2N4237
2N4238
2N4239

SILICON
NPN TRANSISTORS

TO-39 CASE

Central Semiconductor Corp.

www.centralsemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N4237, 2N4238, and 2N4239 are silicon NPN transistors mounted in a hermetically sealed metal case, designed for power amplifier, power driver, and switching power supply applications.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: (T_C=25°C unless otherwise noted)

	SYMBOL	2N4237	2N4238	2N4239	UNITS
Collector-Base Voltage	V_{CBO}	50	80	100	V
Collector-Emitter Voltage	V_{CEO}	40	60	80	V
Emitter-Base Voltage	V_{EBO}		6.0		V
Continuous Collector Current	I_C		3.0		A
Continuous Base Current	I_B		0.5		A
Power Dissipation	P_D		6.0		W
Operating and Storage Junction Temperature	T_J, T_{stg}		-65 to +200		°C
Thermal Resistance	Θ_{JC}		29.2		°C/W

ELECTRICAL CHARACTERISTICS: (T_C=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	V_{CB}=Rated V_{CBO}		100	μA
I_{CEV}	V_{CE}=45V, V_{EB}=1.5V (2N4237)		100	μA
I_{CEV}	V_{CE}=75V, V_{EB}=1.5V (2N4238)		100	μA
I_{CEV}	V_{CE}=90V, V_{EB}=1.5V (2N4239)		100	μA
I_{CEV}	V_{CE}=30V, V_{EB}=1.5V, T_C=150°C (2N4237)		1.0	mA
I_{CEV}	V_{CE}=50V, V_{EB}=1.5V, T_C=150°C (2N4238)		1.0	mA
I_{CEV}	V_{CE}=70V, V_{EB}=1.5V, T_C=150°C (2N4239)		1.0	mA
I_{CEO}	V_{CE}=Rated V_{CEO}		700	μA
I_{EBO}	V_{EB}=6.0V		500	μA
BV_{CEO}	I_C=100mA (2N4237)	40		V
BV_{CEO}	I_C=100mA (2N4238)	60		V
BV_{CEO}	I_C=100mA (2N4239)	80		V
$V_{CE(SAT)}$	I_C=500mA, I_B=50mA		0.3	V
$V_{CE(SAT)}$	I_C=1.0A, I_B=0.1A		0.6	V
$V_{BE(SAT)}$	I_C=1.0A, I_B=0.1A		1.5	V
$V_{BE(ON)}$	V_{CE}=1.0V, I_C=250mA		1.0	V

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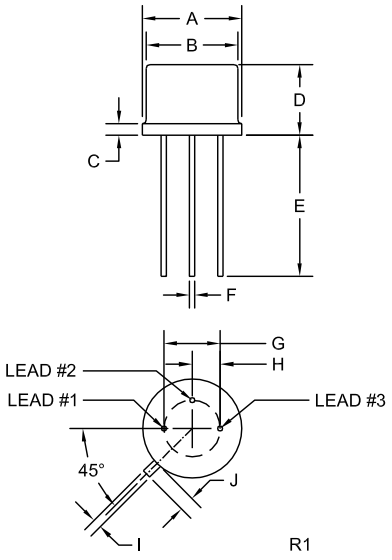
ELECTRICAL CHARACTERISTICS - Continued: (T_C=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	V_{CE}=1.0V, I_C=50mA	30		
h_{FE}	V_{CE}=1.0V, I_C=250mA	30	250	
h_{FE}	V_{CE}=1.0V, I_C=500mA	30		
h_{FE}	V_{CE}=1.0V, I_C=1.0A	15		
h_{fe}	V_{CE}=10V, I_C=100mA, f=1.0kHz	30		
f_T	V_{CE}=10V, I_C=100mA, f=1.0kHz	2.0		MHz
C_{ob}	V_{CB}=10V, I_E=0, f=100kHz		100	pF

TO-39 CASE - MECHANICAL OUTLINE



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A (DIA)	0.335	0.370	8.51	9.40
B (DIA)	0.315	0.335	8.00	8.51
C	-	0.040	-	1.02
D	0.240	0.260	6.10	6.60
E	0.500	-	12.70	-
F (DIA)	0.016	0.021	0.41	0.53
G (DIA)	0.200		5.08	
H	0.100		2.54	
I	0.028	0.034	0.71	0.86
J	0.029	0.045	0.74	1.14

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LEAD CODE:
1) Emitter
2) Base
3) Collector

MARKING: FULL PART NUMBER

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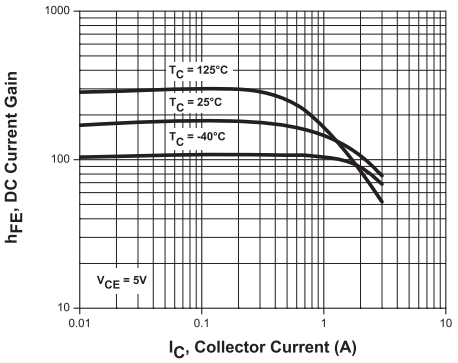
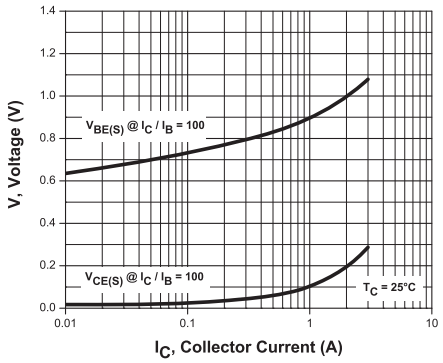
TYPICAL ELECTRICAL CHARACTERISTICS

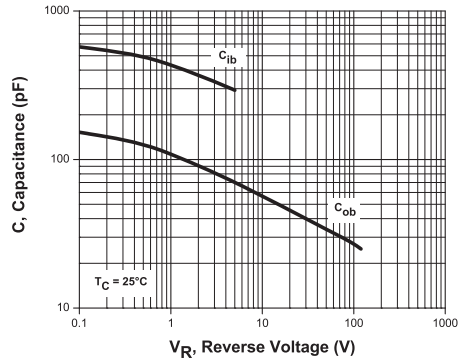
DC Current Gain



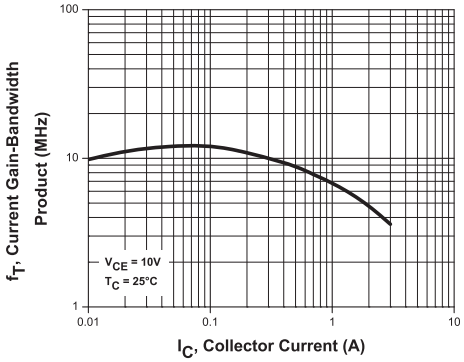
"ON" Voltage



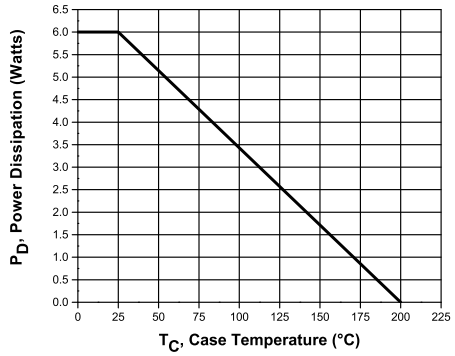
Capacitance



Current Gain-Bandwidth Product



Power Derating



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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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www.centralsemi.com/wwdistributors

http://www.centralsemi.com

Product End of Life Notification

PDN ID:	PDN01239
Notification Date:	7/29/22
Last Buy Date:	1/29/23
Last Shipment Date	7/29/23

Summary:The following NPN high current transistors in the TO-39 package are discontinued now classified as of End of Life (EOL).

Although Central Semiconductor Corp. makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by other manufacturers, it is an accepted industry practice to discontinue certain devices when customer demand falls below a minimum level of sustainability. Accordingly, the following product(s) have been transitioned to End of Life status as part of Central's ongoing Product Portfolio Management. Any replacement products are noted below. The effective date for placing last purchase orders will be six (6) months from the date of this notice and twelve (12) months from the notice date for final shipments, and minimum order quantities may apply. The last purchase and shipment dates may be extended if inventory is available.

*** All Plating types (PBFREE,TIN/LEAD) for each item listed are included in this notice.**

Central Part Number	Suggested Replacement
BFX34	N/A
BSX62-10	N/A
BSX63-10	N/A
2N3420	N/A
2N3421	N/A
2N3507	N/A
2N4237	N/A
2N4238	N/A
2N4239	N/A
2N4895	N/A
2N5784	N/A
2N5785	N/A

Central would be happy to assist you by providing additional information or technical data to help locate an alternate source if we have no replacement available. If you would like assistance, please visit https://my.centralsemi.com/submit-inquiry?type=ER to submit an online inquiry.