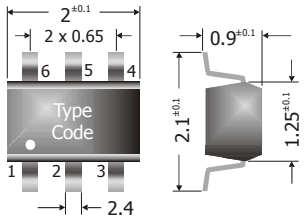
BC846S ... BC849S

NPN **Surface Mount General Purpose Si-Epi-Planar Double-Transistors**
Si-Epi-Planar Universal-Doppeltransistoren für die Oberflächenmontage **NPN**

Version 2015-02-23



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)

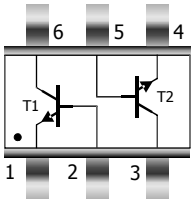
per transistor – pro Transistor			BC846S	BC847S	BC848S BC849S
Collector-Emitter-volt. – Kollektor-Emitter-Spannung	B open	V_{CBO}	65 V	45 V	30 V
Collector-Base-voltage – Kollektor-Basis-Spannung	E open	V_{CEO}	80 V	50 V	30 V
Emitter-Base-voltage – Emitter-Basis-Spannung	C open	V_{EB0}	6 V		5 V
Power 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		
Peak Emitter current – Emitter-Spitzenstrom		$-I_{EM}$	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)

per transistor – pro Transistor		Min.	Typ.	Max.
DC current gain – Kollektor-Basis-Stromverhältnis				
V_{CE} = 5 V, I_C = 10 µA	H_{FE}	–	90 ... 270	–
V_{CE} = 5 V, I_C = 2 mA	h_{FE}	110	–	800
h-Parameters at/bei V_{CE} = 5 V, I_C = 2 mA, f = 1 kHz				
Small signal current gain – Kleinsignal-Stromverstärkung	h_{fe}	–	220 ... 600	–
Input impedance – Eingangs-Impedanz	h_{ie}	1.6 kΩ	–	15 kΩ
Output admittance – Ausgangs-Leitwert	h_{oe}	18 µS	–	110 µS
Reverser voltage transfer ratio – Spannungsrückwirkung	h_{re}	–	1.5 ... $3*10^{-4}$	–

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

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

per transistor – pro Transistor		Min.	Typ.	Max.
Collector-Emitter saturation voltage – Kollektor-Sättigungsspannung [2]				
I_C = 10 mA, I_B = 0.5 mA	V_{CEsat}	–	90 mV	250 mV
I_C = 100 mA, I_B = 5 mA	V_{CEsat}	–	200 mV	650 mV
Base-Emitter saturation voltage – Basis-Sättigungsspannung [2]				
I_C = 10 mA, I_B = 0.5 mA	V_{BEsat}	–	700 mV	–
I_C = 100 mA, I_B = 5 mA	V_{BEsat}	–	900 mV	–
Base-Emitter-voltage – Basis-Emitter-Spannung [2]				
V_{CE} = 5 V, I_C = 2 mA	V_{BE}	580 mV	660 mV	700 mV
V_{CE} = 5 V, I_C = 10 mA	V_{BE}	–	–	770 mV
Collector-Base cutoff current – Kollektor-Basis-Reststrom				
V_{CB} = 30 V, (E open)	I_{CB0}	–	–	15 nA
V_{CE} = 30 V, T_j = 125°C, (E open)	I_{CB0}	–	–	5 µA
Emitter-Base cutoff current				
V_{EB} = 5 V, (C open)	I_{EB0}	–	–	100 nA
Gain-Bandwidth Product – Transitfrequenz				
V_{CE} = 5 V, I_C = 10 mA, f = 100 MHz	f_T	100 MHz	–	–
Collector-Base Capacitance – Kollektor-Basis-Kapazität				
V_{CB} = 10 V, I_E = i_e = 0, f = 1 MHz	C_{CBO}	–	2 pF	–
Emitter-Base Capacitance – Emitter-Basis-Kapazität				
V_{EB} = 0.5 V, I_C = i_c = 0, f = 1 MHz	C_{EB0}	–	9 pF	–
Thermal resistance junction to ambient air Wärmewiderstand Sperrschicht – umgebende Luft	R_{thA}	< 420 K/W [1]		
Recommended complementary PNP transistors Empfohlene komplementäre PNP-Transistoren		BC856S ... BC859S		
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

