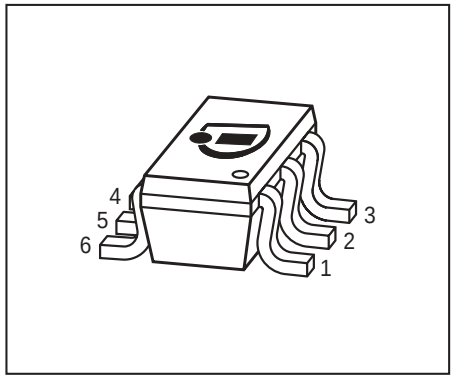
NPN Silicon AF Transistor

Preliminary data

- For general AF applications
- High collector current
- High current gain
- Low collector-emitter saturation voltage
- Pb-free (RoHS compliant) package[1)]
- Qualified according AEC Q101



Type	Marking	Pin Configuration						Package
BC817SU	-	1=E	2=C	3=C	4=C	5=C	6=B	SC74

Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-emitter voltage	V_{CEO}	45	V
Collector-base voltage	V_{CBO}	50	
Emitter-base voltage	V_{EBO}	5	
Collector current	I_C	500	mA
Peak collector current	I_{CM}	1	A
Base current	I_B	100	mA
Peak base current	I_{BM}	200	
Total power dissipation- $T_S \leq 100°C$	P_{tot}	1000	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point[2)]	R_{thJS}	≤ 50	K/W

[1]Pb-containing package may be available upon special request

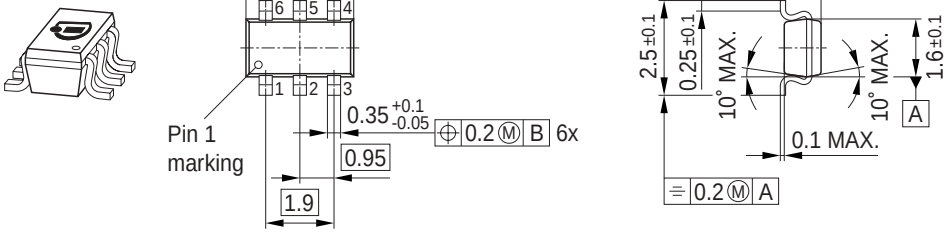
[2]For calculation of R_{thJA} please refer to Application Note Thermal Resistance

Electrical Characteristics at T_A = 25°C, unless otherwise specified

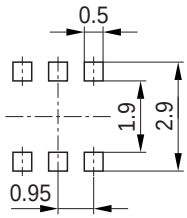
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Collector-emitter breakdown voltage I_C = 10 mA, I_B = 0	$V_{(BR)CEO}$	45	-	-	V
Collector-base breakdown voltage I_C = 10 µA, I_E = 0	$V_{(BR)CBO}$	50	-	-	
Emitter-base breakdown voltage I_E = 10 µA, I_C = 0	$V_{(BR)EBO}$	5	-	-	
Collector-base cutoff current V_{CB} = 25 V, I_E = 0 V_{CB} = 25 V, I_E = 0 , T_A = 150 °C	I_{CBO}	 - -	 - -	 0.1 50	µA
Emitter-base cutoff current V_{EB} = 4 V, I_C = 0	I_{EBO}	-	-	100	nA
DC current gain[1)] I_C = 100 mA, V_{CE} = 1 V I_C = 500 mA, V_{CE} = 1 V	h_{FE}	 160 40	 250 -	 400 -	-
Collector-emitter saturation voltage[1)] I_C = 500 mA, I_B = 50 mA	V_{CEsat}	-	-	0.4	V
Base emitter saturation voltage[1)] I_C = 500 mA, I_B = 50 mA	V_{BEsat}	-	-	1.2	
AC Characteristics					
Transition frequency I_C = 50 mA, V_{CE} = 5 V, f = 100 MHz	f_T	-	170	-	MHz
Collector-base capacitance f = 1 MHz, V_{BE} = 10 V	C_{cb}	-	3	-	pF
Emitter-base capacitance V_{EB} = 0.5 V, f = 1 MHz	C_{eb}	-	40	-	

[1]Pulse test: t < 300µs; D < 2%

Package Outline

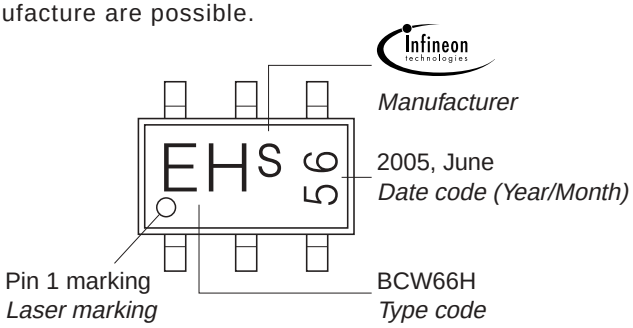


Foot Print



Marking Layout (Example)

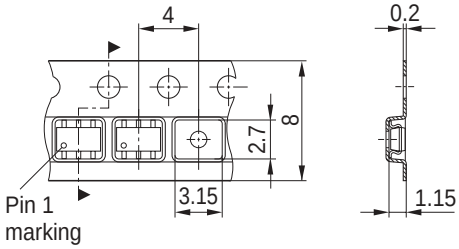
Small variations in positioning of
Date code, Type code and Manufacture are possible.



Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel

For symmetric types no defined Pin 1 orientation in reel.



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