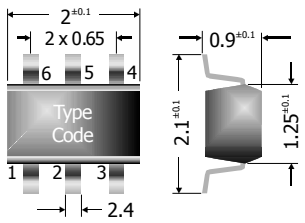
BC847PN

NPN PNP **Complementary Surface Mount General Purpose Si-Planar Transistors** **NPN PNP**
Komplementäre Si-Planar Transistoren für die Oberflächenmontage

Version 2006-09-05



Dimensions - Maße [mm]
6 = C1 5 = B2 4 = E2
1 = E1 2 = B1 3 = C2

Power dissipation Verlustleistung	300 mW
Plastic case Kunststoffgehäuse	SOT-363
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)**

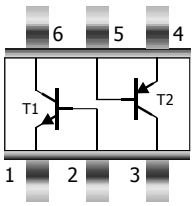
per transistor – pro Transistor			**BC847PN**
Collector-Emitter-volt. – Kollektor-Emitter-Spannung	B open	V_{CBO}	45 V
Collector-Base-voltage – Kollektor-Basis-Spannung	E open	V_{CEO}	50 V
Emitter-Base-voltage – Emitter-Basis-Spannung	C open	V_{EB0}	6 V
Power dissipation – Verlustleistung		P_{tot}	300 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 Storage temperature – Lagerungstemperatur		T_j T_S	-55...+150°C -55...+150°C

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

			Min.	**Typ.**	**Max.**
DC current gain – Kollektor-Basis-Stromverhältnis					
V_{CE} = 5 V, I_C = 2 mA	T1 - NPN	h_{FE}	200	–	450
- V_{CE} = 5 V, - I_C = 2 mA	T2 - PNP	h_{FE}	220	–	475
Collector-Emitter saturation voltage – Kollektor-Sättigungsspannung [2])					
I_C = 10 mA, I_B = 0.5 mA I_C = 100 mA, I_B = 5 mA	T1 - NPN	V_{CEsat} V_{CEsat}	– –	– –	250 mV 600 mV
- I_C = 10 mA, - I_B = 0.5 mA - I_C = 100 mA, - I_B = 5 mA	T2 - PNP	- V_{CEsat} - V_{CEsat}	– –	– –	300 mV 650 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°C) **Kennwerte (T_j = 25°C)**

			Min.	Typ.	Max.
Base-Emitter saturation voltage – Basis-Sättigungsspannung [2]					
I_C = 10 mA, I_B = 0.5 mA	T1 - NPN	V_{BEsat}	–	700 mV	–
I_C = 100 mA, I_B = 5 mA		V_{BEsat}	–	900 mV	–
- I_C = 10 mA, - I_B = 0.5 mA	T2 - PNP	- V_{BEsat}	–	700 mV	–
- I_C = 100 mA, - I_B = 5 mA		- V_{BEsat}	–	–	950 mV
Base-Emitter-voltage – Basis-Emitter-Spannung [2]					
I_C = 2 mA, V_{CE} = 5 V	T1 - NPN	V_{BE}	580 mV	–	700 mV
I_C = 10 mA, V_{CE} = 5 V		V_{BE}	–	–	720 mV
- I_C = 2 mA, - V_{CE} = 5 V	T2 - PNP	- V_{BE}	600 mV	–	750 mV
- I_C = 10 mA, - V_{CE} = 5 V		- V_{BE}	–	–	820 mV
Collector-Base cutoff current – Kollektor-Basis-Reststrom					
V_{CB} = 30 V, (E open)	T1 - NPN	I_{CB0}	–	–	15 nA
- V_{CB} = 30 V, (E open)	T2 - PNP	- I_{CB0}	–	–	15 nA
Emitter-Base cutoff current					
V_{EB} = 5 V, (C open)	T1 - NPN	I_{EB0}	–	–	100 nA
- V_{EB} = 5 V, (C open)	T2 - PNP	- I_{EB0}	–	–	100 nA
Gain-Bandwidth Product – Transitfrequenz					
V_{CE} = 5 V, I_C = 10 mA, f = 100 MHz	T1 - NPN	f_T	100 MHz	–	–
- V_{CE} = 5 V, - I_C = 10 mA, f = 100 MHz	T2 - PNP	f_T	100 MHz	–	–
Collector-Base Capacitance – Kollektor-Basis-Kapazität					
V_{CB} = 10 V, I_E = i_e = 0, f = 1 MHz	T1 - NPN	C_{CBO}	–	–	6 pF
- V_{CB} = 10 V, I_E = i_e = 0, f = 1 MHz	T2 - PNP	C_{CBO}	–	–	4.5 pF
Thermal resistance junction to ambient air Wärmewiderstand Sperrschicht – umgebende Luft		R_{thA}	< 420 K/W [1]		
Pinning – Anschlussbelegung T1: E1 = 1, C1 = 6, B1 = 2 T2: E2 = 4, C2 = 3, B2 = 5					

2 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

