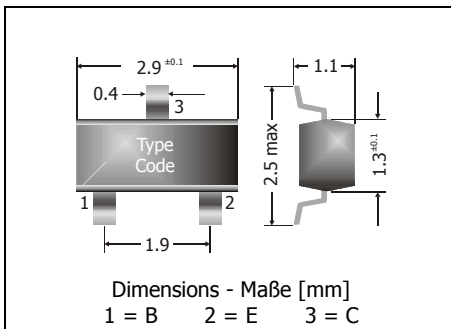


BC856 ... BC860**PNP**
Surface Mount General Purpose Si-Epi-Planar Transistors
Si-Epi-Planar Universaltransistoren für die Oberflächenmontage
PNP

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 gegurtet 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	- V _{CEsat}		–	–	300 mV
I _C = 100 mA, I _B = 5 mA	- V _{CEsat}		–	–	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	–

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

2 Tested with pulses t_p = 300 µs, duty cycle ≤ 2% – Gemessen mit Impulsen t_p = 300 µs, Schaltverhältnis ≤ 2%

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

			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 _{CBO}		–	–	15 nA
- V _{CE} = 30 V, T _j = 125°C, (E open)	- I _{CBO}		–	–	4 µA
Emitter-Base cutoff current					
- V _{EB} = 5 V, (C open)	- I _{EBO}		–	–	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}		–	–	4.5 pF
Emitter-Base Capacitance – Emitter-Basis-Kapazität					
- V _{EB} = 0.5 V, I _C = i _c = 0, f = 1 MHz	C _{EBO}		–	9 pF	–
Noise figure – Rauschzahl					
- V _{CE} = 5 V, - I _C = 200 µA	BC856 ... BC858	F	–	2 dB	10 dB
R _G = 2 kΩ, f = 1 kHz, Δf = 200 Hz	BC859 ... BC860	F	–	1.2 dB	4 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 $t_p = 300\text{ }\mu\text{s}$, duty cycle $\leq 2\%$ – Gemessen mit Impulsen $t_p = 300\text{ }\mu\text{s}$, Schaltverhältnis $\leq 2\%$

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