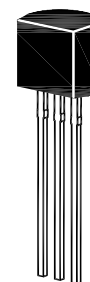


# BC237...BC239

## 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.



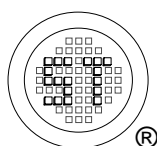
1. Collector 2. Base 3. Emitter  
TO-92 Plastic Package

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

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			$^\circ\text{C}$
Storage Temperature Range	$T_S$	- 55 to + 150			$^\circ\text{C}$

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

Parameter	Symbol	Min.	Max.	Unit	
DC Current Gain at $V_{CE} = 5\text{ V}$ , $I_C = 2\text{ mA}$ Current Gain Group	A	$h_{FE}$	120	220	-
	B	$h_{FE}$	180	460	-
	C	$h_{FE}$	380	800	-
Collector Base Cutoff Current at $V_{CB} = 50\text{ V}$ at $V_{CB} = 30\text{ V}$	BC237	$I_{CBO}$	-	15	nA
	BC238, BC239		-	15	
Collector Emitter Breakdown Voltage at $I_C = 2\text{ mA}$	BC237	$V_{(BR)CEO}$	45	-	V
	BC238, BC239		25	-	
Emitter Base Breakdown Voltage at $I_E = 100\text{ }\mu\text{A}$	BC237	$V_{(BR)EBO}$	6	-	V
	BC238, BC239		5	-	
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	V
			-	0.6	
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	V
			-	1.05	
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	



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ISO/TS 16949 : 2002 Certificate No. 05103  
ISO 14001:2004 Certificate No. 7116  
ISO 9001:2000 Certificate No. 050098

Dated : 27/12/2007

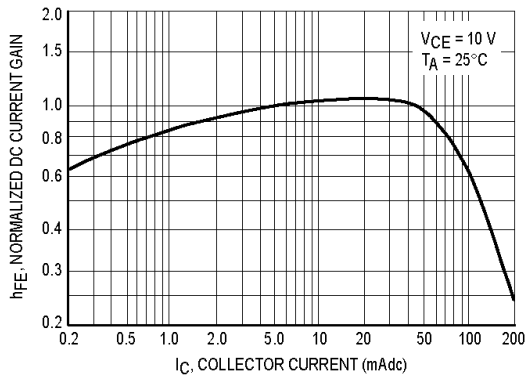


Figure 1. Normalized DC Current Gain

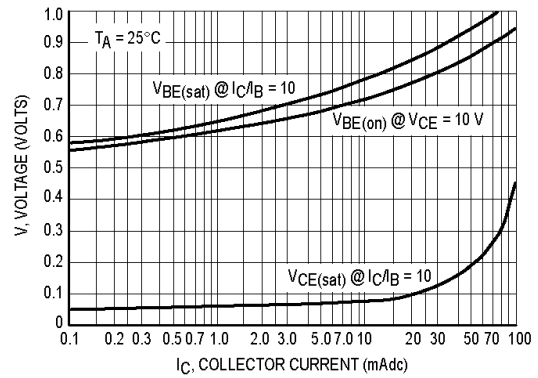


Figure 2. "Saturation" and "On" Voltages

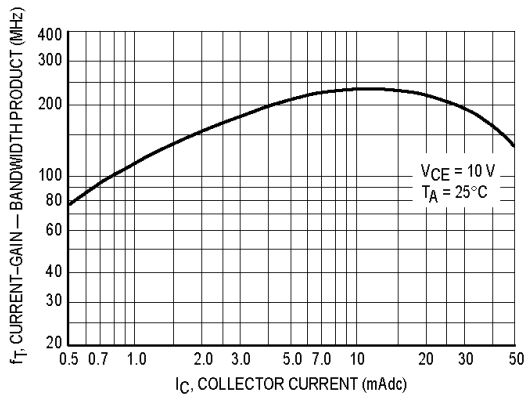


Figure 3. Current-Gain — Bandwidth Product

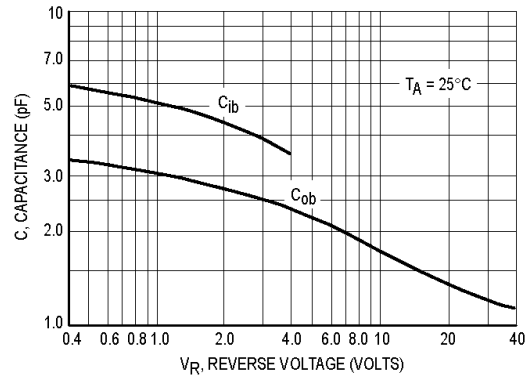
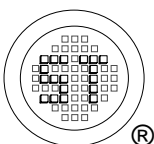


Figure 4. Capacitances



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