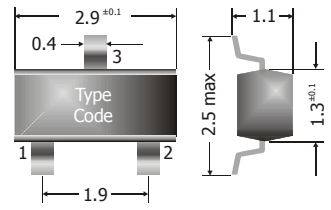
Diotec Semiconductor

BC817K / BC818K

NPN **Surface Mount Low Rth Si-Epi-Planar Transistors**
Si-Epi-Planar Low Rth Transistoren für die Oberflächenmontage **NPN**

Version 2011-10-26



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

Power dissipation – Verlustleistung	500 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)

			BC817K	BC818K
Collector-Base-volt. – Kollektor-Basis-Spannung	C open	V_{CBO}	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	$T_{sp} \le 115°C$	P_{tot}	500 mW	
Collector current – Kollektorstrom (dc)		I_C	500 mA	
Peak Collector current – Kollektor-Spitzenstrom		I_{CM}	1 A	
Base current – Basisstrom		I_B	100 mA	
Peak Base current – Basis-Spitzenstrom		I_{BM}	200 mA	
Junction temperature – Sperrschichttemperatur Storage temperature – Lagerungstemperatur		T_j T_S	+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}	–	–	1.2 V

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.
Collector-Base cutoff current – Kollektor-Basis-Reststrom V_{CB} = 25 V, (E open)	I_{CBO}	–	–	100 nA
Emitter-Base cutoff current – Emitter-Basis-Reststrom V_{EB} = 4 V, (C open)	I_{EBO}	–	–	100 nA
Transition Frequency – Transitfrequenz V_{CE} = 5 V, I_C = 50 mA, f = 100 MHz	f_T	–	170 MHz	–
Collector-Base Capacitance – Kollektor-Basis-Kapazität V_{CB} = 10 V, I_E = i_e = 0, f = 1 MHz	C_{CBO}	–	3 pF	–
Thermal resistance junction to soldering point Wärmewiderstand Sperrschicht – Lötpunkt	R_{thsp}	< 70 K/W		
Recommended complementary PNP transistors Empfohlene komplementäre PNP-Transistoren		BC807K / BC808K		
Marking of available current gain groups per type Stempelung der lieferbaren Stromverstärkungsgruppen pro Typ		BC817K-16 = 6A or 6CR BC817K-25 = 6B or 6CS BC817K-40 = 6C or 6CT		BC818K-16 = 6E or 6CR BC818K-25 = 6F or 6CS BC818K-40 = 6G or 6CT