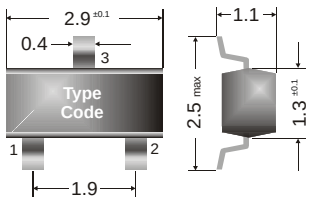
NPN **Surface mount Si-Epitaxial PlanarTransistors** **NPN**
Si-Epitaxial PlanarTransistoren für die Oberflächenmontage

Version 2004-01-20



Dimensions / Maße in mm
1 = B1 2 = E2 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˚C) **Grenzwerte (T_A = 25˚C)**

			BCV27	BCV47
Collector-Emitter-voltage	V_{BE} = 0	V_{CES}	30 V	60 V
Collector-Base-voltage	E open	V_{CB0}	40 V	80 V
Emitter-Base-voltage	C open	V_{EB0}	10 V	
Power dissipation – Verlustleistung		P_{tot}	250 mW [1])	
Collector current – Kollektorstrom (dc)		I_C	500 mA	
Peak Collector current – Kollektor-Spitzenstrom		I_{CM}	800 mA	
Base current – Basisstrom (dc)		I_B	100 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} = 30 V	BCV27	I_{CB0}	–	–	100 nA
I_E = 0, V_{CB} = 60 V	BCV47	I_{CB0}	–	–	100 nA
Emitter-Base cutoff current – Emitterreststrom					
I_C = 0, V_{EB} = 10 V		I_{EB0}	–	–	100 nA
Collector saturation volt. – Kollektor-Sättigungsspg. [2])					
I_C = 100 mA, I_B = 0.1 mA		V_{CEsat}	–	–	1 V

[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%

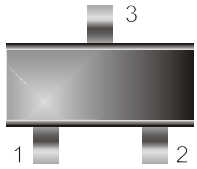
Characteristics (T_j = 25˚C) **Kennwerte (T_j = 25˚C)**

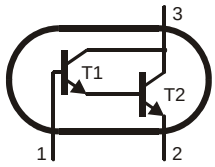
			Min.	Typ.	Max.
Base saturation voltage – Basis-Sättigungsspannung [1]					
I_C = 100 mA, I_B = 0.1 mA		V_{BEsat}	–	–	1.5 V
DC current gain – Kollektor-Basis-Stromverhältnis [1]					
V_{CE} = 5 V, I_C = 1 mA	BCV27	h_{FE}	4000	–	–
	BCV47	h_{FE}	2000	–	–
V_{CE} = 5 V, I_C = 10 mA	BCV27	h_{FE}	10000	–	–
	BCV47	h_{FE}	4000	–	–
V_{CE} = 5 V, I_C = 100 mA	BCV27	h_{FE}	20000	–	–
	BCV47	h_{FE}	10000	–	–
Base-Emitter voltage – Basis-Emitter-Spannung [1]					
V_{CE} = 5 V, I_C = 10 mA		$-V_{BEon}$	–	–	1.4 V
Gain-Bandwidth Product – Transitfrequenz					
V_{CE} = 5 V, I_C = 10 mA, f = 100 MHz		f_T	–	220 MHz	–

Thermal resistance junction to ambient air Wärmewiderstand Sperrschicht – umgebende Luft	R_{thA}	420 K/W [2]
Recommended complementary PNP transistors Empfohlene komplementäre PNP-Transistoren		BCV26, BCV46

Marking – Stempelung	BCV27 = FF	BCV47 = FG

Pinning – Anschlußbelegung





[1]) Tested with pulses t_p = 300 µs, duty cycle ≤ 2% – Gemessen mit Impulsen t_p = 300 µs, Schaltverhältnis ≤ 2%
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Montage auf Leiterplatte mit 3 mm² Kupferbelag (Lötpad) an jedem Anschluß