               | 160     | V    |
| V <sub>EBO</sub>                  | emitter-base voltage                    | 6       | V    |
| I <sub>C</sub>                    | collector current (DC)                  | 0.6     | A    |
| P <sub>C</sub>                    | Collector dissipation                   | 0.35    | W    |
| R <sub>θJA</sub>                  | Thermal resistance, Junction to ambient | 357     | °C/W |
| T <sub>J</sub> , T <sub>stg</sub> | junction and storage temperature        | -55-150 | °C   |

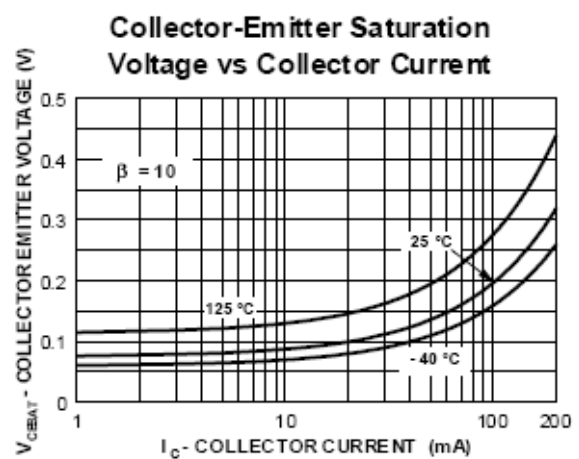
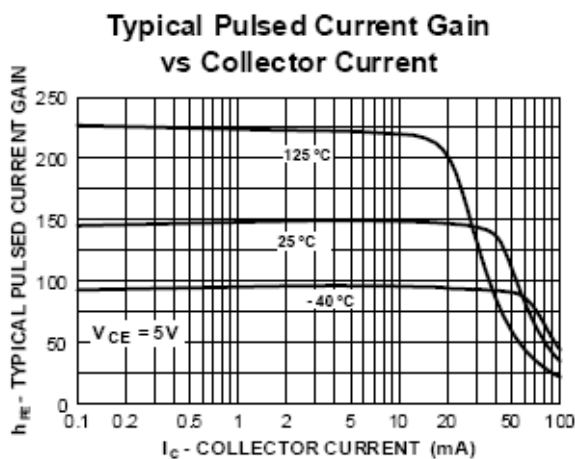
### ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

## NPN General Purpose Transistor

## MMBT5551

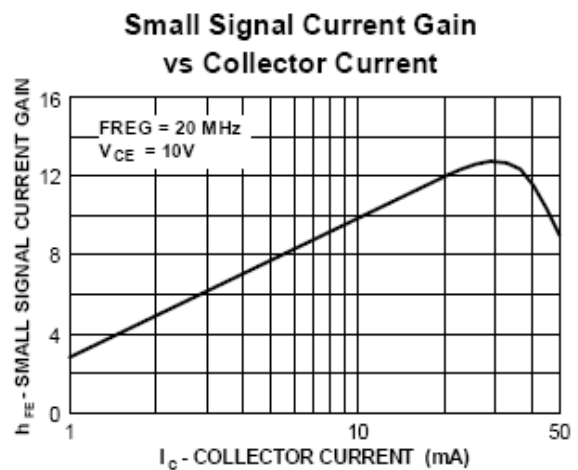
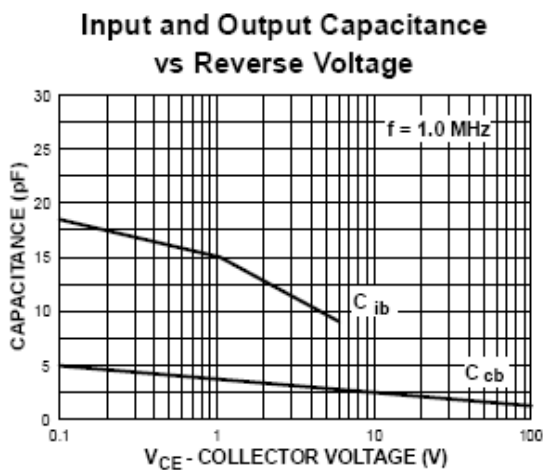
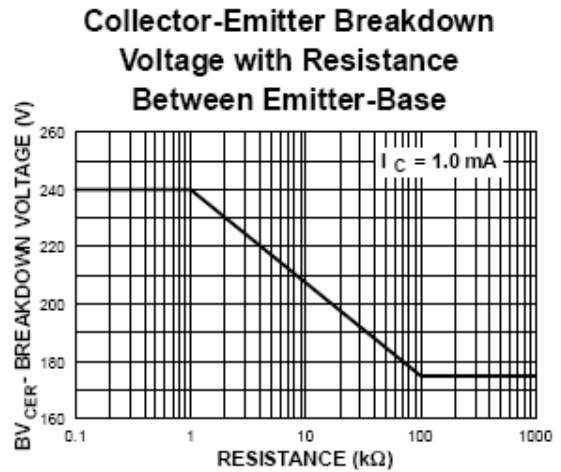
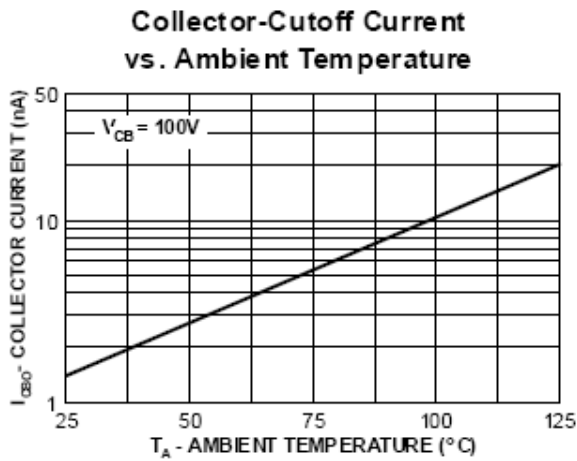
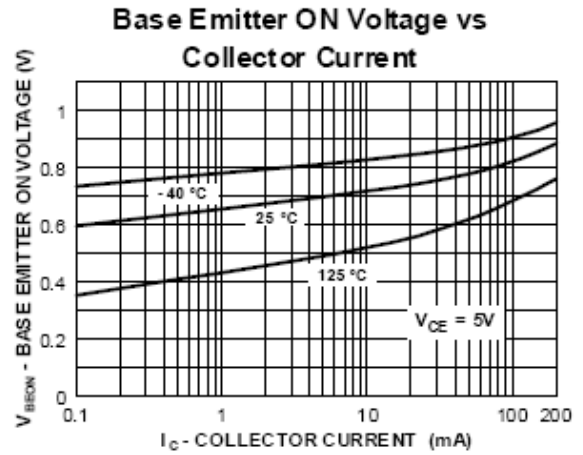
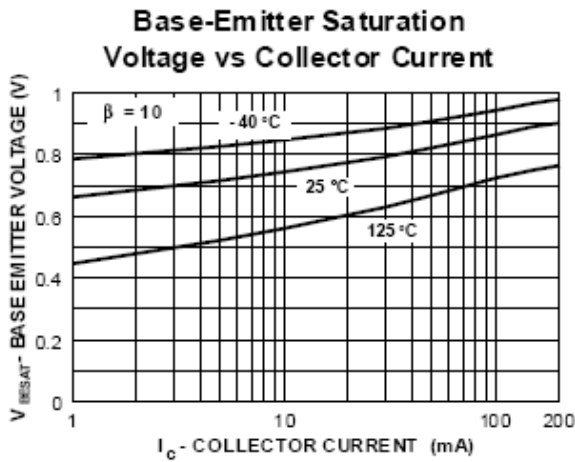
| Symbol        | Parameter                            | Test conditions  | MIN.           | MAX.          | UNIT |
|---------------|--------------------------------------|--|----------------|---------------|------|
| $V_{(BR)CBO}$ | Collector-base breakdown voltage     | $I_C=100\mu A, I_E=0$  | 180            |               |      |
| $V_{(BR)CEO}$ | Collector-emitter breakdown voltage  | $I_C=0.1mA, I_B=0$   | 160            |               |      |
| $V_{(BR)EBO}$ | Emitter-base breakdown voltage       | $I_E=10\mu A, I_C=0$   | 6              |               |      |
| $I_{CBO}$     | collector cut-off current            | $I_E = 0; V_{CB} = 120V$   | -              | 50            | nA   |
| $I_{EBO}$     | emitter cut-off current              | $I_C = 0; V_{EB} = 4V$   | -              | 50            | nA   |
| $h_{FE}$      | DC current gain                      | $V_{CE} = 5V; I_C = 1mA$<br>$V_{CE} = 5V; I_C = 10mA$<br>$V_{CE} = 5V; I_C = 50mA$ | 80<br>80<br>30 | -<br>250<br>- |      |
| $V_{CE(sat)}$ | collector-emitter saturation voltage | $I_C = 10mA; I_B=1mA$<br>$I_C = 50mA; I_B = 5mA$                                   | -              | 0.15<br>0.2   | V    |
| $V_{BE(sat)}$ | base-emitter saturation voltage      | $I_C=10mA; I_B=1mA$<br>$I_C=50mA; I_B=5mA$   | -              | 1<br>1        | V    |
| $f_T$         | transition frequency                 | $I_C=10mA; V_{CB}=10V;$<br>$f=1.0MHz$  | 100            | 300           | MHz  |
| $C_{obo}$     | Output capacitance                   | $I_E=10mA; V_{CE} = 10V;$<br>$f=100MHz$  |                | 6.0           | MHz  |

TYPICAL CHARACTERISTICS @  $T_a=25^\circ C$  unless otherwise specified



## NPN General Purpose Transistor

## MMBT5551



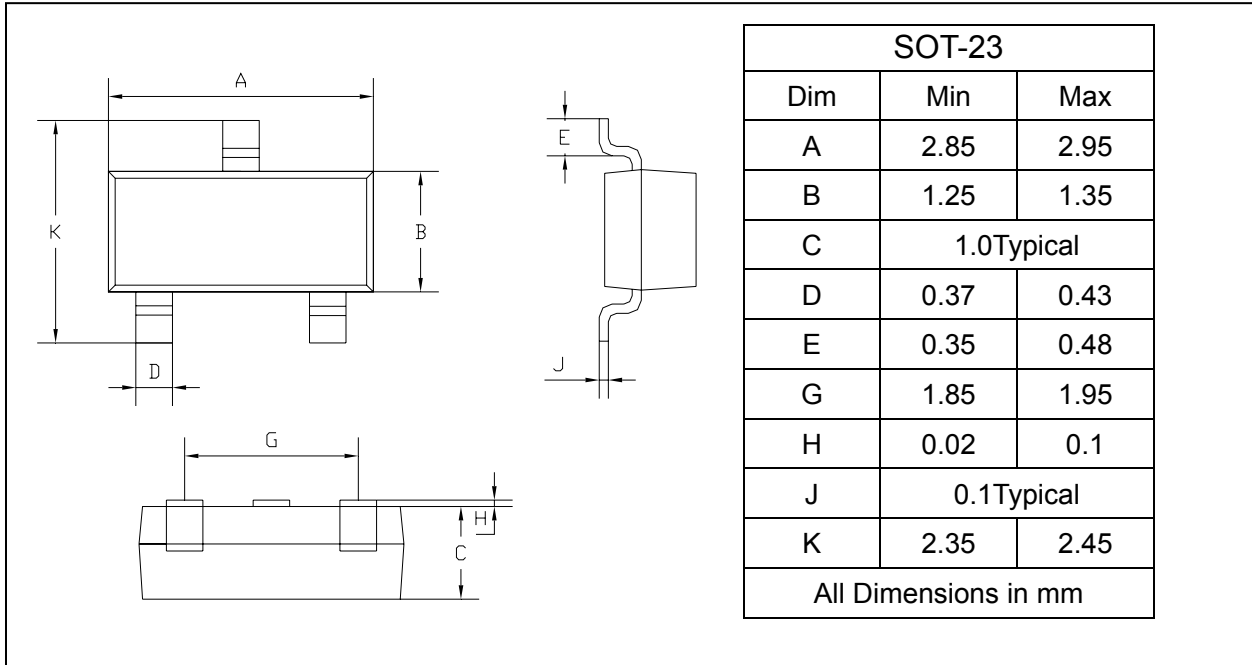
## NPN General Purpose Transistor

## MMBT5551

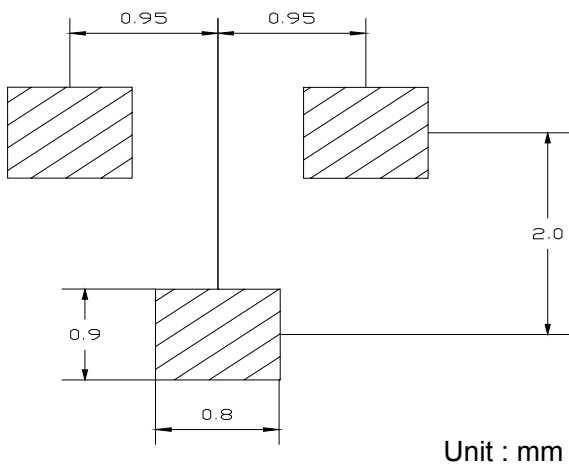
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

| Device   | Package | Shipping       |
|----------|---------|----------------|
| MMBT5551 | SOT-23  | 3000/Tape&Reel |

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