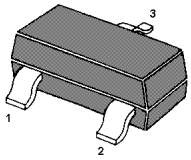
NPN Silicon Epitaxial Planar Transistors

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
SOT-23 Plastic Package

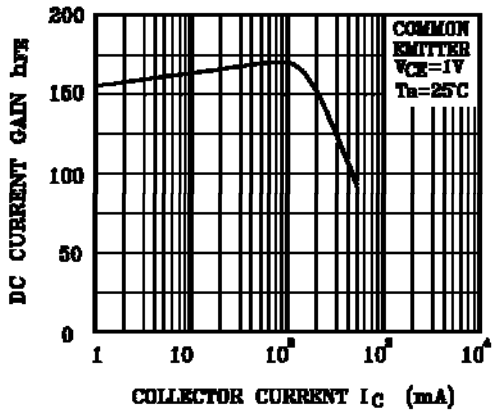
Absolute Maximum Ratings (T_a = 25 °C)

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}	200	mW
Thermal Resistance , Junction to Ambient		$R_{\theta JA}$	500	K/W
Junction Temperature		T_J	150	°C
Storage Temperature Range		T_s	- 55 to + 150	°C

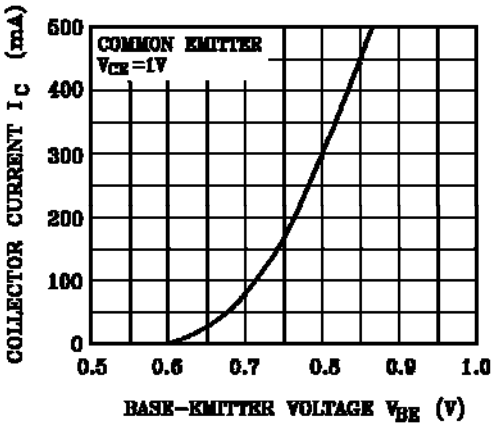
Electrical Characteristics at T_a = 25 °C

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 Saturation Voltage at I_C = 500 mA, I_B = 50 mA			V_{CEsat}	-	-	0.7	V
Base-Emitter Voltage at I_C = 500 mA, V_{CE} = 1 V			$V_{BE(on)}$	-	-	1.2	V
Gain -Bandwidth Product 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_{CBO}	-	5	-	pF

h_{FE} – I_C



I_C – V_{BE}



$V_{CE(sat)}$ – I_C