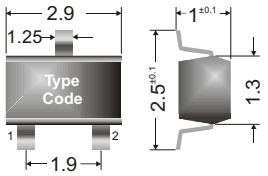
NPN — **Surface mount Si-Epitaxial PlanarTransistors**
Si-Epitaxial PlanarTransistoren fьr die Oberflдchenmontage — **NPN**

S0T23R



Dimensions in mm
1 = B 2 = E 3 = C

Power dissipation – Verlustleistung 310 mW

Plastic case
Kunststoffgehдuse SOT-23R

Weight approx. – Gewicht ca. 0.01 g

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

Standard packaging taped and reeled
Standard Lieferform gegurtet auf Rolle

Maximum ratings (T_A = 25 C) — **Grenzwerte (T_A = 25 C)**

			BC 849BR
Collector-Emitter-voltage	B open	V_{CE0}	30 V
Collector-Base-voltage	E open	V_{CB0}	30 V
Emitter-Base-voltage	C open	V_{EB0}	5 V
Power dissipation – Verlustleistung		P_{tot}	310 mW [1])
Collector current – Kollektorstrom (DC)		I_C	100 mA
Peak Collector 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 temperature – Sperrschichttemperatur		T_j	150 C
Storage temperature – Lagerungstemperatur		T_S	- 65…+ 150 C

Characteristics (T_j = 25 C)

DC current gain – Kollektor-Basis-Stromverhдltnis [2])		
V_{CE} = 5 V, I_C = 100 mA	h_{FE}	typ. 90
V_{CE} = 5 V, I_C = 2 mA	h_{FE}	110...220
h-Parameters at V_{CE} = 5V, I_C = 2 mA, f = 1 kHz		
Small signal current gain – Stromverstдrkung	h_{fe}	typ. 220
Input impedance – Eingangs-Impedanz	h_{ie}	1.6...4.5 k
Output admittance – Ausgangs-Leitwert	h_{oe}	18 < 30 S
Reverse voltage transfer ratio Spannungsrьckwirkung	h_{re}	typ.1.5 *10^{-4}

[1]) Mounted on P.C. board with 3 mm² copper pad at each terminal
Montage auf Leiterplatte mit 3 mm² Kupferbelag (Lцtpad) an jedem AnschluЯ
[2]) Tested with pulses t_p = 300 s, duty cycle 2% – Gemessen mit Impulsen t_p = 300 s, Schaltverhдltnis 2%

Characteristics (T_j = 25 °C) Kennwerte (T_j = 25 °C)

		Min.	Typ.	Max.
Collector saturation volt. – Kollektor-Sttigungsspannung [1])				
I_C = 10 mA, I_B = 0.5 mA	V_{CEsat}	–	90 mV	250 mV
I_C = 100 mA, I_B = 5 mA	V_{CEsat}	–	200 mV	600 mV
Base saturation voltage – Basis-Sttigungsspannung [1])				
I_C = 10 mA, I_B = 0.5 mA	V_{BEsat}	–	700 mV	–
I_C = 100 mA, I_B = 5 mA	V_{BEsat}	–	900 mV	–
Base-Emitter voltage – Basis-Emitter-Spannung [1])				
V_{CE} = 5 V, I_C = 2 mA	V_{BEon}	580 mV	660 mV	700 mV
V_{CE} = 5 V, I_C = 10 mA	V_{BEon}	–	–	770 mV
Collector-Base cutoff current – Kollektorreststrom				
I_E = 0, V_{CB} = 30 V	I_{CB0}	–	–	15 nA
I_E = 0, V_{CB} = 30 V, T_j = 150 °C	I_{CB0}			100 mA
Emitter-Base cutoff current – Emitterreststrom				
I_C = 0, V_{EB} = 5 V	I_{EB0}	–	–	100 nA
Gain-Bandwidth Product – Transitfrequenz				
V_{CE} = 5 V, I_C = 10 mA, f = 100 MHz	f_T	100 Mhz	300 Mhz	
Collector-Base Capacitance – Kollektor-Basis-Kap.				
V_{CB} = 10 V, I_E = i_e = 0, f = 1 MHz	C_{CB0}	–	3.5 pF	6 pF
Emitter-Base Capacitance – Emitter-Basis-Kap.				
V_{EB} = 0.5 V, I_C = i_c = 0, f = 1 MHz	C_{EB0}	–	9 pF	–