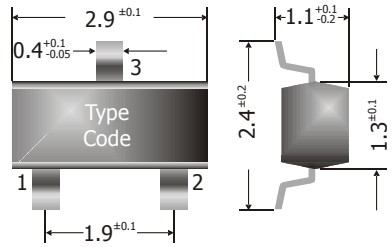
Diotec Semiconductor

BC807 / BC808

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

Version 2015-05-12



Dimensions - Maße [mm]
1 = B 2 = E 3 = C

Power dissipation – Verlustleistung	310 mW
Plastic case Kunststoffgehäuse	SOT-23 (TO-236)
Weight approx. – Gewicht ca.	0.01 g
Plastic material has UL classification 94V-0 Gehäusematerial UL94V-0 klassifiziert	
Standard packaging taped and reeled Standard Lieferform gegurtet auf Rolle	

Maximum ratings (T_A = 25°C) Grenzwerte (T_A = 25°C)

			BC807	BC808
Collector-Emitter-volt. – Kollektor-Emitter-Spannung	E-B short	$-V_{CES}$	50 V	30 V
Collector-Emitter-volt. – Kollektor-Emitter-Spannung	B open	$-V_{CEO}$	45 V	25 V
Emitter-Base-voltage – Emitter-Basis-Spannung	C open	$-V_{EBO}$	5 V	
Power dissipation – Verlustleistung		P_{tot}	310 mW [1])	
Collector current – Kollektorstrom (dc)		$-I_C$	800 mA	
Peak Collector current – Kollektor-Spitzenstrom		$-I_{CM}$	1 A	
Peak Emitter current – Emitter-Spitzenstrom		I_{EM}	1 A	
Peak Base current – Basis-Spitzenstrom		$-I_{BM}$	200 mA	
Junction temperature – Sperrschichttemperatur Storage temperature – Lagerungstemperatur		T_j T_S	-55...+150°C -55...+150°C	

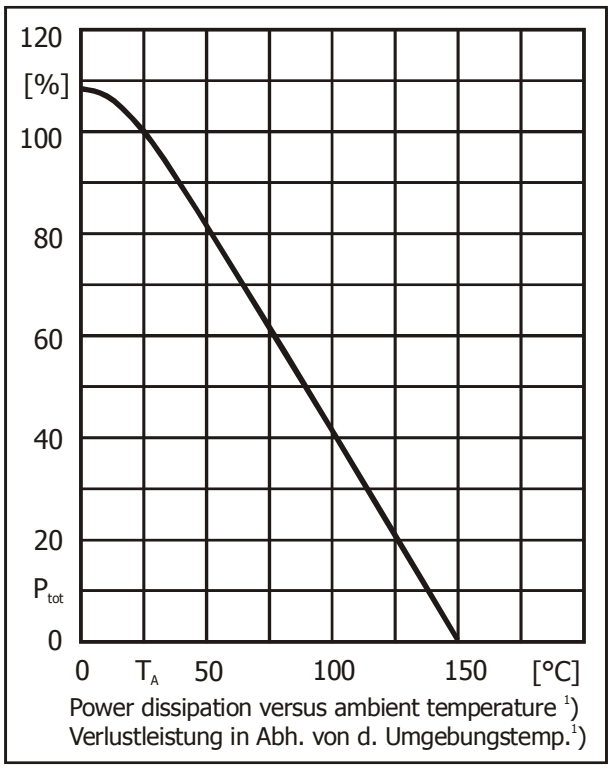
Characteristics (T_j = 25°C) Kennwerte (T_j = 25°C)

			Min.	Typ.	Max.
DC current gain – Kollektor-Basis-Stromverhältnis [2])					
$-V_{CE}$ = 1 V, $-I_C$ = 100 mA	Group -16	h_{FE}	100	–	250
	Group -25	h_{FE}	160	–	400
	Group -40	h_{FE}	250	–	630
$-V_{CE}$ = 1 V, $-I_C$ = 500 mA	all groups	h_{FE}	40	–	–
Collector-Emitter saturation voltage – Kollektor-Emitter-Sättigungsspg. [2])					
$-I_C$ = 500 mA, $-I_B$ = 50 mA		$-V_{CEsat}$	–	–	0.7 V
Base-Emitter saturation voltage – Basis-Emitter-Sättigungsspannung [2])					
$-I_C$ = 500 mA, $-I_B$ = 50 mA		$-V_{BEsat}$	–	–	1.3 V

1 Valid, if leads are kept at ambient temperature at a distance of 2 mm from case
Gültig wenn die Anschlussdrähte in 2 mm Abstand vom Gehäuse auf Umgebungstemperatur gehalten werden
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} = 1 V, - I_C = 500 mA	- V_{BE}	–	–	1.2 V
Collector-Base cutoff current – Kollektor-Basis-Reststrom				
- V_{CB} = 20 V, (E open)	- I_{CB0}	–	–	100 nA
- V_{CB} = 20 V, T_j = 125°C, (E open)	- I_{CB0}	–	–	5 µA
Emitter-Base cutoff current – Emitter-Basis-Reststrom				
- V_{EB} = 4 V, (C open)	- I_{EB0}	–	–	100 nA
Gain-Bandwidth Product – Transitfrequenz				
- V_{CE} = 5 V, - I_C = 10 mA, f = 50 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}	–	12 pF	–
Thermal resistance junction to ambient air Wärmewiderstand Sperrschicht – umgebende Luft	R_{thA}	< 420 K/W [1])		
Recommended complementary NPN transistors Empfohlene komplementäre NPN-Transistoren		BC817 / BC818		
Marking of available current gain groups per type Stempelung der lieferbaren Stromverstärkungsgruppen pro Typ		BC807-16 = 5A or 5CR BC807-25 = 5B or 5CS BC807-40 = 5C or 5CT	BC808-16 = 5E or 5CR BC808-25 = 5F or 5CS BC808-40 = 5G or 5CT	



Power dissipation versus ambient temperature [1])
Verlustleistung in Abh. von d. Umgebungstemp.[1])

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 (Lötpad) an jedem Anschluss

