

BC237/238/239

NPN EPITAXIAL SILICON TRANSISTOR

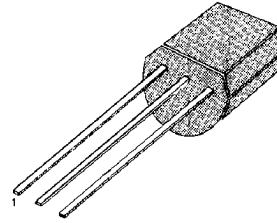
SWITCHING AND AMPLIFIER APPLICATIONS

- LOW NOISE: BC239

ABSOLUTE MAXIMUM RATINGS (T_A=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Emitter Voltage : BC237 : BC238/239	V _{CEs}	50 30	V V
Collector-Emitter Voltage : BC237 : BC238/239	V _{CEo}	45 25	V V
Emitter-Base Voltage : BC237 : BC238/239	V _{EBo}	6 5	V V
Collector Current (DC)	I _c	100	mA
Collector Dissipation	P _c	500	mW
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STg}	-55 ~ 150	°C

TO-92



1. Collector 2. Base 3. Emitter

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage : BC237 : BC238/239	BV _{CEo}	I _c =2mA, I _B =0	45 25			V V
Emitter Base Breakdown Voltage : BC237 : BC238/239	BV _{EBo}	I _E =1μA, I _c =0	6 5			V V
Collector Cut-off Current : BC237 : BC238/239	I _{CEs}	V _{CE} =50V, I _B =0 V _{CE} =30V, I _B =0		0.2 0.2	15 15	nA nA
DC Current Gain	h _{FE}	V _{CE} =5V, I _c =2mA	120		800	
Collector-Emitter Saturation Voltage	V _{CE} (sat)	I _c =10mA, I _B =0.5mA I _c =100mA, I _B =5mA		0.07 0.2	0.2 0.6	V V
Collector Base Saturation Voltage	V _{BE} (sat)	I _c =10mA, I _B =0.5mA I _c =100mA, I _B =5mA		0.73 0.87	0.83 1.05	V V
Base Emitter On Voltage	V _{BE} (on)	V _{CE} =5V, I _c =2mA	0.55	0.62	0.7	V
Current Gain Bandwidth Product	f _T	V _{CE} =3V, I _c =0.5mA V _{CE} =5V, I _c =10mA		85 250		MHz MHz
Collector Base Capacitance	C _{CB0}	V _{CB} =10V, f=1MHz		3.5	6	pF
Emitter Base Capacitance	C _{EB0}	V _{EB} =0.5V, f=1MHz		8		pF
Noise Figure : BC237/238 : BC239	NF	V _{CE} =5V, I _c =0.2mA, f=1KHz R _G =2kohm V _{CE} =5V, I _c =0.2mA R _G =2kohm, f=30~15KHz		2	10 4 4	dB dB dB

h_{FE} CLASSIFICATION

Classification	A	B	C
h _{FE}	120-220	180-460	380-800

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