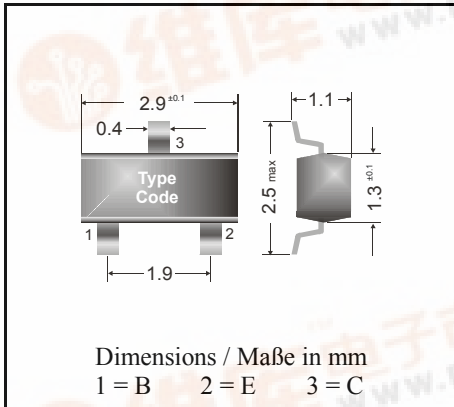


PNP

Surface mount Si-Epitaxial Planar Transistors
Si-Epitaxial Planar Transistoren für die Oberflächenmontage

PNP



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°C)

Grenzwerte (T_A = 25°C)

			BCX 71
Collector-Emitter-voltage	B open	- V _{CE0}	45 V
Collector-Base-voltage	E open	- V _{CB0}	45 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°C)

Kennwerte (T_j = 25°C)

		Min.	Typ.	Max.
Collector-Base cutoff current – Kollektorreststrom				
I _E = 0, - V _{CB} = 32 V	- I _{CB0}	–	–	20 nA
I _E = 0, - V _{CB} = 32 V, T _j = 150°C	- I _{CB0}	–	–	20 µA
Emitter-Base cutoff current – Emittorreststrom				
I _C = 0, - V _{EB} = 4 V	- I _{EB0}	–	–	20 nA
Collector saturation volt. – Kollektor-Sättigungsspg. ²⁾				
- I _C = 10 mA, - I _B = 0.25 mA	- V _{CEsat}	60 mV	–	250 mV
- I _C = 50 mA, - I _B = 1.25 mA	- V _{CEsat}	120 mV	–	550 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 = 300 µs, duty cycle < 2% – Gemessen mit Impulsen t = 300 µs, Schaltverhältnis < 2%

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

		Min.	Typ.	Max.
Base saturation voltage – Basis-Sättigungsspannung ¹⁾				
- $I_C = 10\text{ mA}$, - $I_B = 0.25\text{ mA}$	- V_{BEsat}	600 mV	–	850 mV
- $I_C = 50\text{ mA}$, - $I_B = 1.25\text{ mA}$	- V_{BEsat}	700 mV	–	1050 mV
DC current gain – Kollektor-Basis-Stromverhältnis ¹⁾				
- $V_{CE} = 5\text{ V}$, - $I_C = 10\text{ }\mu\text{A}$	BCX 71G	h_{FE}	–	–
	BCX 71H	h_{FE}	30	–
	BCX 71J	h_{FE}	40	–
	BCX 71K	h_{FE}	100	–
- $V_{CE} = 5\text{ V}$, - $I_C = 2\text{ mA}$	BCX 71G	h_{FE}	120	–
	BCX 71H	h_{FE}	180	–
	BCX 71J	h_{FE}	250	–
	BCX 71K	h_{FE}	380	–
- $V_{CE} = 1\text{ V}$, - $I_C = 50\text{ mA}$	BCX 71G	h_{FE}	60	–
	BCX 71H	h_{FE}	80	–
	BCX 71J	h_{FE}	100	–
	BCX 71K	h_{FE}	110	–
Base-Emitter voltage – Basis-Emitter-Spannung ¹⁾				
- $V_{CE} = 5\text{ V}$, - $I_C = 10\text{ }\mu\text{A}$	- V_{BEon}	–	550 mV	–
- $V_{CE} = 5\text{ V}$, - $I_C = 2\text{ mA}$	- V_{BEon}	600 mV	650 mV	750 mV
- $V_{CE} = 1\text{ V}$, - $I_C = 50\text{ mA}$	- V_{BEon}	–	720 mV	–
Gain-Bandwidth Product – Transitfrequenz				
- $V_{CE} = 5\text{ V}$, - $I_C = 10\text{ mA}$, $f = 100\text{ MHz}$	f_T	100 MHz	–	–
Collector-Base Capacitance – Kollektor-Basis-Kapazität				
- $V_{CB} = 10\text{ V}$, $I_E = i_e = 0$, $f = 1\text{ MHz}$	C_{CB0}	–	4.5 pF	–
Emitter-Base Capacitance – Emitter-Basis-Kapazität				
- $V_{EB} = 0.5\text{ V}$, $I_C = i_c = 0$, $f = 1\text{ MHz}$	C_{EB0}	–	11 pF	–
Noise figure – Rauschzahl				
- $V_{CE} = 5\text{ V}$, - $I_C = 200\text{ }\mu\text{A}$, $R_G = 2\text{ k}\Omega$, $f = 1\text{ kHz}$, $\Delta f = 200\text{ Hz}$	F	–	2 dB	6 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		BCX 70 series		
Marking Stempelung	BCX 71G = BG	BCX 71H = BH	BCX 71J = BJ	BCX 71K = BK

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