

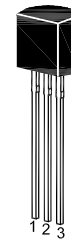
MPSA44

NPN Silicon Epitaxial Planar Transistor

for high voltage switching and amplifier applications.

As complementary type the PNP transistor MPSA94 is recommended.

On special request, these transistors can be manufactured in different pin configurations.



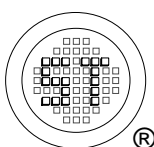
1. Emitter 2. Base 3. Collector
TO-92 Plastic Package

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

| Parameter | Symbol | Value | Unit |
|---------------------------|-----------|---------------|------------------|
| Collector Base Voltage | V_{CBO} | 500 | V |
| Collector Emitter Voltage | V_{CEO} | 400 | V |
| Emitter Base Voltage | V_{EBO} | 6 | V |
| Collector Current | I_C | 300 | mA |
| Power Dissipation | P_{tot} | 625 | mW |
| Junction Temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | - 55 to + 150 | $^\circ\text{C}$ |

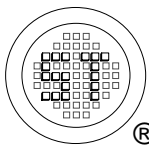
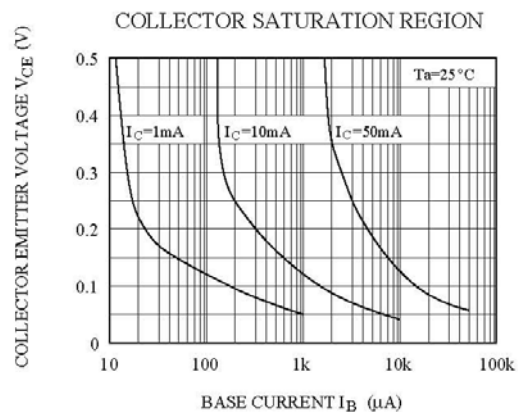
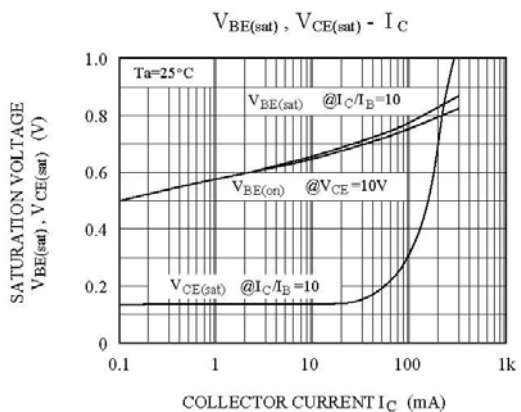
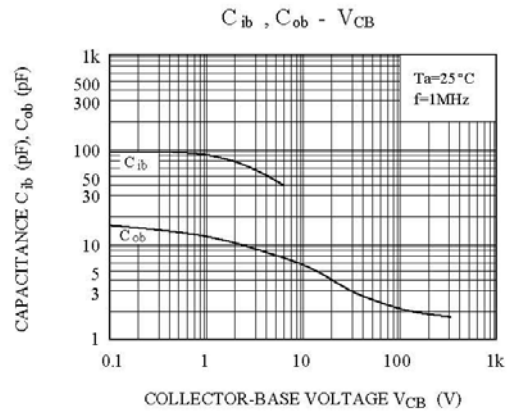
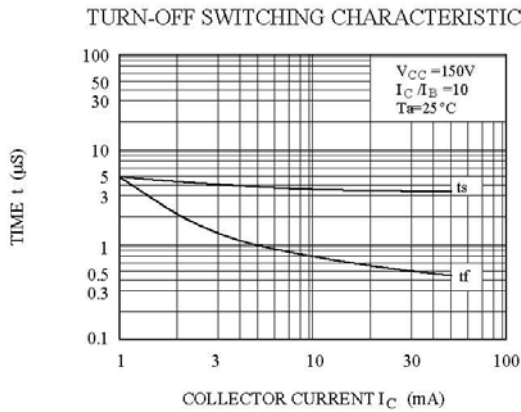
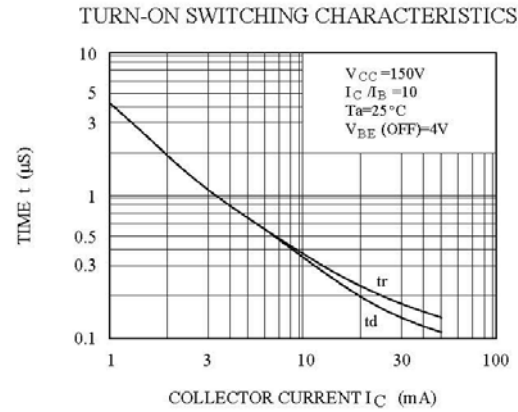
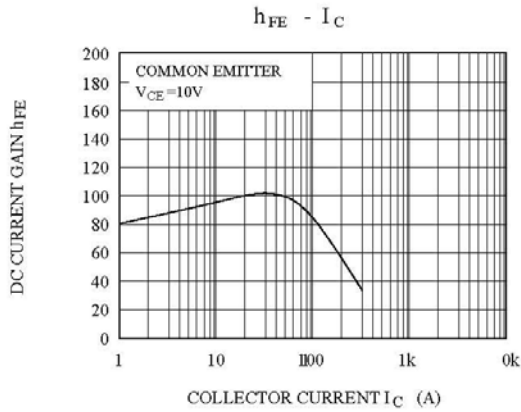
Characteristics at $T_a = 25\text{ }^\circ\text{C}$

| Parameter | Symbol | Min. | Max. | Unit |
|--|---------------|------|------|---------------|
| DC Current Gain at $V_{CE} = 10\text{ V}$, $I_C = 1\text{ mA}$ | h_{FE} | 40 | - | - |
| at $V_{CE} = 10\text{ V}$, $I_C = 10\text{ mA}$ | h_{FE} | 50 | 200 | - |
| at $V_{CE} = 10\text{ V}$, $I_C = 50\text{ mA}$ | h_{FE} | 45 | - | - |
| at $V_{CE} = 10\text{ V}$, $I_C = 100\text{ mA}$ | h_{FE} | 40 | - | - |
| Collector Base Cutoff Current at $V_{CB} = 400\text{ V}$ | I_{CBO} | - | 0.1 | μA |
| Collector Emitter Cutoff Current at $V_{CE} = 400\text{ V}$ | I_{CEO} | - | 0.5 | μA |
| Emitter Base Cutoff Current at $V_{EB} = 4\text{ V}$ | I_{EBO} | - | 0.1 | μA |
| Collector Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$ | $V_{(BR)CBO}$ | 500 | - | V |
| Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$ | $V_{(BR)CEO}$ | 400 | - | V |
| Emitter Base Breakdown Voltage at $I_E = 100\text{ }\mu\text{A}$ | $V_{(BR)EBO}$ | 6 | - | V |
| Collector Emitter Saturation Voltage at $I_C = 1\text{ mA}$, $I_B = 0.1\text{ mA}$ | $V_{CE(sat)}$ | - | 0.4 | V |
| at $I_C = 10\text{ mA}$, $I_B = 1\text{ mA}$ | $V_{CE(sat)}$ | - | 0.5 | V |
| at $I_C = 50\text{ mA}$, $I_B = 5\text{ mA}$ | $V_{CE(sat)}$ | - | 0.75 | V |
| Base Emitter Saturation Voltage at $I_C = 10\text{ mA}$, $I_B = 1\text{ mA}$ | $V_{BE(sat)}$ | - | 0.75 | V |
| Collector Output Capacitance at $V_{CB} = 20\text{ V}$, $f = 1\text{ MHz}$ | C_{ob} | - | 7 | pF |



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