

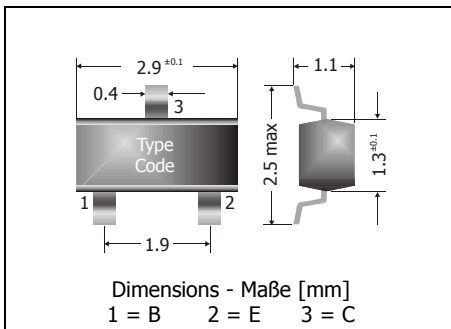
BCW61A ... BCW61D

PNP

Surface Mount General Purpose Si-Epi-Planar Transistors
Si-Epi-Planar Universaltransistoren für die Oberflächenmontage

PNP

Version 2006-07-31



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 ($T_A = 25^\circ\text{C}$)Grenzwerte ($T_A = 25^\circ\text{C}$)

			BCW60A ... BCW60D
Collector-Emitter-volt. – Kollektor-Emitter-Spannung	B open	- V_{CE0}	32 V
Collector-Base-voltage – Kollektor-Basis-Spannung	E open	- V_{CB0}	32 V
Collector-Base-voltage – Kollektor-Basis-Spannung	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	-55...+150°C
Storage temperature – Lagerungstemperatur		T_s	-55...+150°C

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

			Min.	Typ.	Max.
DC current gain – Kollektor-Basis-Stromverhältnis ²⁾					
- $V_{CE} = 5\text{ V}$, - $I_C = 10\text{ }\mu\text{A}$	BCW61A	h_{FE}	20	140	–
	BCW61B	h_{FE}	30	200	–
	BCW61C	h_{FE}	40	300	–
	BCW61D	h_{FE}	100	460	–
- $V_{CE} = 5\text{ V}$, - $I_C = 2\text{ mA}$	BCW61A	h_{FE}	120	170	220
	BCW61B	h_{FE}	180	250	310
	BCW61C	h_{FE}	250	350	460
	BCW61D	h_{FE}	380	500	630
- $V_{CE} = 1\text{ V}$, - $I_C = 50\text{ mA}$	BCW61A	h_{FE}	60	–	–
	BCW61B	h_{FE}	80	–	–
	BCW61C	h_{FE}	100	–	–
	BCW61D	h_{FE}	110	–	–

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 $t_p = 300\text{ }\mu\text{s}$, duty cycle $\leq 2\%$ – Gemessen mit Impulsen $t_p = 300\text{ }\mu\text{s}$, Schaltverhältnis $\leq 2\%$

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

	Min.	Typ.	Max.
Collector-Emitter saturation voltage – Kollektor-Sättigungsspannung ²⁾			
- I _C = 10 mA, - I _B = 0.25 mA	–	120 mV	250 mV
- I _C = 50 mA, - I _B = 1.25 mA	–	200 mV	550 mV
Base-Emitter saturation voltage – Basis-Sättigungsspannung ²⁾			
- I _C = 10 mA, - I _B = 0.25 mA	–	700 mV	850 mV
- I _C = 50 mA, - I _B = 1.25 mA	–	830 mV	1050 mV
Base-Emitter-voltage – Basis-Emitter-Spannung ²⁾			
- I _C = 10 µA, - V _{CE} = 5 V	–	520 mV	–
- I _C = 2 mA, - V _{CE} = 5 V	550 mV	650 mV	750 mV
- I _C = 50 mA, - V _{CE} = 1 V	–	780 mV	–
Collector-Base cutoff current – Kollektor-Basis-Reststrom			
- V _{CB} = 30 V, (E open)	–	–	20 nA
- V _{CE} = 30 V, T _j = 125°C, (E open)	–	–	20 µA
Emitter-Base cutoff current			
- V _{EB} = 4 V, (C open)	–	–	20 nA
Gain-Bandwidth Product – Transittfrequenz			
- V _{CE} = 5 V, - I _C = 10 mA, f = 100 MHz	f _T	100 MHz	250 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} = 10 V, I _C = i _c = 0, f = 1 MHz	C _{EBO}	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 ¹⁾	
Recommended complementary NPN transistors Empfohlene komplementäre NPN-Transistoren	BCW60A ... BCW60D		
Marking - Stempelung	BCW61A = BA BCW61B = BB BCW61C = BC BCW61D = BD		

2 Tested with pulses t_p = 300 µs, duty cycle ≤ 2% – Gemessen mit Impulsen t_p = 300 µs, Schaltverhältnis ≤ 2%

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