NPN Silicon Epitaxial Planar Transistor

for switching and amplifier applications

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

1. Collector 2. Base 3. Emitter
TO-92 Plastic Package

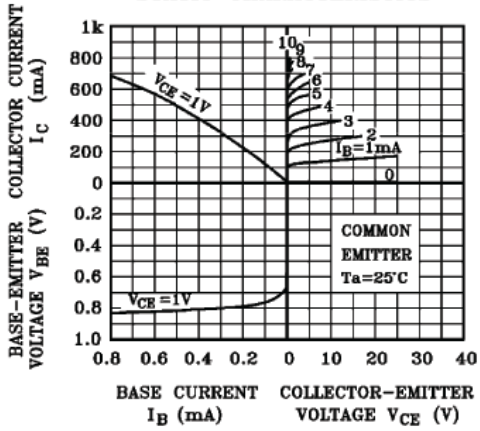
Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	BC337	BC338	Unit
Collector Base Voltage	V_{CBO}	50	30	V
Collector Emitter Voltage	V_{CEO}	45	25	V
Emitter Base Voltage	V_{EBO}	5		V
Collector Current	I_C	800		mA
Peak Collector Current	I_{CM}	1		A
Total Power Dissipation	P_{tot}	625		mW
Junction Temperature	T_j	150		°C
Storage Temperature Range	T_S	- 55 to + 150		°C

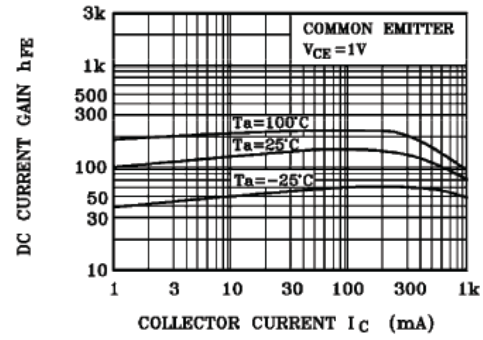
Characteristics at T_a = 25 °C

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	-	630	-
at V_{CE} = 1 V, I_C = 300 mA		-16	h_{FE}	60	-	-	-
		-25	h_{FE}	100	-	-	-
		-40	h_{FE}	170	-	-	-
Collector Base Cutoff Current							
at V_{CB} = 50 V		BC337	I_{CBO}	-	-	100	nA
at V_{CB} = 30 V		BC338		-	-	100	
Collector Base Breakdown Voltage		BC337	$V_{(BR)CBO}$	50	-	-	V
at I_C = 100 µA		BC338		30	-	-	
Collector Emitter Breakdown Voltage		BC337	$V_{(BR)CEO}$	45	-	-	V
at I_C = 2 mA		BC338		25	-	-	
Emitter Base Breakdown Voltage at I_E = 100 µA			$V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at I_C = 500 mA, I_B = 50 mA			$V_{CE(sat)}$	-	-	0.7	V
Base Emitter On Voltage at V_{CE} = 1 V, I_C = 300 mA			$V_{BE(on)}$	-	-	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}	-	12	-	pF

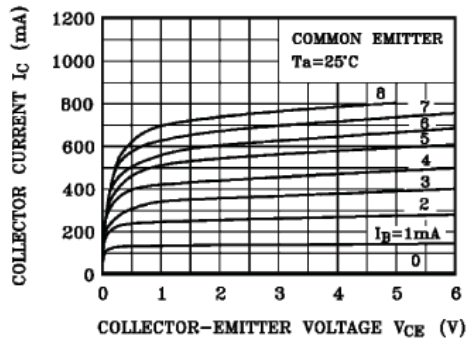
STATIC CHARACTERISTICS



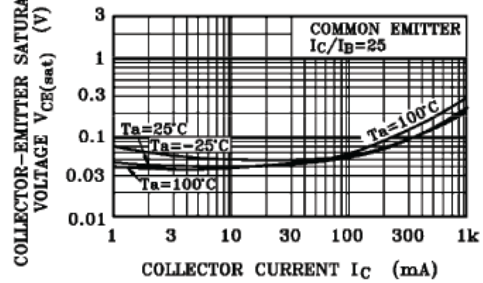
h_{FE} – I_C



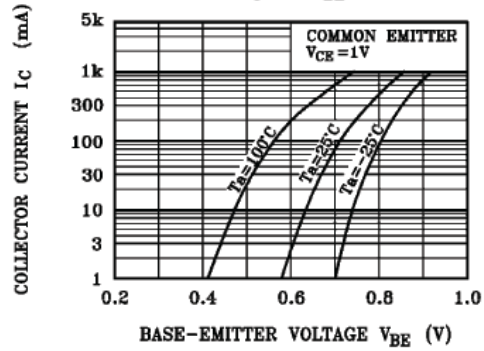
I_C–V_{CE} (LOW VOLTAGE REGION)



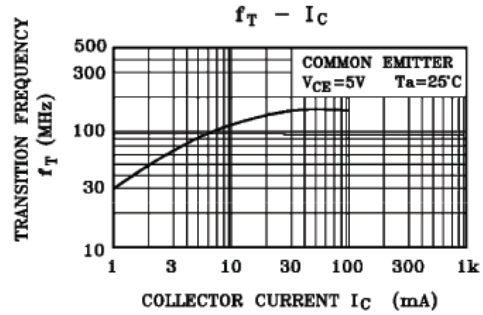
$V_{CE(sat)}$ – I_C



I_C – V_{BE}



f_T – I_C



P_C – Ta