

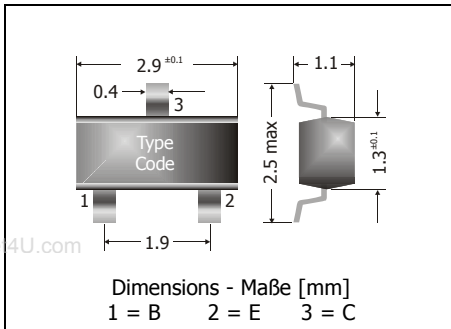
BCW61A ... BCW61D

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
KunststoffgehäuseSOT-23
(TO-236)

Weight approx. – Gewicht ca.

0.01 g

Plastic material has UL classification 94V-0
Gehäusematerial UL94V-0 klassifiziertStandard packaging taped and reeled
Standard Lieferform getupet auf RolleMaximum 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_{CEO}	32 V
Collector-Base-voltage – Kollektor-Basis-Spannung	E open	- V_{CBO}	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⁾					
- $V_{CE} = 5\text{ V}$, - $I_C = 10\ \mu\text{A}$	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 (Lötpad) 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°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 - I _C = 50 mA, - I _B = 1.25 mA	- V _{CEsat} - V _{CEsat}	– 120 mV 200 mV	250 mV 550 mV
Base-Emitter saturation voltage – Basis-Sättigungsspannung ²⁾ - I _C = 10 mA, - I _B = 0.25 mA - I _C = 50 mA, - I _B = 1.25 mA	- V _{BEsat} - V _{BEsat}	– 700 mV 830 mV	850 mV 1050 mV
Base-Emitter-voltage – Basis-Emitter-Spannung ²⁾ - I _C = 10 μA, - V _{CE} = 5 V - I _C = 2 mA, - V _{CE} = 5 V - I _C = 50 mA, - V _{CE} = 1 V	- V _{BE} - V _{BE} - V _{BE}	– 550 mV –	520 mV 650 mV 780 mV –
Collector-Base cutoff current – Kollektor-Basis-Reststrom - V _{CB} = 30 V, (E open) - V _{CE} = 30 V, T _j = 125°C, (E open)	- I _{CB0} - I _{CB0}	– –	20 nA 20 μA
Emitter-Base cutoff current - V _{EB} = 4 V, (C open)	- I _{EB0}	–	20 nA
Gain-Bandwidth Product – Transitfrequenz - 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