

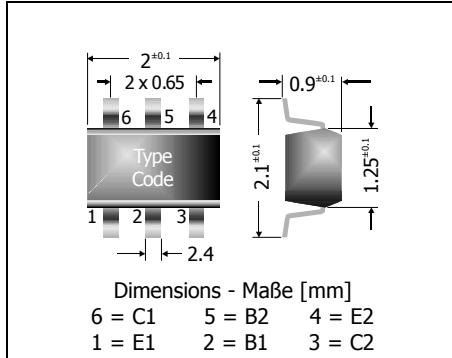
BC847PN

NPN
PNP

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

NPN
PNP

Version 2006-09-05



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 getupet 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 _{CE0}	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		T _j	-55...+150°C
Storage temperature – Lagerungstemperatur		T _s	-55...+150°C

Characteristics (T_j = 25°C)

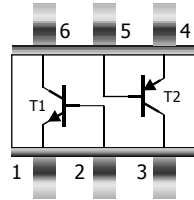
Kennwerte (T_j = 25°C)

			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	T1 - NPN	V _{CEsat}	–	–	250 mV
I _C = 100 mA, I _B = 5 mA		V _{CEsat}	–	–	600 mV
- I _C = 10 mA, - I _B = 0.5 mA	T2 - PNP	- V _{CEsat}	–	–	300 mV
- I _C = 100 mA, - I _B = 5 mA		- V _{CEsat}	–	–	650 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_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 _{CB0}	–	–	6 pF
- V _{CB} = 10 V, I _E = i _e = 0, f = 1 MHz	T2 - PNP	C _{CB0}	–	–	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%

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