

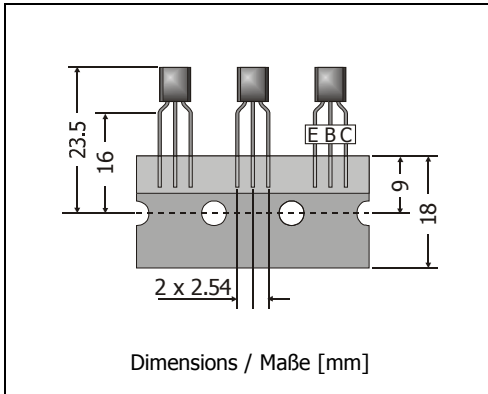
## MPSA44

NPN

High voltage Si-epitaxial planar transistors  
Hochspannungs-Si-Epitaxial Planar-Transistoren

NPN

Version 2010-09-30



Power dissipation  
Verlustleistung

625 mW

Plastic case  
Kunststoffgehäuse

TO-92  
(10D3)

Weight approx.  
Gewicht ca.

0.18 g

Plastic material has UL classification 94V-0  
Gehäusematerial UL94V-0 klassifiziert

Standard packaging taped in ammo pack  
Standard Lieferform gegurtet in Ammo-Pack



### Maximum ratings (T<sub>A</sub> = 25°C)

### Grenzwerte (T<sub>A</sub> = 25°C)

|  |        |                  | MPSA44               |
|--|--------|------------------|----------------------|
| Collector-Emitter-volt. - Kollektor-Emitter-Spannung | B open | V <sub>CEO</sub> | 400 V                |
| Collector-Base-voltage - Kollektor-Basis-Spannung    | E open | V <sub>CBO</sub> | 500 V                |
| Emitter-Base-voltage - Emitter-Basis-Spannung        | C open | V <sub>EBO</sub> | 6 V                  |
| Power dissipation – Verlustleistung                  |        | P <sub>tot</sub> | 625 mW <sup>1)</sup> |
| Collector current – Kollektorstrom (dc)              |        | I <sub>C</sub>   | 300 mA               |
| Junction temperature – Sperrschichttemperatur        |        | T <sub>j</sub>   | -55...+150°C         |
| Storage temperature – Lagerungstemperatur            |        | T <sub>S</sub>   | -55...+150°C         |

### Characteristics (T<sub>j</sub> = 25°C)

### Kennwerte (T<sub>j</sub> = 25°C)

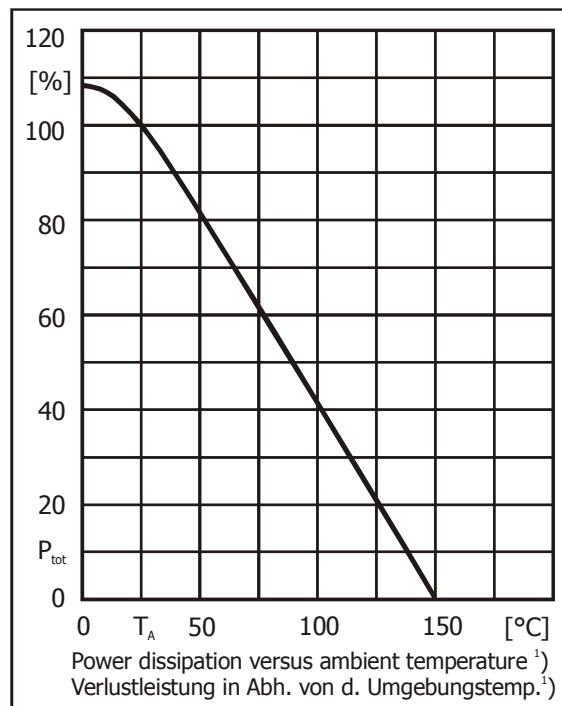
|   |        |                    | Min. | Typ. | Max.   |
|---|--------|--------------------|------|------|--------|
| Collector-Base cutoff current – Kollektorreststrom                        |        |                    |      |      |        |
| I <sub>E</sub> = 0, V <sub>CB</sub> = 400 V                               | MPSA44 | I <sub>CB0</sub>   | –    | –    | 100 nA |
| Emitter-Base cutoff current – Emitterreststrom                            |        |                    |      |      |        |
| I <sub>B</sub> = 0, V <sub>EB</sub> = 4 V                                 | MPSA44 | I <sub>EB0</sub>   | –    | –    | 100 nA |
| Collector saturation voltage – Kollektor-Sättigungsspannung <sup>2)</sup> |        |                    |      |      |        |
| I <sub>C</sub> = 1 mA, I <sub>B</sub> = 0.1 mA                            | MPSA44 | V <sub>CEsat</sub> | –    | –    | 400 mV |
| I <sub>C</sub> = 10 mA, I <sub>B</sub> = 1 mA                             |        | V <sub>CEsat</sub> |      |      | 500 mV |
| I <sub>C</sub> = 50 mA, I <sub>B</sub> = 5 mA                             |        | V <sub>CEsat</sub> |      |      | 750 mV |

1 Valid, if leads are kept at ambient temperature at a distance of 2 mm from the case

Gültig, wenn die Anschlussdrähte in 2 mm Abstand vom Gehäuse auf Umgebungstemperatur gehalten werden

2 Tested with pulses t<sub>p</sub> = 300 μs, duty cycle ≤ 2% – Gemessen mit Impulsen t<sub>p</sub> = 300 μs, Schaltverhältnis ≤ 2%

| Characteristics ( $T_j = 25^\circ\text{C}$ )   | Kennwerte ( $T_j = 25^\circ\text{C}$ ) |                         |      |        |     |
|--|--|-------------------------|------|--------|-----|
|  | Min.                                   | Typ.                    | Max. |        |     |
| Base saturation voltage – Basis-Sättigungsspannung <sup>1)</sup>                           |  |                         |      |        |     |
| $I_C = 10\text{ mA}, I_B = 1\text{ mA}$  | $V_{BEsat}$                            | –                       | –    | 750 mV |     |
| DC current gain – Kollektor-Basis-Stromverhältnis  |  |                         |      |        |     |
| $V_{CE} = 10\text{ V}, I_C = 1\text{ mA}$  | $h_{FE}$                               | 40                      | –    | –      |     |
| $V_{CE} = 10\text{ V}, I_C = 10\text{ mA}$   | $h_{FE}$                               | 50                      | 200  | –      |     |
| $V_{CE} = 10\text{ V}, I_C = 50\text{ mA}$   | $h_{FE}$                               | 45                      | –    | –      |     |
| $V_{CE} = 10\text{ V}, I_C = 100\text{ mA}$  | $h_{FE}$                               | 40                      | –    | –      |     |
| Collector-Base Capacitance – Kollektor-Basis-Kapazität                                     |  |                         |      |        |     |
| $V_{CB} = 20\text{ V}, I_E = i_e = 0, f = 1\text{ MHz}$                                    | MPSA44                                 | $C_{CB0}$               | –    | –      | 7pF |
| Thermal resistance junction – ambient air<br>Wärmewiderstand Sperrschicht – umgebende Luft | $R_{thA}$                              | < 200 K/W <sup>2)</sup> |      |        |     |
| Recommended complementary PNP transistors<br>Empfohlene komplementäre PNP-Transistoren     | MPSA94                                 |                         |      |        |     |



1 Tested with pulses  $t_p = 300\ \mu\text{s}$ , duty cycle  $\leq 2\%$  – Gemessen mit Impulsen  $t_p = 300\ \mu\text{s}$ , Schaltverhältnis  $\leq 2\%$

2 Valid, if leads are kept at ambient temperature at a distance of 2 mm from the case

Gültig, wenn die Anschlussdrähte in 2 mm Abstand vom Gehäuse auf Umgebungstemperatur gehalten werden