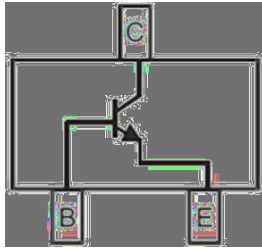


## NPN General Purpose Amplifier



### Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- High Conductance
- Part no. with suffix "Q" means AEC-Q101 qualified

### Applications

- NPN General Purpose Amplifier

### Mechanical Data

- Case: SOT-23
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Marking: 1GM

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

| Item                          | Symbol    | Unit | Value       |
|-------------------------------|-----------|------|-------------|
| Collector-Base Voltage        | $V_{CBO}$ | V    | 80          |
| Collector-Emitter Voltage     | $V_{CEO}$ | V    | 80          |
| Emitter-Base Voltage          | $V_{EBO}$ | V    | 4           |
| Collector Current -Continuous | $I_C$     | mA   | 500         |
| Total Device Dissipation      | $P_D$     | mW   | 300         |
| Junction Temperature          | $T_j$     |      | -55 to +150 |
| Storage Temperature           | $T_{STG}$ |      | -55 to +150 |



# MMBTA06Q

RoHS  
COMPLIANT

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

| Item                                 | Symbol        | Unit    | Conditions                 | Min | Typ | Max  |
|--------------------------------------|---------------|---------|----------------------------|-----|-----|------|
| Collector-base breakdown voltage     | $V_{CBO}$     | V       | $I_C = 100\mu A, I_E = 0$  | 80  |     |      |
| Collector-emitter breakdown voltage  | $V_{CEO}$     | V       | $I_C = 1mA, I_B = 0$       | 80  |     |      |
| Emitter-base breakdown voltage       | $V_{EBO}$     | V       | $I_E = 100\mu A, I_C = 0$  | 4   |     |      |
| Collector-base cut-off current       | $I_{CBO}$     | $\mu A$ | $V_{CB} = 80V, I_E = 0$    |     |     | 0.1  |
| Collector-emitter cut-off current    | $I_{CEO}$     | $\mu A$ | $V_{CE} = 60V, I_B = 0$    |     |     | 0.1  |
| Emitter-base cut-off current         | $I_{EBO}$     | $\mu A$ | $V_{EB} = 3V, I_C = 0$     |     |     | 0.1  |
| DC current gain                      | $h_{FE}$      |         | $V_{CE} = 1V, I_C = 10mA$  | 100 |     |      |
|                                      | $h_{FE}$      |         | $V_{CE} = 1V, I_C = 100mA$ | 100 |     |      |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | V       | $I_C = 100mA, I_B = 10mA$  |     |     | 0.25 |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | V       | $I_C = 100mA, I_B = 10mA$  |     |     | 1.2  |

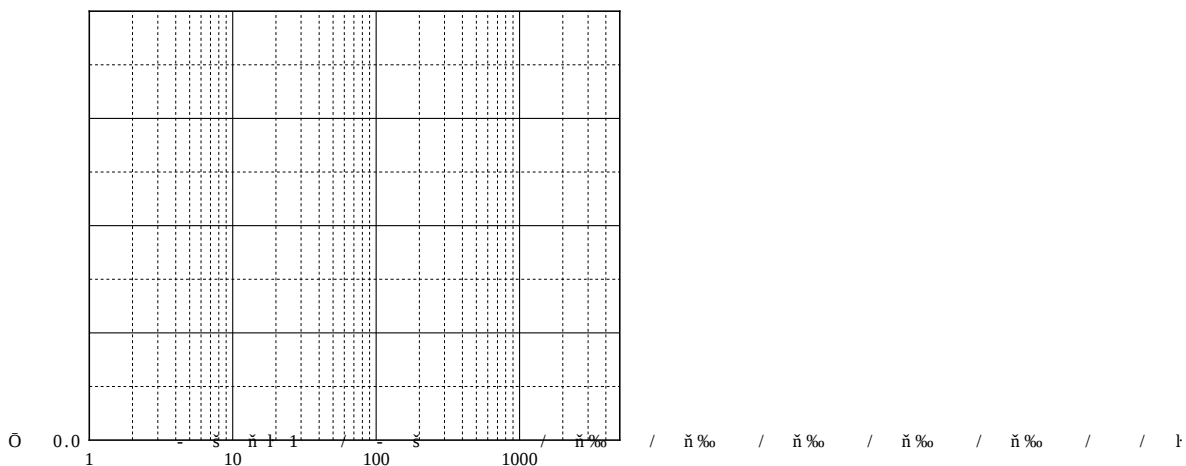
## ■ Other Characteristics (Ta=25 unless otherwise noted)

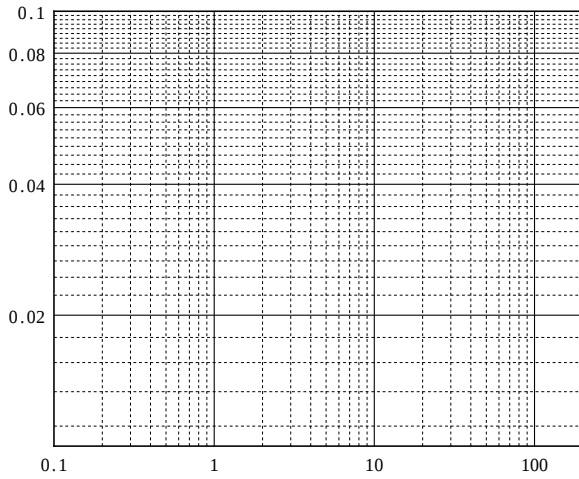
| Item                 | Symbol | Unit | Conditions                            | Min | Typ | Max |
|----------------------|--------|------|---------------------------------------|-----|-----|-----|
| Transition frequency | $f_T$  | MHz  | $V_{CE} = 2V, I_C = 10mA, f = 100MHz$ | 100 |     |     |

## ■ Ordering Information (Example)

| PREFERRED P/N | PACKING CODE | UNIT WEIGHT(g)   | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|------------------|----------------------|-------------------------|----------------------------|---------------|
| MMBTA06Q      | F2           | Approximate 0.01 | 3000                 | 30000                   | 120000                     | 7" reel       |

## ■ Characteristics (typical)









## Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice.