

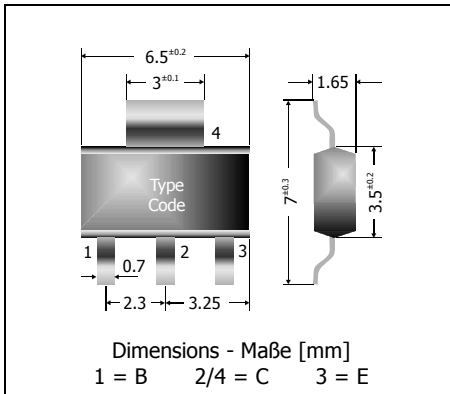
BCP54 ... BCP56

NPN

Surface Mount General Purpose Si-Epi-Planar Transistors
Si-Epi-Planar Universaltransistoren für die Oberflächenmontage

NPN

Version 2006-06-26



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 ($T_A = 25^\circ\text{C}$)Grenzwerte ($T_A = 25^\circ\text{C}$)

			BCP54	BCP55	BCP56
Collector-Emitter-volt. – Kollektor-Emitter-Spannung	B open	V_{CEO}	45 V	60 V	80 V
Collector-Base-voltage – Kollektor-Basis-Spannung	E open	V_{CBO}	45 V	60 V	100 V
Emitter-Base-voltage – Emitter-Basis-Spannung	C open	V_{EBO}	5 V		
Power dissipation – Verlustleistung		P_{tot}	1.3 W ¹⁾		
Collector current – Kollektorstrom (dc)		I_C	1 A		
Peak Collector current – Kollektor-Spitzenstrom		I_{CM}	1.5 A		
Peak Base current – Basis-Spitzenstrom		I_{BM}	200 mA		
Junction temperature – Sperrschichttemperatur		T_j	-55...+150°C		
Storage temperature – Lagerungstemperatur		T_s	-55...+150°C		

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

			Min.	Typ.	Max.
DC current gain – Kollektor-Basis-Stromverhältnis ²⁾					
$V_{CE} = 2\text{ V}, I_C = 5\text{ mA}$	all groups	h_{FE}	25		
$V_{CE} = 2\text{ V}, I_C = 150\text{ mA}$	Group -6	h_{FE}	40	–	100
	Group -10	h_{FE}	63	–	160
	Group -16	h_{FE}	100	–	250
$V_{CE} = 2\text{ V}, I_C = 500\text{ mA}$	all groups	h_{FE}	25	–	–
Collector-Emitter saturation voltage – Kollektor-Emitter-Sättigungssp. ²⁾					
$I_C = 500\text{ mA}, I_B = 50\text{ mA}$		V_{CEsat}	–	–	0.5 V
Base-Emitter voltage – Basis-Emitter-Spannung ²⁾					
$I_C = 500\text{ mA}, I_B = 50\text{ mA}$		V_{BE}	–	–	1 V

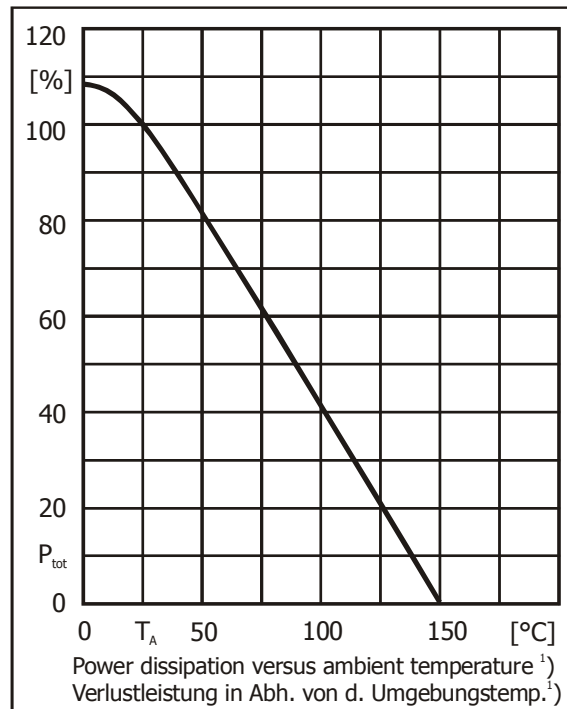
1 Mounted on P.C. board with 3 mm² copper pad at each terminal
Montage auf Leiterplatte mit 3 mm² Kupferbelag (Löt-pad) an jedem Anschluss

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

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

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

		Min.	Typ.	Max.
Collector-Base cutoff current – Kollektor-Basis-Reststrom				
$V_{CB} = 30\text{ V}$, (E open)	I_{CB0}	–	–	100 nA
$V_{CB} = 30\text{ V}$, $T_j = 125^\circ\text{C}$, (E open)	I_{CB0}	–	–	10 μA
Emitter-Base cutoff current – Emitter-Basis-Reststrom				
$V_{EB} = 5\text{ V}$, (C open)	I_{EB0}	–	–	100 nA
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 complementary pairs Verhältnis der Stromverstärkungen komplementärer Paare				
$ I_C = 150\text{ mA}$, $ V_{CE} = 2\text{ V}$	h_{FE1}/h_{FE2}	–	–	1.6
Thermal resistance junction to ambient air Wärmewiderstand Sperrschicht – umgebende Luft	R_{thA}	< 93 K/W ¹⁾		
Thermal resistance junction to soldering point Wärmewiderstand Sperrschicht – Lötpad	R_{thS}	< 27 K/W		
Recommended complementary PNP transistors Empfohlene komplementäre PNP-Transistoren		BCP51 ... BCP53		



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