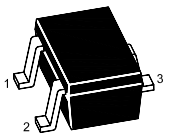
BC817W / BC818W

NPN Silicon Epitaxial Planar Transistors

for general purpose and switching applications

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



1.Base 2.Emitter 3.Collector
SOT-323 Plastic Package

Absolute Maximum Ratings (T_a = 25℃)

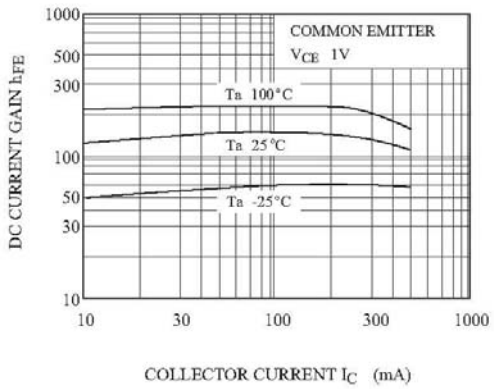
Parameter		Symbol	Value	Unit
Collector Base Voltage	BC817W BC818W	V_{CBO}	50 30	V
Collector Emitter Voltage	BC817W BC818W	V_{CEO}	45 25	V
Emitter Base Voltage		V_{EBO}	5	V
Collector Current		I_C	500	mA
Power Dissipation		P_{tot}	200	mW
Junction Temperature		T_J	150	℃
Storage Temperature Range		T_{stg}	-65 to +150	℃

[1] Transistor mounted on an FR4 printed-circuit board.

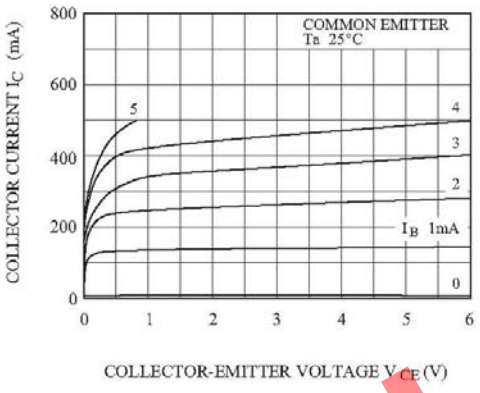
Characteristics at T_{amb} = 25℃

Parameter		Symbol	Min.	Max.	Unit
DC Current Gain at V_{CE} = 1 V, I_C = 100 mA at V_{CE} = 1 V, I_C = 500 mA	 -16W -25W -40W	 h_{FE} h_{FE} h_{FE} h_{FE}	 100 160 250 40	 250 400 600 -	 - - - -
Collector Cutoff Current at V_{CB} = 20 V		I_{CBO}	-	100	nA
Emitter Cutoff Current at V_{EB} = 5 V		I_{EBO}	-	100	nA
Collector Base Breakdown Voltage at I_C = 10 µA	BC817W BC818W	$V_{(BR)CBO}$	50 30	- -	V
Collector Emitter Breakdown Voltage at I_C = 10 mA	BC817W BC818W	$V_{(BR)CEO}$	45 25	- -	V
Emitter Base Breakdown Voltage at I_E= 10 µA		$V_{(BR)EBO}$	5	-	V
Collector Emitter 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}	-	1.2	V
Transition Frequency at V_{CE} = 5 V, I_C = 10 mA, f = 100 MHz		f_T	100	-	MHz
Collector Capacitance at V_{CB} = 10 V, f = 1 MHz		C_c	-	5	pF

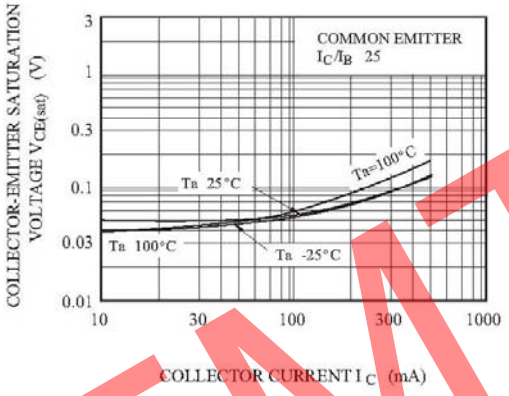
h_{FE} - I_C



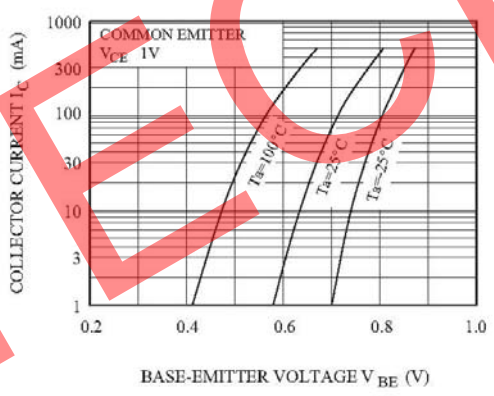
I_C - V_{CE} (LOW VOLTAGE REGION)



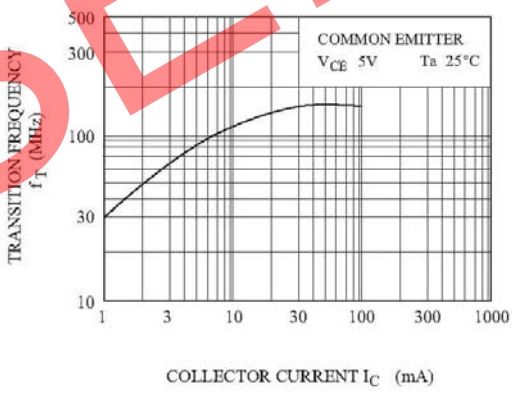
$V_{CE(sat)}$ - I_C



I_C - V_{BE}



f_T - I_C



P_C - Ta