Data Sheet

Central™
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 (TA=25°C unless otherwise noted)

	SYMBOL	BC237	BC238	BC239	UNIT
Collector-Base Voltage	V_{CBO}	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 (TA=25°C unless otherwise noted)

		BC237		BC238		BC239		
SYMBOL	TEST CONDITIONS	MIN	MAX	MIN	MAX	MIN	MAX	UNIT
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

		MIN	MAX
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		
		MIN	MAX	MIN	MAX	MIN	MAX	UNIT
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

Corporate Headquarters & Customer Support Team

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