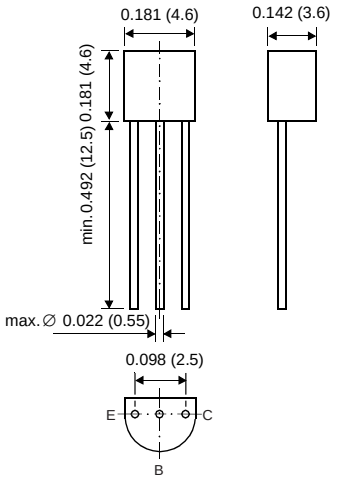
# MPSA56

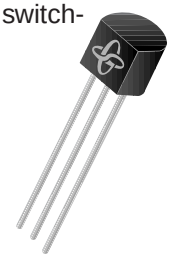
## Small Signal Transistors (PNP)

**TO-92**




*Dimensions in inches and (millimeters)*

## FEATURES



- PNP Silicon Epitaxial Planar Transistor for switching and amplifier applications.
- As complementary type, the NPN transistor MPSA06 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 MMBTA56.

## 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 °C<br>at $T_C$ = 25 °C | $P_{tot}$ | 625<br>1.5 | mW<br>W |
| Thermal Resistance Junction to Ambient Air | $R_{\theta JA}$ | 200(1) | K/W |
| Junction Temperature | $T_j$ | 150 | °C |
| Storage Temperature Range | $T_S$ | – 55 to +150 | °C |

1) Valid provided that leads are kept at ambient temperature

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## ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

| | *SYMBOL* | *MIN.* | *.MAX.* | *UNIT* |
|---|---|---|---|---|
| Collector-Emitter Breakdown Voltage<br>at $-I_C$ = 1 mA, $I_B$ = 0 mA | $-V_{BR(CEO)}$ | 80 | – | V |
| Emitter-Base Breakdown Voltage<br>at $I_E$ = 100 mA, $I_C$ = 0 | $-V_{(BR)EBO}$ | 4.0 | – | V |
| Collector-Emitter Cutoff Current<br>$-V_{CE}$ = 60 V, $-I_B$ = 0 | $-I_{CES}$ | – | 100 | nA |
| Collector-Base Cutoff Current<br>$-V_{CB}$ = 80 V, $I_E$ = 0 | $-I_{CBO}$ | – | 100 | nA |
| Collector Saturation Voltage<br>at $-I_C$ = 100 mA, $-I_B$ = 10 mA | $-V_{CEsat}$ | – | 0.25 | V |
| Base-Emitter On Voltage<br>at $-I_C$ = 100 mA, $-I_B$ = 10 mA<br>at $-I_C$ = 50 mA, $-I_B$ = 5 mA | $-V_{BE(on)}$ | – | 1.2 | V |
| DC Current Gain<br>at $V_{CE}$ = 1 V, $-I_C$ = 10 mA<br>at $V_{CE}$ = 1 V, $-I_C$ = 100 mA | <br>$h_{FE}$<br>$h_{FE}$ | <br>100<br>100 | <br>–<br>– | <br>–<br>– |
| Gain-Bandwidth Product<br>at $V_{CE}$ = 1 V, $I_C$ = 100 mA, f = 100 MHz | $f_T$ | 50 | – | MHz |

[1] Valid provided that electrodes are kept at ambient temperature