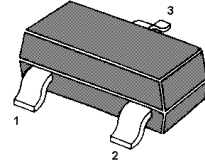


MMBT8050

NPN Silicon Epitaxial Planar Transistor

for switching and amplifier applications.

As complementary type the PNP transistor MMBT8550 is recommended.



1.BASE 2.EMITTER 3.COLLECTOR
SOT-23 Plastic Package

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

| Parameter | Symbol | Value | Unit |
|---------------------------|-----------|---------------|------------------|
| Collector Base Voltage | V_{CBO} | 40 | V |
| Collector Emitter Voltage | V_{CEO} | 25 | V |
| Emitter Base Voltage | V_{EBO} | 6 | V |
| Collector Current | I_C | 600 | mA |
| Power Dissipation | P_{tot} | 350 | mW |
| Junction Temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{Stg} | - 55 to + 150 | $^\circ\text{C}$ |

Characteristics at $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|---|-----------------------|------|------|------|------|
| DC Current Gain at $V_{CE} = 1\text{ V}$, $I_C = 100\text{ mA}$ at $V_{CE} = 1\text{ V}$, $I_C = 500\text{ mA}$ | MMBT8050C h_{FE} | 100 | - | 250 | - |
| | MMBT8050D h_{FE} | 160 | - | 400 | - |
| | h_{FE} | 40 | - | - | - |
| Collector Base Cutoff Current at $V_{CB} = 35\text{ V}$ | I_{CBO} | - | - | 100 | nA |
| Collector Base Breakdown Voltage at $I_C = 10\text{ }\mu\text{A}$ | $V_{(BR)CBO}$ | 40 | - | - | V |
| Collector Emitter Breakdown Voltage at $I_C = 2\text{ mA}$ | $V_{(BR)CEO}$ | 25 | - | - | V |
| Emitter Base Breakdown Voltage at $I_E = 100\text{ }\mu\text{A}$ | $V_{(BR)EBO}$ | 6 | - | - | V |
| Collector Emitter Saturation Voltage at $I_C = 500\text{ mA}$, $I_B = 50\text{ mA}$ | $V_{CE(sat)}$ | - | - | 0.5 | V |
| Base Emitter Saturation Voltage at $I_C = 500\text{ mA}$, $I_B = 50\text{ mA}$ | $V_{BE(sat)}$ | - | - | 1.2 | V |
| Gain Bandwidth Product at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$ | f_T | - | 100 | - | MHz |

MMBT8050

