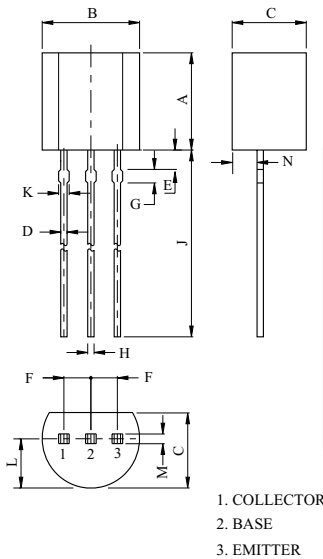
BC237/8/9

EPITAXIAL PLANAR NPN TRANSISTOR

GENERAL PURPOSE APPLICATION.
LOW NOISE AMPLIFIER APPLICATION.

FEATURES

- High Voltage : BC237 V_{CEO}=45V.
- Low Noise : BC239 NF=0.2dB(Typ.), 3dB(Max.)
  (V_{CE}=6V, I_C=0.1mA, f=1kHz).
- For Complementary With PNP type BC307/308/309.



DIM	MILLIMETERS
A	4.70 MAX
B	4.80 MAX
C	3.70 MAX
D	0.45
E	1.00
F	1.27
G	0.85
H	0.45
J	14.00±0.50
K	0.55 MAX
L	2.30
M	0.45 MAX
N	1.00

1. COLLECTOR
2. BASE
3. EMITTER

TO-92

MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	BC237	V_{CBO}	50	V
	BC238		30	
	BC239		30	
Collector-Emitter Voltage	BC237	V_{CEO}	45	V
	BC238		20	
	BC239		20	
Emitter-Base Voltage	BC237	V_{EBO}	5	V
	BC238		5	
	BC239		5	
Collector Current	BC237	I_C	100	mA
	BC238		100	
	BC239		50	
Emitter Current	BC237	I_E	-100	mA
	BC238		-50	
	BC239		-50	
Collector Power Dissipation		P_C	625	mW
Junction Temperature		T_j	150	℃
Storage Temperature Range		T_{stg}	-55 150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB}=50V, I_E=0	-	-	15	nA
DC Current Gain (Note)	BC237	h_{FE}	V_{CE}=5V, I_C=2mA	120	-	460	
	BC238			120	-	800	
	BC239			180	-	800	
Collector-Emitter Saturation Voltage	BC237	$V_{CE(sat)}$	I_C=100mA, I_B=5mA	-	-	0.6	V
	BC238			-	-	0.6	
	BC239		I_C=10mA, I_B=0.5mA	-	-	0.2	
Base-Emitter Saturation Voltage	BC237	$V_{BE(sat)}$	I_C=100mA, I_C=5mA	-	-	1.05	V
	BC238			-	-	1.05	
	BC239		I_C=10mA, I_B=0.5mA	-	-	0.83	
Base-Emitter Voltage		$V_{BE(ON)}$	V_{CE}=5V, I_C=2mA	0.55	-	0.7	V
Transition Frequency		f_T	V_{CE}=5V, I_C=10mA, f=100MHz	150	250	-	MHz
Collector Output Capacitance		C_{ob}	V_{CB}=10V, f=1MHz, I_E=0	-	-	4.5	pF
Noise Figure	BC237	NF	V_{CE}=6V, I_C=0.1mA R_g=10kΩ, f=1kHz	-	1.0	10	dB
	BC238			-	1.0	10	
	BC239			-	0.2	3.0	

NOTE : According to the Value of h_{FE} the BC237, BC238, BC239 are classified as follows.

CLASSIFICATION		A	B	C
h_{FE}	BC237	120 220	180 460	-
	BC238	120 220	180 460	380 800
	BC239	-	180 460	380 800