BC846S--BC848S

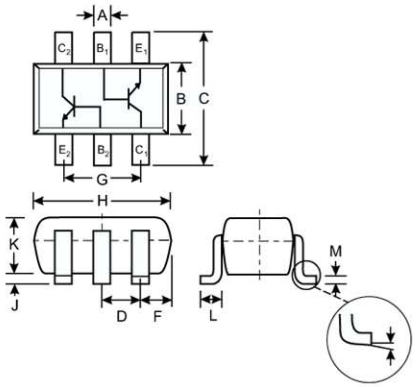
Power dissipation – 310 mW

Plastic case SOT-363

Weight approx. 0.01 g

Plastic material has UL classification 94V-0

Standard packaging taped and reeled



SOT-363		
Dim	Min	Max
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 Nominal	
F	0.30	0.40
H	1.80	2.20
J	—	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.25
α	°8	
All Dimensions in mm		

● Maximum ratings (T_A = 25˚C)

			BC846S	BC847S	BC848S
Collector-Emitter-voltage	B open	V_{CE0}	65 V	45 V	30 V
Collector-Base-voltage	E open	V_{CB0}	80 V	50 V	30 V
Emitter-Base-voltage	C open	V_{EB0}	6 V		5 V
Power dissipation		P_{tot}	310 mW [1])		
Collector current	(dc)	I_C	100 mA		
Peak Collector current		I_{CM}	200 mA		
Peak Base current		I_{BM}	200 mA		
Peak Emitter current		$-I_{EM}$	200 mA		
Junction temperature		T_j	150˚C		
Storage temperature		T_S	- 65…+ 150˚C		

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

DC current gain [2]		
V_{CE} = 5 V, I_C = 10 µA	h_{FE}	typ. 90 ... 270
V_{CE} = 5 V, I_C = 2 mA	h_{FE}	110 ... 800
h-Parameters at V_{CE} = 5V, I_C = 2 mA, f = 1 kHz		
Small signal current gain	h_{fe}	typ. 220 ... 600
Input impedance	h_{ie}	1.6 ... 15 kΩ
Output admittance	h_{oe}	18 ...110 µS
Reverse voltage transfer ratio	h_{re}	typ.1.5 ... 3 *10^{-4}

[1]) Mounted on P.C. board with 3 mm^2 copper pad at each terminal

[2]) Tested with pulses t_p = 300 µs, duty cycle ≤ 2%

Characteristics (T_j = 25°C)

		Min.	Typ.	Max.
Collector saturation volt.[1]				
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	600 mV
Base saturation voltage [1]				
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 [1]				
V_{CE} = 5 V, I_C = 2 mA	V_{BEon}	580 mV	660 mV	700 mV
V_{CE} = 5 V, I_C = 10 mA	V_{BEon}	–	–	770 mV
Collector-Base cutoff current				
I_E = 0, V_{CB} = 30 V	I_{CB0}	–	–	15 nA
I_E = 0, V_{CB} = 30 V, T_j = 150°C	I_{CB0}	–	–	5 µA
Emitter-Base cutoff current				
I_C = 0, V_{EB} = 5 V	I_{EB0}	–	–	100 nA
Gain-Bandwidth Product				
V_{CE} = 5 V, I_C = 10 mA, f = 100 MHz	f_T	100 MHz		–
Collector-Base Capacit.				
V_{CB} = 10 V, I_E = i_e = 0, f = 1 MHz	C_{CB0}	–	3.5 pF	6 pF
Emitter-Base Capacitance				
V_{EB} = 0.5 V, I_C = i_c = 0, f = 1 MHz	C_{EB0}	–	9 pF	–
Noise figure				
V_{CE} = 5 V, I_C = 200 µA R_G = 2 kΩ, f = 1 kHz, Δf = 200 Hz	F	–	2 dB	10 dB

Thermal resistance junction to ambient air	R_{thA}	420 K/W [2]
Recommended complementary PNP transistors		BC856S ... BC858S

Pinning