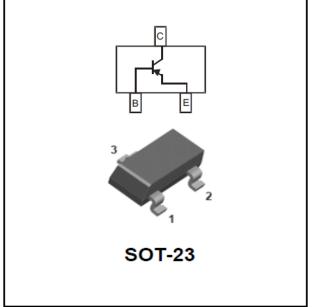
# **PNP General Purpose Amplifier**



### Features

- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix "HF"
- Moisture Sensitivity Level 1
- Marking: 2T

#### ■ Maximum Ratings (Ta=25°C unless otherwise noted)

| ltem                           | Symbol           | Unit | Conditions | Value       |
|--------------------------------|------------------|------|------------|-------------|
| Collector-Base Voltage         | V <sub>CBO</sub> | V    |            | -40         |
| Collector-Emitter Voltage      | V <sub>CEO</sub> | V    |            | -40         |
| Emitter-Base Voltage           | $V_{\text{EBO}}$ | V    |            | -5          |
| Collector Current              | I <sub>C</sub>   | А    |            | -0.6        |
| Collector Power Dissipation    | Pc               | W    |            | 0.3         |
| Operation Junction Temperature | Tj               | °C   |            | 150         |
| Storage Temperature            | T <sub>stg</sub> | °C   |            | -55 to +150 |



### ■ Electrical Characteristics (Ta=25°C unless otherwise noted)

| Item                                 | Symbol           | Unit | Conditions         | Min | Мах   |
|--------------------------------------|------------------|------|--------------------|-----|-------|
| Collector-base breakdown voltage     | V <sub>CBO</sub> | V    | IC=-100µA,IE=0     | -40 |       |
| Collector-emitter breakdown voltage  | V <sub>CEO</sub> | V    | IC =-1mA,IB=0      | -40 |       |
| Emitter-base breakdown voltage       | V <sub>EBO</sub> | V    | IE=-100µA,IC=0     | -5  |       |
| Collector-Base cut-off current       | I <sub>CBO</sub> | uA   | VCB=-35V,IE=0      |     | -0.1  |
| Collector-emitter cut-off current    | I <sub>CEO</sub> | uA   | VCE=-35V, IB =0    |     | -0.1  |
| Emitter-base cut-off current         | I <sub>EBO</sub> | uA   | VEB=-4V, IC=0V     |     | -0.1  |
| DC current gain                      | h <sub>FE</sub>  | V    | VCE=-2V,IC=-150mA  | 100 | 300   |
| Collector-emitter saturation voltage | $V_{CE(sat)}$    | V    | IC=-150mA,IB=-15mA |     | -0.4  |
| Base-emitter saturation voltage      | $V_{BE(sat)^*}$  | V    | IC=-150mA,IB=-15mA |     | -0.95 |

#### ■ Electrical Characteristics (Ta=25°C unless otherwise noted)

| ltem                 | Symbol | Unit | Conditions                 | Min | Мах |
|----------------------|--------|------|----------------------------|-----|-----|
| Transition frequency | Ft     | MHz  | VCE=-10V,IC=-20mA,f=100MHz | 200 |     |
| Delay time           | td     | ns   | VCC=-3V,VEB=-2V            |     | 15  |
| Rise time            | tr     | ns   | IC=-150mA, IB1=-15mA       |     | 20  |
| Storage time         | ts     | ns   | VCC=-3V,IC=-150mA,         |     | 225 |
| Fall time            | tf     | ns   | IB1= IB2=-15mA             |     | 30  |

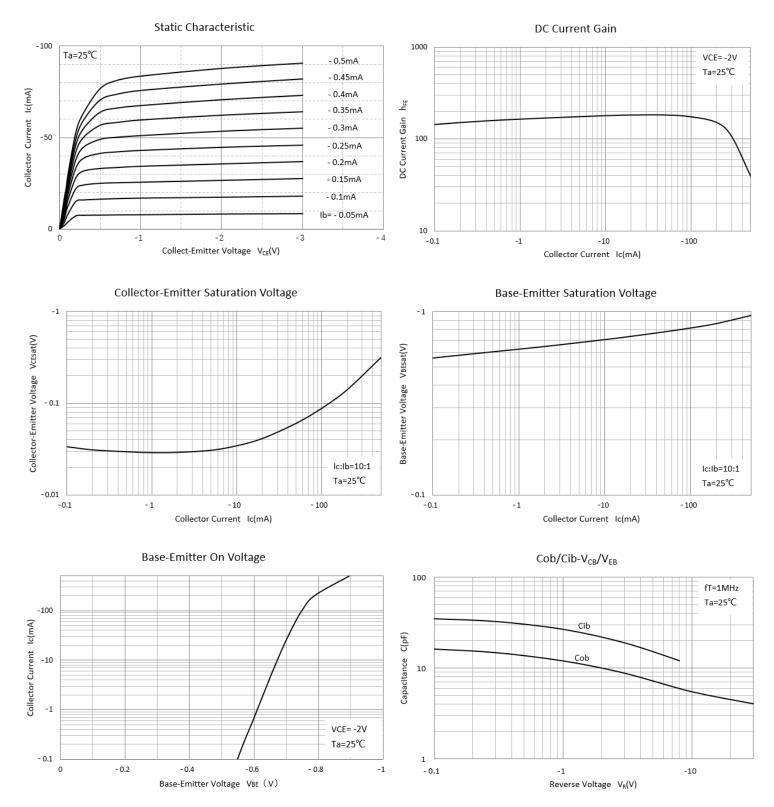
## Ordering Information (Example)

| PREFERED P/N | PACKING<br>CODE | UNIT WEIGHT(g)    | MINIMUM<br>PACKAGE(pcs) | INNER BOX<br>QUANTITY(pcs) | OUTER CARTON<br>QUANTITY(pcs) | DELIVERY MODE |
|--------------|-----------------|-------------------|-------------------------|----------------------------|-------------------------------|---------------|
| MMBT4403     | F2              | Approximate 0.008 | 3000                    | 30000                      | 120000                        | 7" reel       |

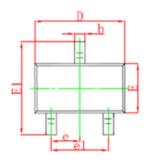


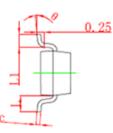


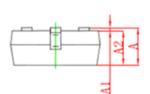
## Characteristics (Typical)



## ■SOT-23 Package Outline Dimensions

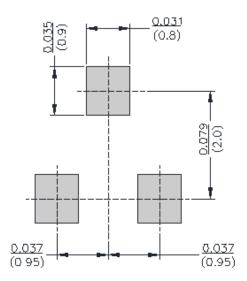






| Symbol | Dimensions Ir | n Millimeters | Dimensions In Inches |       |  |
|--------|---------------|---------------|----------------------|-------|--|
| Sym001 | Min           | Max           | Min                  | Max   |  |
| A      | 0.900         | 1.150         | 0.035                | 0.045 |  |
| Al     | 0.000         | 0.100         | 0.000                | 0.004 |  |
| A2     | 0.900         | 1.050         | 0.035                | 0.041 |  |
| b      | 0.300         | 0.500         | 0.012                | 0.020 |  |
| c      | 0.100         | 0.200         | 0.004                | 0.008 |  |
| D      | 2.800         | 3.000         | 0.110                | 0.118 |  |
| Е      | 1.200         | 1. 400        | 0.047                | 0.055 |  |
| E1     | 2.250         | 2.550         | 0.089                | 0.100 |  |
| e      | 0.95          | OTYP          | 0. 037TYP            |       |  |
| el     | 1.800         | 2.000         | 0.071                | 0.079 |  |
| L      | 0.55          | OREF          | 0. 022REF            |       |  |
| L1     | 0.300         | 0.500         | 0.012                | 0.020 |  |
| θ      | 0°            | 8°            | 0°                   | 8°    |  |

## ■SOT-23 Soldering Footprint





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