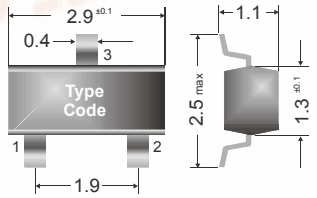
PNP **Surface mount Si-Epitaxial PlanarTransistors**
Si-Epitaxial PlanarTransistoren für die Oberflächenmontage **PNP**



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

Power dissipation – Verlustleistung	250 mW
Plastic case Kunststoffgehäuse	SOT-23 (TO-236)
Weight approx. – Gewicht ca.	0.01 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_A = 25˚C) **Grenzwerte (T_A = 25˚C)**

			BCW 61
Collector-Emitter-voltage	B open	$-V_{CE0}$	32 V
Collector-Base-voltage	E open	$-V_{CB0}$	32 V
Emitter-Base-voltage	C open	$-V_{EB0}$	5 V
Power dissipation – Verlustleistung		P_{tot}	250 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
Junction temperature – Sperrschichttemperatur		T_j	150˚C
Storage temperature – Lagerungstemperatur		T_S	- 65…+ 150˚C

Characteristics (T_j = 25˚C) **Kennwerte (T_j = 25˚C)**

		Min.	Typ.	Max.
Collector-Base cutoff current – Kollektorreststrom				
I_E = 0, $-V_{CB}$ = 32 V	$-I_{CB0}$	–	–	20 nA
I_E = 0, $-V_{CB}$ = 32 V, T_j = 150˚C	$-I_{CB0}$	–	–	20 µA
Emitter-Base cutoff current – Emitterreststrom				
I_C = 0, $-V_{EB}$ = 4 V	$-I_{EB0}$	–	–	20 nA
Collector saturation volt. – Kollektor-Sättigungsspg. [2])				
$-I_C$ = 10 mA, $-I_B$ = 0.25 mA	$-V_{CEsat}$	60 mV	–	250 mV
$-I_C$ = 50 mA, $-I_B$ = 1.25 mA	$-V_{CEsat}$	120 mV	–	550 mV

[1]) Mounted on P.C. board with 3 mm² copper pad at each terminal
Montage auf Leiterplatte mit 3 mm² Kupferbelag (Lötpad) an jedem Anschluß
[2]) Tested with pulses t_p = 300 µs, duty cycle < 2% Gemessen mit Impulsen t_p = 300 µs, Schaltverhältnis < 2%

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

			Min.	Typ.	Max.
Base saturation voltage – Basis-Sättigungsspannung [1]					
- I_C = 10 mA, - I_B = 0.25 mA		- V_{BEsat}	600 mV	–	850 mV
- I_C = 50 mA, - I_B = 1.25 mA		- V_{BEsat}	700 mV	–	1050 mV
DC current gain – Kollektor-Basis-Stromverhältnis [3]					
- V_{CE} = 5 V, - I_C = 10 µA	BCW 61B	h_{FE}	30	–	–
	BCW 61C	h_{FE}	40	–	–
	BCW 61D	h_{FE}	100	–	–
- V_{CE} = 5 V, - I_C = 2 mA	BCW 61B	h_{FE}	180	–	310
	BCW 61C	h_{FE}	250	–	460
	BCW 61D	h_{FE}	380	–	630
- V_{CE} = 1 V, - I_C = 50 mA	BCW 61B	h_{FE}	80	–	–
	BCW 61C	h_{FE}	90	–	–
	BCW 61D	h_{FE}	100	–	–
Base-Emitter voltage – Basis-Emitter-Spannung [1]					
- V_{CE} = 5 V, - I_C = 10 µA		- V_{BEon}	–	550 mV	–
- V_{CE} = 5 V, - I_C = 2 mA		- V_{BEon}	600 mV	650 mV	750 mV
- V_{CE} = 1 V, - I_C = 50 mA		- V_{BEon}	–	720 mV	–
Gain-Bandwidth Product – Transitfrequenz					
- V_{CE} = 5 V, - I_C = 10 mA, f = 100 MHz		f_T	100 MHz	–	–
Collector-Base Capacitance – Kollektor-Basis-Kapazität					
- V_{CB} = 10 V, I_E = i_e = 0, f = 1 MHz		C_{CB0}	–	4.5 pF	–
Emitter-Base Capacitance – Emitter-Basis-Kapazität					
- V_{EB} = 0.5 V, I_C = i_c = 0, f = 1 MHz		C_{EB0}	–	11 pF	–
Noise figure – Rauschzahl					
- V_{CE} = 5 V, - I_C = 200 µA, R_G = 2 kΩ, f = 1 kHz, Δf = 200 Hz		F	–	2 dB	6 dB
Thermal resistance junction to ambient air Wärmewiderstand Sperrschicht – umgebende Luft				R_{thA}	420 K/W [4]
Recommended complementary NPN transistors Empfohlene komplementäre NPN-Transistoren				BCW 60 series	

Marking – Stempelung	BCW 61B = BB	BCW 61C = BC	BCW 61D = BD

[3] Tested with pulses t_p = 300 µs, duty cycle ≤ 2% – Gemessen mit Impulsen t_p = 300 µs, Schaltverhältnis ≤ 2%
[4] Mounted on P.C. board with 3 mm² copper pad at each terminal
Montage auf Leiterplatte mit 3 mm² Kupferbelag (Lötpad) an jedem Anschluß