

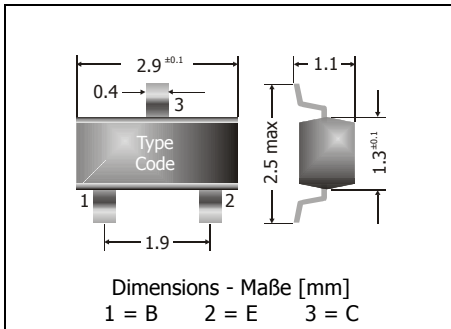
BC856 ... BC860

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 |
| | | 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 | | – | 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 | | – | 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 _{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 _{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 _{CBO} | – | – | 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