

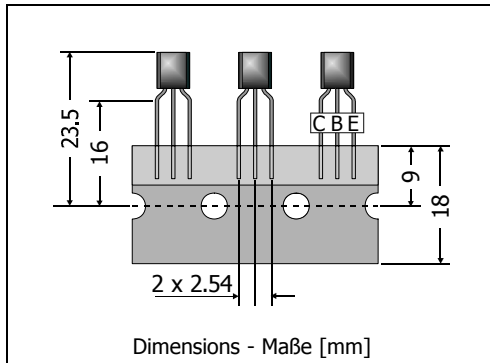
2N5550 / 2N5551

NPN

General Purpose Si-Epitaxial Planar Transistors
Si-Epitaxial Planar-Transistoren für universellen Einsatz

NPN

Version 2006-06-17



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 ($T_A = 25^\circ\text{C}$)Grenzwerte ($T_A = 25^\circ\text{C}$)

| | | | 2N5550 | 2N5551 |
|------------------------------------------------------|--------|-----------|----------------------|--------|
| Collector-Emitter-volt. – Kollektor-Emitter-Spannung | B open | V_{CEO} | 140 V | 160 V |
| Collector-Base-voltage – Kollektor-Basis-Spannung | E open | V_{CBO} | 160 V | 180 V |
| Emitter-Base-voltage – Emitter-Basis-Spannung | C open | V_{EBO} | 6 V | |
| Power dissipation – Verlustleistung | | P_{tot} | 625 mW ¹⁾ | |
| Collector current – Kollektorstrom (dc) | | I_C | 600 mA | |
| Junction temperature – Sperrschichttemperatur | | T_j | -55...+150°C | |
| Storage temperature – Lagerungstemperatur | | T_S | -55...+150°C | |

Characteristics ($T_j = 25^\circ\text{C}$)Kennwerte ($T_j = 25^\circ\text{C}$)

| | | | Min. | Typ. | Max. |
|------------------------------------------------------------------------------------------------------------------------------------|--------|-------------|------|------|--------|
| DC current gain – Kollektor-Basis-Stromverhältnis ²⁾ | | | | | |
| $V_{CE} = 5\text{ V}, I_C = 1\text{ mA}$ $V_{CE} = 5\text{ V}, I_C = 10\text{ mA}$ $V_{CE} = 5\text{ V}, I_C = 50\text{ mA}$ | 2N5550 | h_{FE} | 60 | – | – |
| | | h_{FE} | 60 | – | 250 |
| | | h_{FE} | 20 | – | – |
| $V_{CE} = 5\text{ V}, I_C = 1\text{ mA}$ $V_{CE} = 5\text{ V}, I_C = 10\text{ mA}$ $V_{CE} = 5\text{ V}, I_C = 50\text{ mA}$ | 2N5551 | h_{FE} | 80 | – | – |
| | | h_{FE} | 80 | – | 250 |
| | | h_{FE} | 30 | – | – |
| Collector-Emitter saturation voltage – Kollektor-Emitter-Sättigungsspg. ²⁾ | | | | | |
| $I_C = 10\text{ mA}, I_B = 1\text{ mA}$ | 2N5550 | V_{CEsat} | – | – | 0.15 V |
| | 2N5551 | V_{CEsat} | – | – | 0.15 V |
| $I_C = 50\text{ mA}, I_B = 5\text{ mA}$ | 2N5550 | V_{CEsat} | – | – | 0.25 V |
| | 2N5551 | V_{CEsat} | – | – | 0.20 V |

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

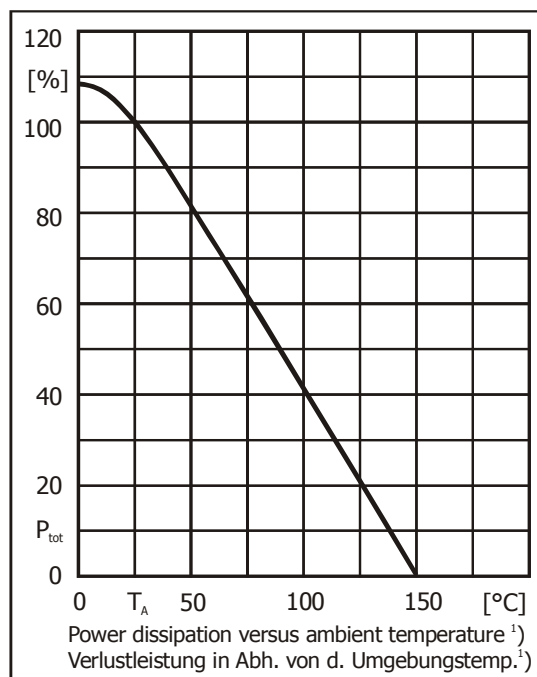
Gültig wenn die Anschlussdrähte in 2 mm Abstand vom Gehäuse auf Umgebungstemperatur gehalten werden

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

Characteristics ($T_j = 25^\circ\text{C}$)

 Kennwerte ($T_j = 25^\circ\text{C}$)

| | | Min. | Typ. | Max. |
|---------------------------------------------------------------------------------------------|--------|-------------|-------------------------|------|
| Base-Emitter saturation voltage – Basis-Emitter-Sättigungsspannung ²⁾ | | | | |
| $I_C = 10\text{ mA}, I_B = 1\text{ mA}$ | 2N5550 | V_{BEsat} | – | – |
| $I_C = 50\text{ mA}, I_B = 5\text{ mA}$ | | V_{BEsat} | – | – |
| $I_C = 10\text{ mA}, I_B = 1\text{ mA}$ | 2N5551 | V_{BEsat} | – | – |
| $I_C = 50\text{ mA}, I_B = 5\text{ mA}$ | | V_{BEsat} | – | – |
| Collector-Base cutoff current – Kollektor-Base-Reststrom | | | | |
| $V_{CB} = 100\text{ V}, (E\text{ open})$ | 2N5550 | I_{CBO} | – | – |
| $V_{CB} = 120\text{ V}, (E\text{ open})$ | 2N5551 | I_{CBO} | – | – |
| Emitter-Base cutoff current – Emitter-Basis-Reststrom | | | | |
| $V_{EB} = 4\text{ V}, (C\text{ open})$ | | I_{EBO} | – | – |
| Gain-Bandwidth Product – Transitfrequenz | | | | |
| $I_C = 10\text{ mA}, V_{CE} = 10\text{ V}, f = 100\text{ MHz}$ | | f_T | 100 MHz | – |
| Collector-Base Capacitance – Kollektor-Basis-Kapazität | | | | |
| $V_{CB} = 10\text{ V}, I_E = i_e = 0, f = 1\text{ MHz}$ | | C_{CBO} | – | – |
| Noise figure – Rauschzahl | | | | |
| $V_{CE} = 5\text{ V}, I_C = 200\text{ }\mu\text{A}, R_G = 2\text{ k}\Omega,$ | 2N5550 | F | – | – |
| $f = 30\text{ Hz} \dots 15\text{ kHz}$ | 2N5551 | F | – | – |
| Thermal resistance junction to ambient air Wärmewiderstand Sperrschicht – umgebende Luft | | R_{thA} | < 200 K/W ¹⁾ | |
| Recommended complementary PNP transistors Empfohlene komplementäre PNP-Transistoren | | | 2N5400 / 2N5401 | |



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