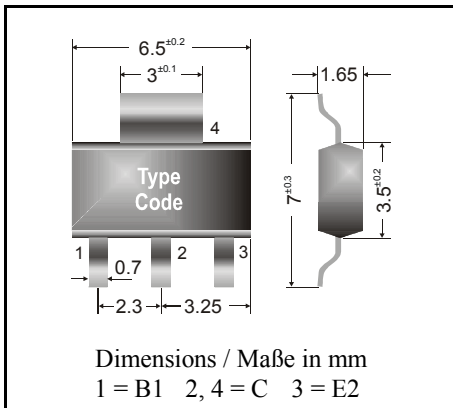


NPN

**Surface mount Si-Epitaxial Planar Transistors**  
**Si-Epitaxial Planar Transistoren für die Oberflächenmontage**

NPN



Power dissipation – Verlustleistung	1.5 W
Plastic case Kunststoffgehäuse	SOT-223
Weight approx. – Gewicht ca.	0.04 g
Plastic material has UL classification 94V-0 Gehäusematerial UL94V-0 klassifiziert	
Standard packaging taped and reeled Standard Lieferform gegurtet auf Rolle	

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

			<b>BCP 29</b>	<b>BCP 49</b>
Collector-Emitter-voltage	B open	V <sub>CE0</sub>	30 V	60 V
Collector-Base-voltage	E open	V <sub>CB0</sub>	40 V	80 V
Emitter-Base-voltage	C open	V <sub>EB0</sub>	10 V	
Power dissipation – Verlustleistung		P <sub>tot</sub>	1.5 W <sup>1)</sup>	
Collector current – Kollektorstrom (DC)		I <sub>C</sub>	500 mA	
Peak Collector current – Kollektor-Spitzenstrom		I <sub>CM</sub>	800 mA	
Base current – Basisstrom (DC)		I <sub>B</sub>	100 mA	
Peak Base current – Basisstrom		I <sub>BM</sub>	200 mA	
Junction temperature – Sperrschichttemperatur		T <sub>j</sub>	150°C	
Storage temperature – Lagerungstemperatur		T <sub>S</sub>	- 65...+ 150°C	

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

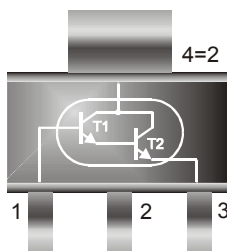
				<b>Min.</b>	<b>Typ.</b>	<b>Max.</b>
Collector-Base cutoff current – Kollektorreststrom						
I <sub>E</sub> = 0, V <sub>CB</sub> = 30 V	BCP 29	I <sub>CB0</sub>		–	–	100 nA
I <sub>E</sub> = 0, V <sub>CB</sub> = 60 V	BCP 49	I <sub>CB0</sub>		–	–	100 nA
I <sub>E</sub> = 0, V <sub>CB</sub> = 30 V, T <sub>A</sub> = 150°C	BCP 29	I <sub>CB0</sub>		–	–	10 µA
I <sub>E</sub> = 0, V <sub>CB</sub> = 60 V, T <sub>A</sub> = 150°C	BCP 49	I <sub>CB0</sub>		–	–	10 µA
Emitter-Base cutoff current – Emitterreststrom						
I <sub>C</sub> = 0, V <sub>EB</sub> = 5 V		I <sub>EB0</sub>		–	–	100 nA

<sup>1)</sup> Mounted on P.C. board with 3 mm<sup>2</sup> copper pad at each terminal  
 Montage auf Leiterplatte mit 3 mm<sup>2</sup> Kupferbelag (Löt-pad) an jedem Anschluß

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

		Min.	Typ.	Max.
Collector saturation volt. – Kollektor-Sättigungsspg. <sup>1)</sup>				
$I_C = 100\text{ mA}, I_B = 0.1\text{ mA}$	$V_{CEsat}$	–	–	1 V
Base saturation voltage – Basis-Sättigungsspannung <sup>1)</sup>				
$I_C = 100\text{ mA}, I_B = 0.1\text{ mA}$	$V_{BEsat}$	–	–	1.5 V
DC current gain – Kollektor-Basis-Stromverhältnis <sup>1)</sup>				
$V_{CE} = 1\text{ V}, I_C = 0.1\text{ mA}$	BCP 29	$h_{FE}$	4000	–
	BCP 49	$h_{FE}$	2000	–
$V_{CE} = 5\text{ V}, I_C = 10\text{ mA}$	BCP 29	$h_{FE}$	10000	–
	BCP 49	$h_{FE}$	4000	–
$V_{CE} = 5\text{ V}, I_C = 100\text{ mA}$	BCP 29	$h_{FE}$	20000	–
	BCP 49	$h_{FE}$	10000	–
$V_{CE} = 5\text{ V}, I_C = 500\text{ mA}$	BCP 29	$h_{FE}$	4000	–
	BCP 49	$h_{FE}$	2000	–
Gain-Bandwidth Product – Transitfrequenz				
$V_{CE} = 5\text{ V}, I_C = 50\text{ mA}, f = 100\text{ MHz}$	$f_T$	–	200 MHz	–
Collector-Base Capacitance – Kollektor-Basis-Kapazität				
$V_{CB} = 10\text{ V}, I_E = i_e = 0, f = 1\text{ MHz}$	$C_{CB0}$	–	6.5 pF	–
Thermal resistance – Wärmewiderstand				
junction to ambient air – Sperrschicht zu umgebender Luft	$R_{thA}$			93 K/W <sup>2)</sup>
junction to soldering point – Sperrschicht zu Lötpad	$R_{thS}$			17 K/W
Recommended complementary PNP transistors Empfohlene komplementäre PNP-Transistoren				BCP 28, BCP 48

## Pinning – Anschlußbelegung



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

<sup>2)</sup> Mounted on P.C. board with  $3\text{ mm}^2$  copper pad at each terminal  
Montage auf Leiterplatte mit  $3\text{ mm}^2$  Kupferbelag (Lötpad) an jedem Anschluß