



Power dissipation	300 mW
Plastic case	SOT-363
Weight approx.	0.01 g
Plastic material has UL classification 94V-0	
Standard packaging taped and reeled	

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

per transistor			BC856S	BC857S	BC858S BC859S
Collector-Emitter-volt.	B open	$-V_{CE0}$	65 V	45 V	30 V
Collector-Base-voltage	E open	$-V_{CE0}$	80 V	50 V	30 V
Emitter-Base-voltage		$-V_{EB0}$	5 V		
Power dissipation		P_{tot}	300 mW ¹⁾		
Collector current		$-I_C$	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	-55...+150°C		
Storage temperature		T_s	-55...+150°C		

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

per transistor – pro Transistor		Min.	Typ.	Max.
DC current gain –				
$-V_{CE} = 5\text{ V}, -I_C = 10\ \mu\text{A}$	h_{FE}	–	90 ... 270	–
$-V_{CE} = 5\text{ V}, -I_C = 2\text{ mA}$	h_{FE}	110	–	800
h-Parameters at/bei $-V_{CE} = 5\text{ V}, -I_C = 2\text{ mA}, f = 1\text{ kHz}$				
Small signal current gain	h_{fe}	–	220 ... 600	–
Input impedance	h_{ie}	1.6 k Ω	–	15 k Ω
Output admittance	h_{oe}	18 μS	–	110 μS
Reverser voltage transfer ratio	h_{re}	–	1.5 ... 3*10 ⁻⁴	–

¹ Mounted on P.C. board with 3 mm² copper pad at each terminal

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

per transistor	Min.	Typ.	Max.
Collector-Emitter saturation voltage - $I_C = 10\text{ mA}$, - $I_B = 0.5\text{ mA}$ - $I_C = 100\text{ mA}$, - $I_B = 5\text{ mA}$	- V_{CEsat} -	90 mV 200 mV	250 mV 600 mV
Base-Emitter saturation voltage - $I_C = 10\text{ mA}$, - $I_B = 0.5\text{ mA}$ - $I_C = 100\text{ mA}$, - $I_B = 5\text{ mA}$	- V_{BEsat} -	700 mV 900 mV	- -
Base-Emitter-voltage - $V_{CE} = 5\text{ V}$, - $I_C = 2\text{ mA}$ - $V_{CE} = 5\text{ V}$, - $I_C = 10\text{ mA}$	- V_{BE} -	600 mV -	750 mV 820 mV
Collector-Base cutoff current - $V_{CB} = 30\text{ V}$, (E open) - $V_{CE} = 30\text{ V}$, $T_j = 125^\circ\text{C}$, (E open)	- I_{CB0} -	- -	15 nA 5 μA
Emitter-Base cutoff current - $V_{EB} = 5\text{ V}$, (C open)	- 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 Capacitance - $V_{CB} = 10\text{ V}$, $I_E = i_e = 0$, $f = 1\text{ MHz}$	C_{CB0}	-	6 pF
Emitter-Base Capacitance - $V_{EB} = 0.5\text{ V}$, $I_C = i_c = 0$, $f = 1\text{ MHz}$	C_{EB0}	-	10 pF
Thermal resistance junction to ambient air	R_{thA}	< 420 K/W ¹⁾	
Recommended complementary NPN transistors	BC846S ... BC849S		
Pinning T1: E1 = 1, C1 = 6, B1 = 2 T2: E2 = 4, C2 = 3, B2 = 5			