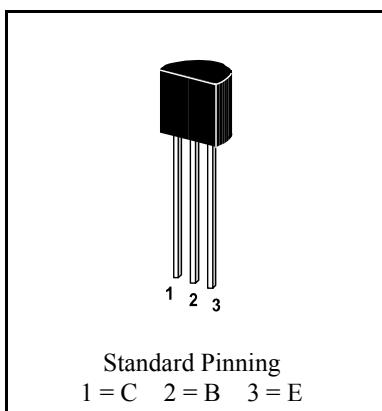


NPN

Si-Epitaxial Planar Transistors

NPN



Power dissipation – Verlustleistung	500 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 ($T_A = 25^\circ\text{C}$)

		BC 546	BC 547	BC 548/549
Collector-Emitter-voltage B open	V_{CE0}	65 V	45 V	30 V
Collector-Emitter-voltage B shorted	V_{CES}	85 V	50 V	30 V
Collector-Base-voltage E open	V_{CB0}	80 V	50 V	30 V
Emitter-Base-voltage C open	V_{EB0}	6 V	6 V	5 V
Power dissipation – Verlustleistung	P_{tot}	500 mW ¹⁾		
Collector current – Kollektorstrom (DC)	I_C	100 mA		
Peak Coll. current – Kollektor-Spitzenstrom	I_{CM}	200 mA		
Peak Base current – Basis-Spitzenstrom	I_{BM}	200 mA		
Peak Emitter current – Emitter-Spitzenstrom	- I_{EM}	200 mA		
Junction temp. – Sperrsichttemperatur	T_j	150°C		
Storage temperature – Lagerungstemperatur	T_s	- 65...+ 150°C		

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

	Group A	Group B	Group C
DC current gain – Kollektor-Basis-Stromverhältnis $V_{CE} = 5 \text{ V}, I_C = 10 \mu\text{A}$	h_{FE} typ. 90	typ. 150	typ. 270
$V_{CE} = 5 \text{ V}, I_C = 2 \text{ mA}$	h_{FE} 110...220	200...450	420...800
$V_{CE} = 5 \text{ V}, I_C = 100 \text{ mA}$	h_{FE} typ. 120	typ. 200	typ. 400
h-Parameters at $V_{CE} = 5\text{V}$, $I_C = 2 \text{ mA}$, $f = 1 \text{ kHz}$ Small signal current gain – Stromverst.	h_{fe} typ. 220	typ. 330	typ. 600
Input impedance – Eingangsimpedanz	h_{ie} 1.6...4.5 kΩ	3.2...8.5 kΩ	6...15 kΩ
Output admittance – Ausgangsleitwert	h_{oe} 18 < 30 μS	30 < 60 μS	60 < 110 μS
Reverse voltage transfer ratio Spannungsrückwirkung	h_{re} typ. $1.5 * 10^{-4}$	typ. $2 * 10^{-4}$	typ. $3 * 10^{-4}$

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 von Gehäuse auf Umgebungstemperatur gehalten werden

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

		Min.	Typ.	Max.
Collector saturation voltage – Kollektor-Sättigungsspannung $I_C = 10 \text{ mA}, I_B = 0.5 \text{ mA}$ $I_C = 100 \text{ mA}, I_B = 5 \text{ mA}$	V_{CEsat} V_{CEsat}	– –	80 mV 200 mV	200 mV 600 mV
Base saturation voltage – Basis-Sättigungsspannung $I_C = 10 \text{ mA}, I_B = 0.5 \text{ mA}$ $I_C = 100 \text{ mA}, I_B = 5 \text{ mA}$	V_{BEsat} V_{BEsat}	– –	700 mV 900 mV	– –
Base-Emitter voltage – Basis-Emitter-Spannung $V_{CE} = 5 \text{ V}, I_C = 2 \text{ mA}$ $V_{CE} = 5 \text{ V}, I_C = 10 \text{ mA}$	V_{BE} V_{BE}	580 mV –	660 mV –	700 mV 720 mV
Collector-Emitter cutoff current – Kollektorreststrom $V_{CE} = 80 \text{ V}$ BC 546 $V_{CE} = 50 \text{ V}$ BC 547 $V_{CE} = 30 \text{ V}$ BC 548 $V_{CE} = 30 \text{ V}$ BC 549	I_{CES} I_{CES} I_{CES} I_{CES}	– – – –	0.2 nA 0.2 nA 0.2 nA 0.2 nA	15 nA 15 nA 15 nA 15 nA
Collector-Emitter cutoff current – Kollektorreststrom $V_{CE} = 80 \text{ V}, T_j = 125^\circ\text{C}$ BC 546 $V_{CE} = 50 \text{ V}, T_j = 125^\circ\text{C}$ BC 547 $V_{CE} = 30 \text{ V}, T_j = 125^\circ\text{C}$ BC 548 $V_{CE} = 30 \text{ V}, T_j = 125^\circ\text{C}$ BC 549	I_{CES} I_{CES} I_{CES} I_{CES}	– – – –	– – – –	4 μA 4 μA 4 μA 4 μA
Gain-Bandwidth Product – Transitfrequenz $V_{CE} = 5 \text{ V}, I_C = 10 \text{ mA}, f = 100 \text{ MHz}$	f_T	–	300 MHz	–
Collector-Base Capacitance – Kollektor-Basis-Kapazität $V_{CB} = 10 \text{ V}, f = 1 \text{ MHz}$	C_{CB0}	–	3.5 pF	6 pF
Emitter-Base Capacitance – Emitter-Basis-Kapazität $V_{EB} = 0.5 \text{ V}, f = 1 \text{ MHz}$	C_{EB0}	–	9 pF	–
Noise figure – Rauschmaß $V_{CE} = 5 \text{ V}, I_C = 200 \mu\text{A}$ BC 547 $R_G = 2 \text{ k}\Omega$ $f = 1 \text{ kHz}$, BC 548 $\Delta f = 200 \text{ Hz}$ BC 549	F F F	– – –	2 dB 1.2 dB 1.2 dB	10 dB 4 dB 4 dB
Thermal resistance junction to ambient air Wärmewiderstand Sperrsicht – umgebende Luft		R_{thA}		250 K/W ¹⁾
Recommended complementary PNP transistors Empfohlene komplementäre PNP-Transistoren			BC 556 ... BC 559	

Available current gain groups per type Lieferbare Stromverstärkungsgruppen pro Typ	BC 546A BC 547A BC 548A	BC 546B BC 547B BC 548B	BC 546B BC 547C BC 548C
			BC 549B

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 von Gehäuse auf Umgebungstemperatur gehalten werden