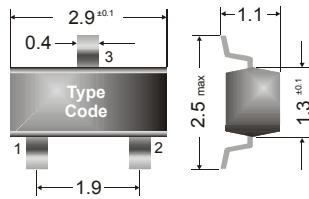


PNP

Surface mount Si-Epitaxial Planar Transistors

Si-Epitaxial Planar Transistoren für die Oberflächenmontage

PNP



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 69, BCW 70
Collector-Emitter-voltage	B open	- V_{CE0}	45 V
Collector-Base-voltage	E open	- V_{CB0}	50 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				
$I_E = 0, - V_{CB} = 20 \text{ V}$	- I_{CB0}	–	–	100 nA
$I_E = 0, - V_{CB} = 20 \text{ V}, T_j = 100^\circ\text{C}$	- I_{CB0}	–	–	10 μA
Emitter-Base cutoff current – Emitterreststrom				
$I_C = 0, - V_{EB} = 5 \text{ V}$	- I_{EB0}	–	–	100 nA
Collector saturation volt. – Kollektor-Sättigungsspg. ²⁾				
- $I_C = 10 \text{ mA}, - I_B = 0.5 \text{ mA}$	- V_{CEsat}	–	80 mV	300 mV
- $I_C = 50 \text{ mA}, - I_B = 2.5 \text{ mA}$	- V_{CEsat}	–	150 mV	–

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

			Min.	Typ.	Max.
Base saturation voltage – Basis-Sättigungsspannung ¹⁾					
- I _C = 10 mA, - I _B = 0.5 mA	- V _{BEsat}		–	720 mV	–
- I _C = 50 mA, - I _B = 2.5 mA	- V _{BEsat}		–	810 mV	–
DC current gain – Kollektor-Basis-Stromverhältnis ¹⁾					
- V _{CE} = 5 V, - I _C = 10 μA	BCW 69	h _{FE}	–	90	–
	BCW 70	h _{FE}	–	150	–
- V _{CE} = 5 V, - I _C = 2 mA	BCW 69	h _{FE}	120	–	260
	BCW 70	h _{FE}	215	–	500
Base-Emitter voltage – Basis-Emitter-Spannung ¹⁾					
- V _{CE} = 5 V, - I _C = 2 mA	- V _{BEon}		600 mV	–	750 mV
Gain-Bandwidth Product – Transistfrequenz					
- V _{CE} = 5 V, - I _C = 10 mA, f = 100 MHz	f _T		100 MHz	–	–
Collector-Base Capacitance – Kollektor-Basis-Kapazität					
- V _{CB} = 10 V, I _E = i _e = 0, f = 1 MHz	C _{CB0}		–	4.5 pF	–
Noise figure – Rauschzahl					
- V _{CE} = 5 V, - I _C = 200 μA, R _G = 2 kΩ, f = 1 kHz, Δf = 200 Hz	F		–	–	10 dB
Thermal resistance junction to ambient air Wärmewiderstand Sperrschicht – umgebende Luft			R _{thA}	420 K/W ²⁾	
Recommended complementary NPN transistors Empfohlene komplementäre NPN-Transistoren			BCW 71, BCW 72		
Marking – Stempelung			BCW 69 = H1 BCW 70 = H2		

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