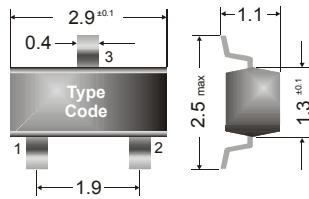


NPN

Surface mount Si-Epitaxial Planar Transistors

Si-Epitaxial Planar Transistoren für die Oberflächenmontage

NPN



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

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 65	BCW 66
Collector-Emitter-voltage	B open	V_{CE0}	32 V	45 V
Collector-Base-voltage	E open	V_{CB0}	60 V	75 V
Emitter-Base-voltage	C open	V_{EB0}	5 V	
Power dissipation – Verlustleistung		P_{tot}	250 mW ¹⁾	
Collector current – Kollektorstrom (DC)		I_C	800 mA	
Peak Collector current – Kollektor-Spitzenstrom		I_{CM}	1000 mA	
Base current – Basis-Spitzenstrom		I_B	100 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					
$I_E = 0, V_{CB} = 32 \text{ V}$	BCW 65	I_{CB0}	—	—	20 nA
$I_E = 0, V_{CB} = 32 \text{ V}, T_j = 150^\circ\text{C}$		I_{CB0}	—	—	20 μA
$I_E = 0, V_{CB} = 45 \text{ V}$	BCW 66	I_{CB0}	—	—	20 nA
$I_E = 0, V_{CB} = 45 \text{ V}, T_j = 150^\circ\text{C}$		I_{CB0}	—	—	20 μA
Emitter-Base cutoff current – Emitterreststrom					
$I_C = 0, V_{EB} = 4 \text{ V}$		I_{EB0}	—	—	20 nA

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

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

			Min.	Typ.	Max.
Collector saturation volt. – Kollektor-Sättigungsspg. ¹⁾					
$I_C = 100\text{ mA}, I_B = 10\text{ mA}$	V_{CEsat}		–	–	300 mV
$I_C = 500\text{ mA}, I_B = 50\text{ mA}$	V_{CEsat}		–	–	700 mV
Base saturation voltage – Basis-Sättigungsspannung ¹⁾					
$I_C = 100\text{ mA}, I_B = 10\text{ mA}$	V_{BEsat}		–	–	1.25 V
$I_C = 500\text{ mA}, I_B = 50\text{ mA}$	V_{BEsat}		–	–	2 V
DC current gain – Kollektor-Basis-Stromverhältnis ¹⁾					
$V_{CE} = 10\text{ V}, I_C = 100\text{ }\mu\text{A}$	BCW 65A / 66F	h_{FE}	35	–	–
	BCW 65B / 66G	h_{FE}	50	–	–
	BCW 65C / 66H	h_{FE}	80	–	–
$V_{CE} = 1\text{ V}, I_C = 10\text{ mA}$	BCW 65A / 66F	h_{FE}	75	–	–
	BCW 65B / 66G	h_{FE}	110	–	–
	BCW 65C / 66H	h_{FE}	180	–	–
$V_{CE} = 1\text{ V}, I_C = 100\text{ mA}$	BCW 65A / 66F	h_{FE}	100	160	250
	BCW 65B / 66G	h_{FE}	160	250	400
	BCW 65C / 66H	h_{FE}	250	350	630
$V_{CE} = 2\text{ V}, I_C = 500\text{ mA}$	BCW 65A / 66F	h_{FE}	–	35	–
	BCW 65B / 66G	h_{FE}	–	60	–
	BCW 65C / 66H	h_{FE}	–	100	–
Gain-Bandwidth Product – Transitfrequenz					
$V_{CE} = 5\text{ V}, I_C = 50\text{ mA}, f = 100\text{ MHz}$	f_T		–	170 MHz	–
Collector-Base Capacitance – Kollektor-Basis-Kapazität					
$V_{CB} = 10\text{ V}, I_E = i_e = 0, f = 1\text{ MHz}$	C_{CB0}		–	6 pF	–
Emitter-Base Capacitance – Emitter-Basis-Kapazität					
$V_{EB} = 0.5\text{ V}, I_C = i_c = 0, f = 1\text{ MHz}$	C_{EB0}		–	60 pF	–
Thermal resistance junction to ambient air Wärmewiderstand Sperrschicht – umgebende Luft			R_{thA}	420 K/W ²⁾	
Recommended complementary PNP transistors Empfohlene komplementäre PNP-Transistoren			BCW 67, BCW 68		

Marking – Stempelung	BCW 65A = EA	BCW 65B = EB	BCW 65C = EC
	BCW 66F = EF	BCW 66G = EG	BCW 66H = EH

¹⁾ 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 $\leq 2\%$

²⁾ 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

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Datasheets for electronic components.