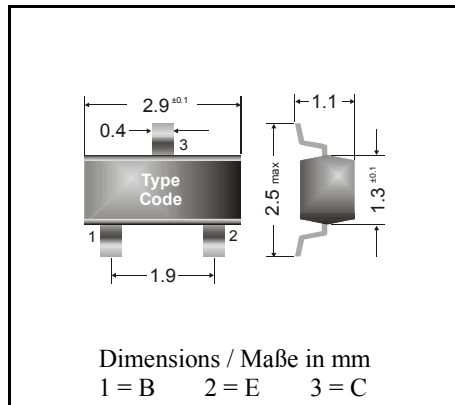


PNP

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

PNP



Power dissipation – Verlustleistung 250 mW

Plastic case SOT-23
 Kunststoffgehäuse (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 ($T_A = 25^\circ\text{C}$)**Grenzwerte ($T_A = 25^\circ\text{C}$)**

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

		Min.	Typ.	Max.
Collector-Base cutoff current – Kollektorreststrom				
$I_E = 0, -V_{CB} = 32\text{ V}$	- I_{CB0}	–	–	20 nA
$I_E = 0, -V_{CB} = 32\text{ V}, T_j = 150^\circ\text{C}$	- I_{CB0}	–	–	20 μA
Emitter-Base cutoff current – Emitterreststrom				
$I_C = 0, -V_{EB} = 4\text{ V}$	- I_{EB0}	–	–	20 nA
Collector saturation volt. – Kollektor-Sättigungssp. ²⁾				
- $I_C = 10\text{ mA}, -I_B = 0.25\text{ mA}$	- V_{CEsat}	60 mV	–	250 mV
- $I_C = 50\text{ mA}, -I_B = 1.25\text{ mA}$	- 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 (Löt-pad) an jedem Anschluß

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 saturation voltage – Basis-Sättigungsspannung ¹⁾				
- $I_C = 10\text{ mA}$, - $I_B = 0.25\text{ mA}$	- V_{BEsat}	600 mV	–	850 mV
- $I_C = 50\text{ mA}$, - $I_B = 1.25\text{ mA}$	- V_{BEsat}	700 mV	–	1050 mV
DC current gain – Kollektor-Basis-Stromverhältnis ³⁾				
- $V_{CE} = 5\text{ V}$, - $I_C = 10\text{ }\mu\text{A}$	BCW 61B h_{FE}	30	–	–
	BCW 61C h_{FE}	40	–	–
	BCW 61D h_{FE}	100	–	–
- $V_{CE} = 5\text{ V}$, - $I_C = 2\text{ mA}$	BCW 61B h_{FE}	180	–	310
	BCW 61C h_{FE}	250	–	460
	BCW 61D h_{FE}	380	–	630
- $V_{CE} = 1\text{ V}$, - $I_C = 50\text{ mA}$	BCW 61B h_{FE}	80	–	–
	BCW 61C h_{FE}	90	–	–
	BCW 61D h_{FE}	100	–	–
Base-Emitter voltage – Basis-Emitter-Spannung ¹⁾				
- $V_{CE} = 5\text{ V}$, - $I_C = 10\text{ }\mu\text{A}$	- V_{BEon}	–	550 mV	–
- $V_{CE} = 5\text{ V}$, - $I_C = 2\text{ mA}$	- V_{BEon}	600 mV	650 mV	750 mV
- $V_{CE} = 1\text{ V}$, - $I_C = 50\text{ mA}$	- V_{BEon}	–	720 mV	–
Gain-Bandwidth Product – Transitfrequenz				
- $V_{CE} = 5\text{ V}$, - $I_C = 10\text{ mA}$, $f = 100\text{ MHz}$	f_T	100 MHz	–	–
Collector-Base Capacitance – Kollektor-Basis-Kapazität				
- $V_{CB} = 10\text{ V}$, $I_E = i_c = 0$, $f = 1\text{ MHz}$	C_{CB0}	–	4.5 pF	–
Emitter-Base Capacitance – Emitter-Basis-Kapazität				
- $V_{EB} = 0.5\text{ V}$, $I_C = i_c = 0$, $f = 1\text{ MHz}$	C_{EB0}	–	11 pF	–
Noise figure – Rauschzahl				
- $V_{CE} = 5\text{ V}$, - $I_C = 200\text{ }\mu\text{A}$, $R_G = 2\text{ k}\Omega$, $f = 1\text{ kHz}$, $\Delta f = 200\text{ Hz}$	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 $t_p = 300\text{ }\mu\text{s}$, duty cycle $\leq 2\%$ – Gemessen mit Impulsen $t_p = 300\text{ }\mu\text{s}$, Schaltverhältnis $\leq 2\%$

⁴⁾ Mounted on P.C. board with 3 mm^2 copper pad at each terminal
Montage auf Leiterplatte mit 3 mm^2 Kupferbelag (Lötpad) an jedem Anschluß