

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

BC237, A, B
BC238, A, B, C
BC239, B, C

NPN SILICON TRANSISTOR

TO-92-18R CASE (CBE)

DESCRIPTION

The CENTRAL SEMICONDUCTOR BC237, BC238, BC239 series types are silicon NPN small signal transistors manufactured by the epitaxial planar process designed for general purpose amplifier applications.

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise noted)

	SYMBOL	BC237	BC238	BC239	UNIT
Collector-Base Voltage	V _{CB0}	50	30	30	V
Collector-Emitter Voltage	V _{CES}	50	30	30	V
Collector-Emitter Voltage	V _{CEO}	45	20	20	V
Emitter-Base Voltage	V _{EBO}	6.0	5.0	5.0	V
Collector Current	I _C		100		mA
Collector Current (PEAK)	I _{CM}		200		mA
Power Dissipation	P _D		300		mW
Operating and Storage Junction Temperature	T _J , T _{STG}		-65 TO +150		°C
Thermal Resistance	θ _{JA}		420		°C/W

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	BC237		BC238		BC239		UNIT
		MIN	MAX	MIN	MAX	MIN	MAX	
I _{CES}	V _{CE} =Rated V _{CES}		15		15		15	nA
I _{CES}	V _{CE} =Rated V _{CES} , T _A =125°C		4.0		4.0		4.0	μA
BV _{CEO}	I _C =2.0mA	45		20		20		V
BV _{EBO}	I _E =1.0μA	6.0		5.0		5.0		V
V _{CE} (SAT)	I _C =10mA, I _B =0.5mA		0.25		0.25		0.25	V
V _{CE} (SAT)	I _C =100mA, I _B =5.0mA		0.60		0.60		0.60	V
V _{BE} (SAT)	I _C =10mA, I _B =0.5mA		0.83		0.83		0.83	V
V _{BE} (SAT)	I _C =100mA, I _B =5.0mA		1.05		1.05		1.05	V
V _{BE} (ON)	V _{CE} =5.0V, I _C =2.0mA	0.55	0.70	0.55	0.70	0.55	0.70	V

		BC237		BC238		BC239		
		MIN	MAX	MIN	MAX	MIN	MAX	UNIT
h _{FE}	V _{CE} =5.0V, I _C =2.0mA (BC237A, BC238A)					120	220	
h _{FE}	V _{CE} =5.0V, I _C =2.0mA (BC237B, BC238B, BC239B)					180	460	
h _{FE}	V _{CE} =5.0V, I _C =2.0mA (BC238C, BC239C)					380	800	

		BC237		BC238		BC239		UNIT
		MIN	MAX	MIN	MAX	MIN	MAX	
f _T	V _{CE} =5.0V, I _C =10mA, f=100MHz	150		150		150		MHz
C _{ob}	V _{CB} =10V, I _E =0, f=1.0MHz		4.5		4.5		4.5	pF
C _{ib}	V _{EB} =0.5V, I _C =0, f=1.0MHz	8.0	TYP	8.0	TYP	8.0	TYP	pF
NF	V _{CE} =5.0V, I _C =0.2mA, R _{GK} =2.0kΩ, f=1.0kHz		10		10		10	dB

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

CONTACT US

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