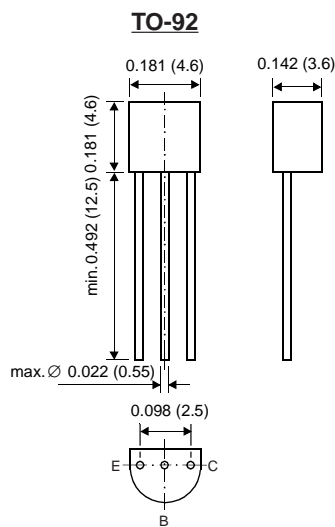


MPSA06

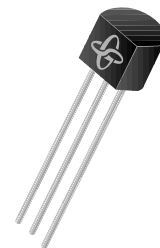
Small Signal Transistors (NPN)



Dimensions in inches and (millimeters)

FEATURES

- ◆ NPN Silicon Epitaxial Planar Transistor for switching and amplifier applications.
- ◆ As complementary type, the PNP transistor MPSA56 is recommended.
- ◆ On special request, this transistor is also manufactured in the pin configuration TO-18.
- ◆ This transistor is also available in the SOT-23 case with the type designation MMBTA06



MECHANICAL DATA

Case: TO-92 Plastic Package

Weight: approx. 0.18g

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

| | SYMBOL | VALUE | UNIT |
|--|-----------------|--------------------|---------|
| Collector-Base Voltage | V_{CBO} | 80 | V |
| Collector-Emitter Voltage | V_{CEO} | 80 | V |
| Emitter-Base Voltage | V_{EBO} | 4.0 | V |
| Collector Current | I_C | 500 | mA |
| Power Dissipation at $T_A = 25^\circ\text{C}$ at $T_C = 25^\circ\text{C}$ | P_{tot} | 625 1.5 | mW W |
| Thermal Resistance Junction to Ambient Air | $R_{\theta JA}$ | 200 ⁽¹⁾ | K/W |
| Junction Temperature | T_j | 150 | °C |
| Storage Temperature Range | T_S | -65 to +150 | °C |

¹⁾Valid provided that leads are kept at ambient temperature

MPSA06

ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

| | <i>SYMBOL</i> | <i>MIN.</i> | <i>.MAX.</i> | <i>UNIT</i> |
|--|----------------------|-------------|--------------|-------------|
| Collector-Emitter Breakdown Voltage at $I_C = 1 \text{ mA}$, $I_B = 0$ | $V_{(BR)CEO}$ | 80 | – | V |
| Emitter-Base Breakdown Voltage at $I_E = 100 \text{ } \mu\text{A}$, $I_C = 0$ | $V_{(BR)EBO}$ | 4.0 | – | V |
| Collector-Emitter Cutoff Current $V_{CE} = 60 \text{ V}$, $I_B = 0$ | I_{CES} | – | 100 | nA |
| Collector-Base Cutoff Current $V_{CB} = 80 \text{ V}$, $I_E = 0$ | I_{CBO} | – | 100 | nA |
| Collector Saturation Voltage at $I_C = 100 \text{ mA}$, $I_B = 10 \text{ mA}$ | V_{CEsat} | – | 0.25 | V |
| Base-Emitter On Voltage at $I_C = 10 \text{ mA}$, $I_B = 1 \text{ mA}$ | $V_{BE(on)}$ | – | 1.2 | V |
| DC Current Gain at $V_{CE} = 1 \text{ V}$, $I_C = 10 \text{ mA}$ at $V_{CE} = 1 \text{ V}$, $I_C = 100 \text{ mA}$ | h_{FE} h_{FE} | 100 100 | – – | – – |
| Gain-Bandwidth Product at $V_{CE} = 2.0 \text{ V}$, $I_C = 10 \text{ mA}$, $f = 100 \text{ MHz}$ | f_T | 100 | – | MHz |

1) Valid provided that leads are kept at ambient temperature