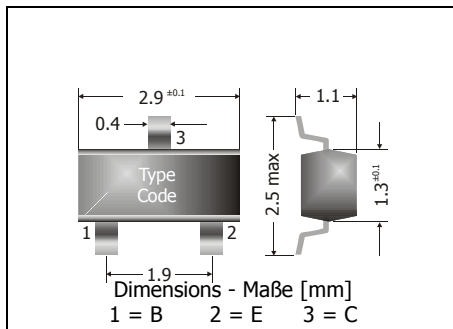


BCW60A ... BCW60D**NPN**
Surface Mount General Purpose Si-Epi-Planar Transistors
Si-Epi-Planar Universaltransistoren für die Oberflächenmontage
NPN

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 gegurtet auf Rolle**Maximum ratings (T_A = 25°C)****Grenzwerte (T_A = 25°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°C)**Kennwerte (T_j = 25°C)**

			Min.	Typ.	Max.
DC current gain – Kollektor-Basis-Stromverhältnis ²⁾					
V _{CE} = 5 V, I _C = 10 µA	BCW60A	h _{FE}	20	140	–
	BCW60B	h _{FE}	20	200	–
	BCW60C	h _{FE}	40	300	–
	BCW60D	h _{FE}	100	460	–
V _{CE} = 5 V, I _C = 2 mA	BCW60A	h _{FE}	120	170	220
	BCW60B	h _{FE}	180	250	310
	BCW60C	h _{FE}	250	350	460
	BCW60D	h _{FE}	380	500	630
V _{CE} = 1 V, I _C = 50 mA	BCW60A	h _{FE}	50	–	–
	BCW60B	h _{FE}	70	–	–
	BCW60C	h _{FE}	90	–	–
	BCW60D	h _{FE}	100	–	–

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.
Collector-Emitter saturation voltage – Kollektor-Sättigungsspannung ²⁾				
I _C = 10 mA, I _B = 0.25 mA	V _{CEsat}	–	120 mV	250 mV
I _C = 50 mA, I _B = 1.25 mA	V _{CEsat}	–	200 mV	550 mV
Base-Emitter saturation voltage – Basis-Sättigungsspannung ²⁾				
I _C = 10 mA, I _B = 0.25 mA	V _{BEsat}	–	700 mV	850 mV
I _C = 50 mA, I _B = 1.25 mA	V _{BEsat}	–	830 mV	1050 mV
Base-Emitter-voltage – Basis-Emitter-Spannung ²⁾				
I _C = 10 µA, V _{CE} = 5 V	V _{BE}	–	520 mV	–
I _C = 2 mA, V _{CE} = 5 V	V _{BE}	550 mV	650 mV	750 mV
I _C = 50 mA, V _{CE} = 1 V	V _{BE}	–	780 mV	–
Collector-Base cutoff current – Kollektor-Basis-Reststrom				
V _{CB} = 30 V, (E open)	I _{CB0}	–	–	20 nA
V _{CE} = 30 V, T _j = 125°C, (E open)	I _{CB0}	–	–	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}	–	2 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 PNP transistors Empfohlene komplementäre PNP-Transistoren		BCW61A ... BCW61D		
Marking - Stempelung		BCW60A = AA BCW60B = AB BCW60C = AC BCW60D = AD		

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