

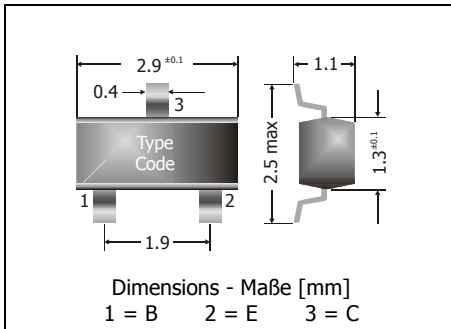
BC856 ... BC860

PNP

Surface Mount General Purpose Si-Epi-Planar Transistors
Si-Epi-Planar Universaltransistoren für die Oberflächenmontage

PNP

Version 2011-11-07



Power dissipation – Verlustleistung

250 mW

Plastic case
KunststoffgehäuseSOT-23
(TO-236)

Weight approx. – Gewicht ca.

0.01 g

Plastic material has UL classification 94V-0
Gehäusematerial UL94V-0 klassifiziertStandard packaging taped and reeled
Standard Lieferform getupet auf Rolle

Maximum ratings (T_A = 25°C)

Grenzwerte (T_A = 25°C)

		BC856	BC857 BC860	BC858 BC859	
Collector-Emitter-volt. – Kollektor-Emitter-Spannung	B open	- V _{CEO}	65 V	45 V	30 V
Collector-Base-voltage – Kollektor-Basis-Spannung	E open	- V _{CBO}	80 V	50 V	30 V
Emitter-Base-voltage – Emitter-Basis-Spannung	C open	- V _{EBO}	5 V		
Power dissipation – Verlustleistung		P _{tot}	250 mW ¹⁾		
Collector current – Kollektorstrom (dc)		- I _C	100 mA		
Peak Collector current – Kollektor-Spitzenstrom		- I _{CM}	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 = 10 μA	Group A	H _{FE}	–	90	–
	Group B	h _{FE}	–	150	–
	Group C	h _{FE}	–	270	–
- V _{CE} = 5 V, - I _C = 2 mA	Group A	H _{FE}	125	180	250
	Group B	h _{FE}	220	290	475
	Group C	h _{FE}	420	520	800
Collector-Emitter saturation voltage – Kollektor-Sättigungsspannung ²⁾					
I _C = 10 mA, I _B = 0.5 mA I _C = 100 mA, I _B = 5 mA	- V _{CEsat}	–	–	300 mV	
	- V _{CEsat}	–	–	650 mV	
Base-Emitter saturation voltage – Basis-Sättigungsspannung ²⁾					
I _C = 10 mA, I _B = 0.5 mA I _C = 100 mA, I _B = 5 mA	- V _{BEsat}	–	700 mV	–	
	- V _{BEsat}	–	900 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-voltage – Basis-Emitter-Spannung ²⁾				
- V _{CE} = 5 V, I _C = - 2 mA	- V _{BE}	600 mV	–	750 mV
- V _{CE} = 5 V, I _C = - 10 mA	- V _{BE}	–	–	720 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}	–	–	4 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 _{CB0}	–	–	4.5 pF
Emitter-Base Capacitance – Emitter-Basis-Kapazität				
- V _{EB} = 0.5 V, I _C = i _c = 0, f = 1 MHz	C _{EB0}	–	9 pF	–
Noise figure – Rauschzahl				
- V _{CE} = 5 V, - I _C = 200 µA	BC856 ... BC858	F	–	2 dB
R _G = 2 kΩ, f = 1 kHz, Δf = 200 Hz	BC859 ... BC860	F	–	1.2 dB
Thermal resistance junction to ambient air Wärmewiderstand Sperrschicht – umgebende Luft		R _{thA}	< 420 K/W ¹⁾	
Recommended complementary NPN transistors Empfohlene komplementäre NPN-Transistoren		BC846 ... BC850		
Marking of available current gain groups Stempelung der lieferbaren Stromverstärkungsgruppen	BC856A = 3A BC856B = 3B BC856C = 3C	BC857A = 3E BC857B = 3F BC857C = 3G BC860B = 3F BC860C = 3G or 4G	BC858A = 3E BC858B = 3F BC858C = 3G BC859B = 3F BC859C = 3G or 4C	

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