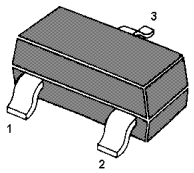
BC817 / BC818

NPN Silicon Epitaxial Planar Transistors

for switching, AF driver and amplifier application,

These transistors are subdivided into three groups -16, -25, -40 according to their current gain.

As complementary types, the PNP transistors BC807 and BC808 are recommended.



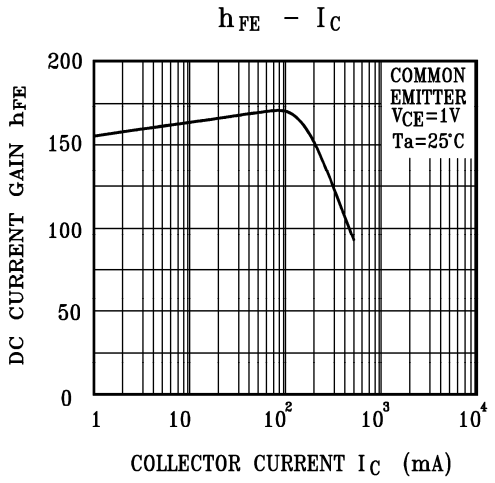
1. Base 2. Emitter 3. Collector
TO-236 Plastic Package

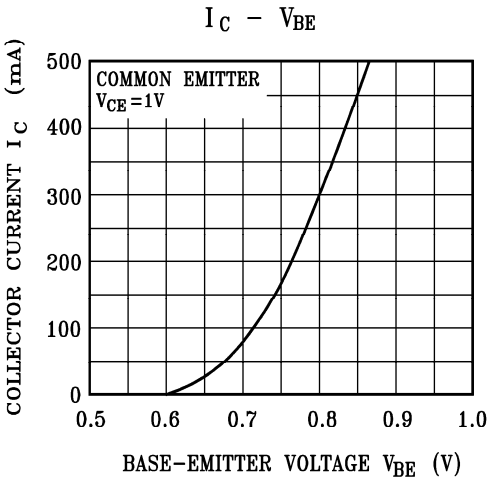
Absolute Maximum Ratings (T_a = 25 °C)

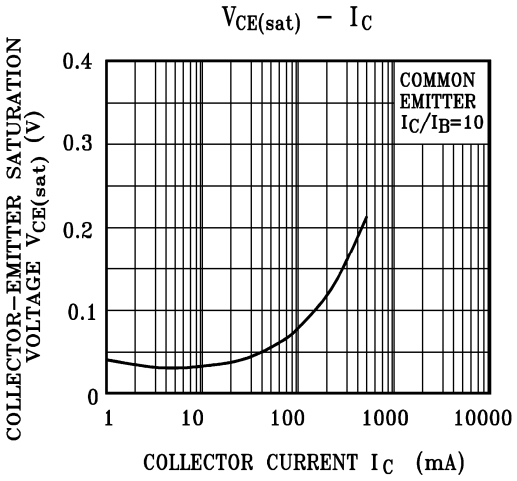
Parameter		Symbol	Value	Unit
Collector Base Voltage	BC817 BC818	V_{CBO}	50 30	V
Collector Emitter Voltage	BC817 BC818	V_{CEO}	45 25	V
Emitter Base Voltage		V_{EBO}	5	V
Collector Current		I_C	500	mA
Power Dissipation		P_{tot}	300	mW
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	- 55 to + 150	°C

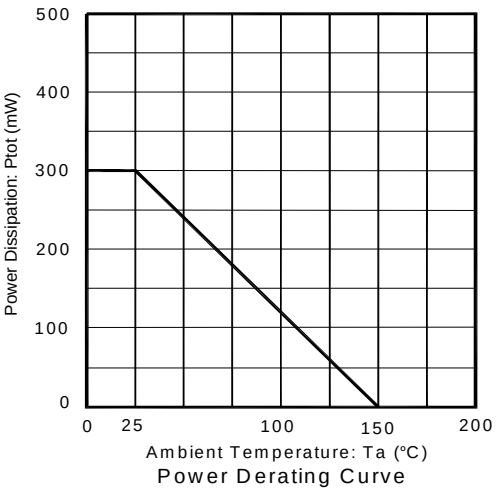
Electrical Characteristics at T_a = 25 °C

Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain						
at V_{CE} = 1 V, I_C = 100 mA	Current Gain Group -16	h_{FE}	100	-	250	-
	-25	h_{FE}	160	-	400	-
	-40	h_{FE}	250	-	600	-
at V_{CE} = 1 V, I_C = 500 mA		h_{FE}	40	-	-	-
Collector Base Cutoff Current at V_{CB} = 20 V		I_{CBO}	-	-	100	nA
Emitter Base Cutoff Current at V_{EB} = 5 V		I_{EBO}	-	-	100	nA
Collector Emitter Saturation Voltage at I_C = 500 mA, I_B = 50 mA		$V_{CE(sat)}$	-	-	0.7	V
Base Emitter Voltage at I_C = 500 mA, V_{CE} = 1 V		$V_{BE(on)}$	-	-	1.2	V
Transition Frequency at V_{CE} = 5 V, I_C = 10 mA, f = 50 MHz		f_T	100	-	-	MHz
Collector Base Capacitance at V_{CB} = 10 V, f = 1 MHz		C_{ob}	-	5	-	pF


h_{FE} – I_C
DC CURRENT GAIN h_{FE}
200
150
100
50
0
COMMON
EMITTER
V_{CE}=1V
Ta=25°C
1
10
10^2
10^3
10^4
COLLECTOR CURRENT I_C (mA)


I_C – V_{BE}
COLLECTOR CURRENT I_C (mA)
500
400
300
200
100
0
COMMON EMITTER
V_{CE}=1V
0.5
0.6
0.7
0.8
0.9
1.0
BASE-EMITTER VOLTAGE V_{BE} (V)


$V_{CE(sat)}$ – I_C
COLLECTOR-EMITTER SATURATION VOLTAGE $V_{CE(sat)}$ (V)
0.4
0.3
0.2
0.1
0
COMMON
EMITTER
I_C/I_B=10
1
10
100
1000
10000
COLLECTOR CURRENT I_C (mA)


Power Dissipation: Ptot (mW)
500
400
300
200
100
0
0
25
100
150
200
Ambient Temperature: Ta (°C)
Power Derating Curve