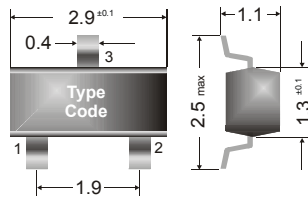


NPN

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 71, BCW 72
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}	–	120 mV	250 mV
$I_C = 50 \text{ mA}, I_B = 2.5 \text{ mA}$	V_{CEsat}	–	210 mV	–

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 $t_p = 300 \mu\text{s}$, 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}	–	750 mV	–	
I _C = 50 mA, I _B = 2.5 mA	V _{BEsat}	–	850 mV	–	
DC current gain – Kollektor-Basis-Stromverhältnis ¹⁾					
V _{CE} = 5 V, I _C = 10 μA	BCW 71	h _{FE}	–	90	–
	BCW 72	h _{FE}	–	150	–
V _{CE} = 5 V, I _C = 2 mA	BCW 71	h _{FE}	110	–	220
	BCW 72	h _{FE}	200	–	450
Base-Emitter voltage – Basis-Emitter-Spannung ¹⁾					
V _{CE} = 5 V, I _C = 2 mA	V _{BEon}	550 mV	–	700 mV	
Gain-Bandwidth Product – Transittfrequenz					
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}	–	2.5 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 PNP transistors Empfohlene komplementäre PNP-Transistoren			BCW 69, BCW 70		
Marking – Stempelung			BCW 71 = K1	BCW 72 = K2	

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