

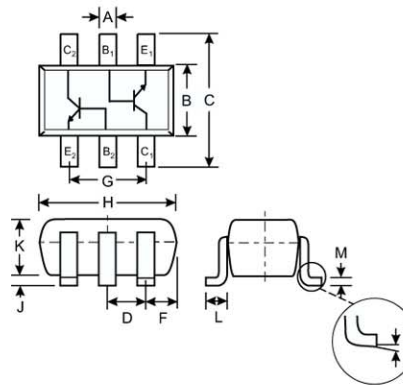
Power dissipation – 310 mW

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 ($T_A = 25^\circ\text{C}$)

			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 ($T_j = 25^\circ\text{C}$)

Kennwerte ($T_j = 25^\circ\text{C}$)

DC current gain ²⁾		
$V_{CE} = 5\text{ V}, I_C = 10\ \mu\text{A}$	h_{FE}	typ. 90 ... 270
$V_{CE} = 5\text{ V}, I_C = 2\text{ mA}$	h_{FE}	110 ... 800
h-Parameters at $V_{CE} = 5\text{ V}, I_C = 2\text{ mA}, f = 1\text{ kHz}$		
Small signal current gain	h_{fe}	typ. 220 ... 600
Input impedance	h_{ie}	1.6 ... 15 k Ω
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 mm² copper pad at each terminal

²⁾ Tested with pulses $t_p = 300\ \mu\text{s}$, duty cycle $\leq 2\%$

Characteristics ($T_j = 25^\circ\text{C}$)

	Min.	Typ.	Max.
Collector saturation volt. ¹⁾			
$I_C = 10\text{ mA}, I_B = 0.5\text{ mA}$	V_{CEsat}	90 mV	250 mV
$I_C = 100\text{ mA}, I_B = 5\text{ mA}$	V_{CEsat}	200 mV	600 mV
Base saturation voltage ¹⁾			
$I_C = 10\text{ mA}, I_B = 0.5\text{ mA}$	V_{BEsat}	700 mV	–
$I_C = 100\text{ mA}, I_B = 5\text{ mA}$	V_{BEsat}	900 mV	–
Base-Emitter voltage ¹⁾			
$V_{CE} = 5\text{ V}, I_C = 2\text{ mA}$	V_{BEon}	660 mV	700 mV
$V_{CE} = 5\text{ V}, I_C = 10\text{ mA}$	V_{BEon}	–	770 mV
Collector-Base cutoff current			
$I_E = 0, V_{CB} = 30\text{ V}$	I_{CB0}	–	15 nA
$I_E = 0, V_{CB} = 30\text{ V}, T_j = 150^\circ\text{C}$	I_{CB0}	–	5 μA
Emitter-Base cutoff current			
$I_C = 0, V_{EB} = 5\text{ V}$	I_{EB0}	–	100 nA
Gain-Bandwidth Product			
$V_{CE} = 5\text{ V}, I_C = 10\text{ mA}, f = 100\text{ MHz}$	f_T	100 MHz	–
Collector-Base Capacit.			
$V_{CB} = 10\text{ V}, I_E = i_e = 0, f = 1\text{ MHz}$	C_{CB0}	3.5 pF	6 pF
Emitter-Base Capacitance			
$V_{EB} = 0.5\text{ V}, I_C = i_c = 0, f = 1\text{ MHz}$	C_{EB0}	9 pF	–
Noise figure			
$V_{CE} = 5\text{ V}, I_C = 200\text{ }\mu\text{A}$	F	2 dB	10 dB
$R_G = 2\text{ k}\Omega, f = 1\text{ kHz}, \Delta f = 200\text{ Hz}$			

Thermal resistance junction to ambient air R_{thA} 420 K/W²⁾

Recommended complementary PNP transistors BC856S ... BC858S

Pinning

