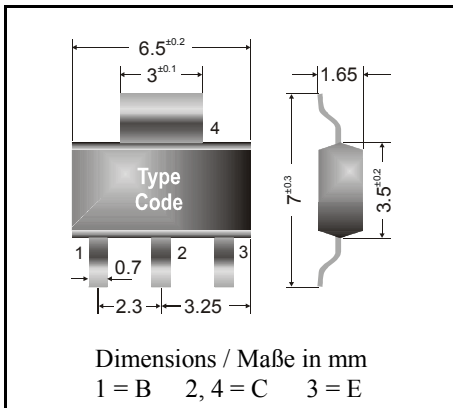


NPN

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

NPN



Power dissipation – Verlustleistung	1.3 W
Plastic case Kunststoffgehäuse	SOT-223
Weight approx. – Gewicht ca.	0.04 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)**

			BCP 54	BCP 55	BCP 56
Collector-Emitter-voltage	B open	V _{CE0}	45 V	60 V	80 V
Collector-Base-voltage	E open	V _{CB0}	45 V	60 V	100 V
Emitter-Base-voltage	C open	V _{EB0}	5 V		
Power dissipation – Verlustleistung		P _{tot}	1.3 W ¹⁾		
Collector current – Kollektorstrom (DC)		I _C	1 A		
Peak Collector current – Koll.-Spitzenstrom		I _{CM}	1.5 A		
Peak Base current – Basis-Spitzenstrom		I _{BM}	200 mA		
Junction temp. – 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} = 30 V	I _{CB0}	–	–	100 nA
I _E = 0, V _{CB} = 30 V, T _j = 125°C	I _{CB0}	–	–	10 µA
Emitter-Base cutoff current – Emitterreststrom				
I _C = 0, V _{EB} = 5 V	I _{EB0}	–	–	100 nA
Collector saturation volt. – Kollektor-Sättigungssp. ²⁾				
I _C = 500 mA, I _B = 50 mA	V _{CEsat}	–	–	500 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 µs, duty cycle ≤ 2% – Gemessen mit Impulsen t_p = 300 µs, Schaltverhältnis ≤ 2%

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

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

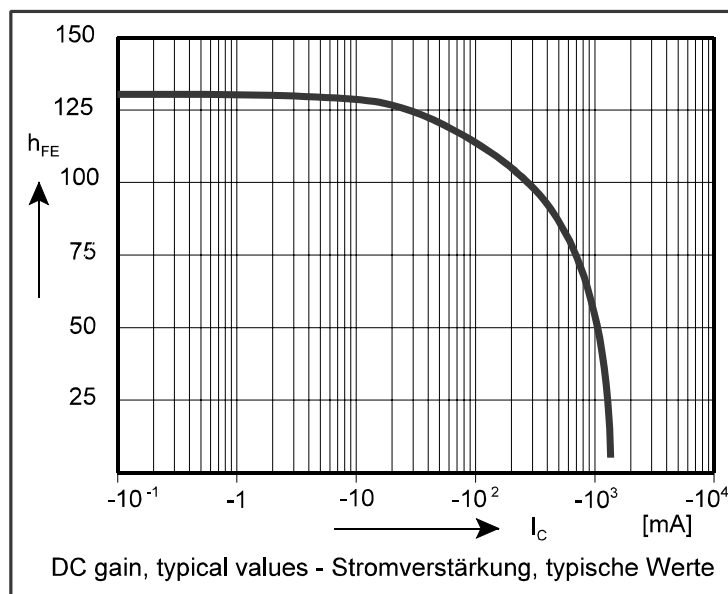
		Min.	Typ.	Max.	
DC current gain – Kollektor-Basis-Stromverhältnis ¹⁾					
$V_{CE} = 2\text{ V}, I_C = 150\text{ mA}$	BCP 5x-6	h_{FE}	40	–	100
	BCP 5x-10	h_{FE}	63	–	160
	BCP 5x-16	h_{FE}	100	–	250
$V_{CE} = 2\text{ V}, I_C = 5\text{ mA}$	BCP 54...	h_{FE}	63	–	–
$V_{CE} = 2\text{ V}, I_C = 500\text{ mA}$	BCP56	h_{FE}	40	–	–
Base-Emitter voltage – Basis-Emitter-Spannung ¹⁾					
$V_{CE} = 2\text{ V}, I_C = 500\text{ mA}$		V_{BEon}	–	–	1 V
Gain-Bandwidth Product – Transitfrequenz					
$V_{CE} = 5\text{ V}, I_C = 10\text{ mA}, f = 100\text{ MHz}$		f_T	–	130 MHz	–
DC current gain ratio of the complement. pairs Verhältnis der Stromverst. complement. Paare		h_{FE1}/h_{FE2}	–	–	1.6

Thermal resistance – Wärmewiderstand

junction to ambient air – Sperrschicht zu umgebender Luft	R_{thA}	95 K/W ²⁾
junction to soldering point – Sperrschicht zu Lötpad	R_{thS}	14 K/W

Recommended complementary PNP transistors
Empfohlene komplementäre PNP-Transistoren

BCP 51, BCP 52, BCP 53



¹⁾ Tested with pulses $t_p = 300\ \mu\text{s}$, duty cycle $\leq 2\%$ – Gemessen mit Impulsen $t_p = 300\ \mu\text{s}$, Schaltverhältnis $\leq 2\%$
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