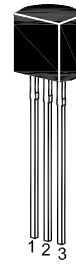


BC237...BC239

NPN Silicon Epitaxial Planar Transistor

for switching and amplifier applications

The transistor is subdivided into three groups, A, B, and C, according to its DC current gain.



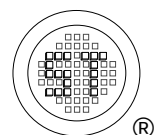
1. Collector 2. Base 3. Emitter
TO-92 Plastic Package

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	BC237	BC238	BC239	Unit
Collector Base Voltage	V _{CBO}	50	30	30	V
Collector Emitter Voltage	V _{CEO}	45	25	25	V
Emitter Base Voltage	V _{EBO}	6	5		V
Collector Current	I _C	100			mA
Total Power Dissipation	P _{tot}	500			mW
Junction Temperature	T _j	150			°C
Storage Temperature Range	T _{stg}	- 55 to + 150			°C

Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$, $I_C = 2\text{ mA}$ Current Gain Group A B C	h_{FE} h_{FE} h_{FE}	120 180 380	220 460 800	- - -
Collector Base Cutoff Current at $V_{CB} = 50\text{ V}$ at $V_{CB} = 30\text{ V}$ BC237 BC238, BC239	I_{CBO}	- -	15 15	nA
Collector Emitter Breakdown Voltage at $I_C = 2\text{ mA}$ BC237 BC238, BC239	$V_{(BR)CEO}$	45 25	- -	V
Emitter Base Breakdown Voltage at $I_E = 100\text{ }\mu\text{A}$ BC237 BC238, BC239	$V_{(BR)EBO}$	6 5	- -	V
Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}$, $I_B = 0.5\text{ mA}$ at $I_C = 100\text{ mA}$, $I_B = 5\text{ mA}$	$V_{CE(sat)}$	- -	0.2 0.6	V
Base Emitter Saturation Voltage at $I_C = 10\text{ mA}$, $I_B = 0.5\text{ mA}$ at $I_C = 100\text{ mA}$, $I_B = 5\text{ mA}$	$V_{BE(sat)}$	- -	0.83 1.05	V
Base Emitter On Voltage at $V_{CE} = 5\text{ V}$, $I_C = 2\text{ mA}$	$V_{BE(on)}$	0.55	0.7	V
Current Gain Bandwidth Product at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$, $f = 100\text{ MHz}$	f_T	150	-	MHz
Collector Base Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	4.5	pF



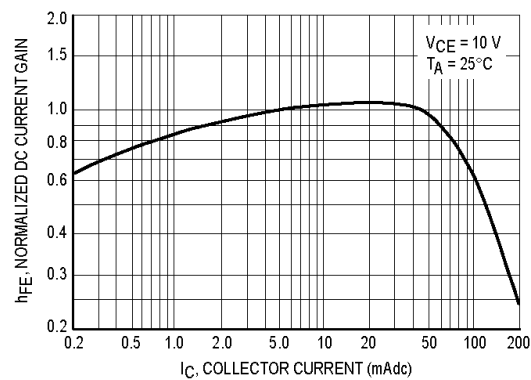


Figure 1. Normalized DC Current Gain

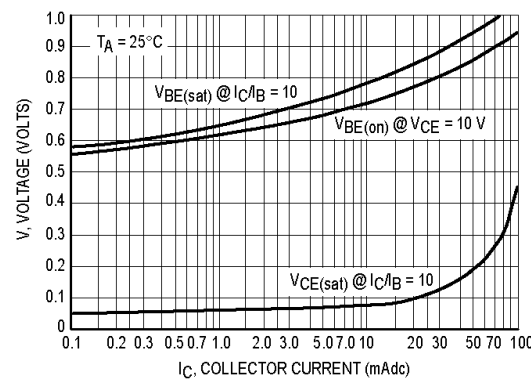


Figure 2. "Saturation" and "On" Voltages

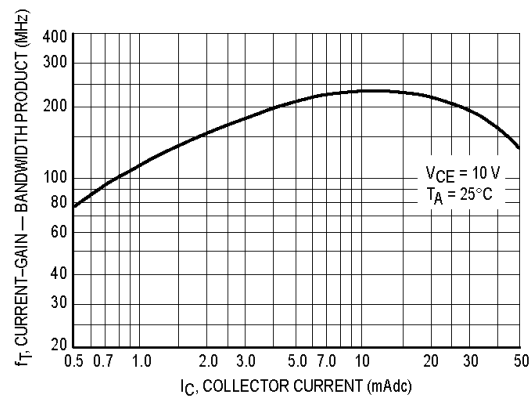


Figure 3. Current-Gain — Bandwidth Product

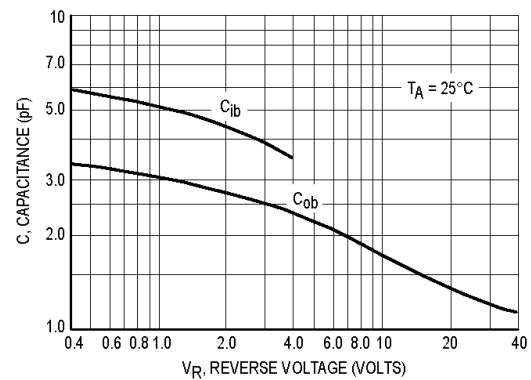


Figure 4. Capacitances

