2N5109

SILICON
NPN RF TRANSISTOR

TO-39 CASE

Central Semiconductor Corp.

www.centralsemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N5109 is a silicon NPN epitaxial planar RF transistor mounted in a hermetically sealed package designed for high frequency amplifier applications.

MARKING: FULL PART NUMBER

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

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Continuous Collector Current	I_C	400	mA
Continuous Base Current	I_B	400	mA
Power Dissipation	P_D	1.0	W
Power Dissipation (T_C=75°C)	P_D	2.5	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +200	°C

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CEV}	V_{CE}=35V, V_{BE}=1.5V			5.0	mA
I_{CEV}	V_{CE}=15V, V_{BE}=1.5V, T_C=150°C			5.0	mA
I_{CEO}	V_{CE}=15V			20	μA
I_{EBO}	V_{EB}=3.0V			100	μA
BV_{CBO}	I_C=0.1mA	40			V
BV_{CER}	I_C=5.0mA, R_{BE}=10Ω	40			V
BV_{CEO}	I_C=5.0mA	20			V
$V_{CE(SAT)}$	I_C=100mA, I_B=10mA			0.5	V
h_{FE}	V_{CE}=15V, I_C=50mA	40		210	
h_{FE}	V_{CE}=5.0V, I_C=360mA	5.0			
f_T	V_{CE}=15V, I_C=50mA, f=200MHz	1200			MHz
C_{ob}	V_{CB}=15V, I_E=0, f=1.0MHz			3.5	pF
NF	V_{CE}=15V, I_C=10mA, f=200MHz		3.0		dB
G_{PE}	V_{CE}=15V, I_C=50mA, f=200MHz	11			dB

R5 (4-February 2016)

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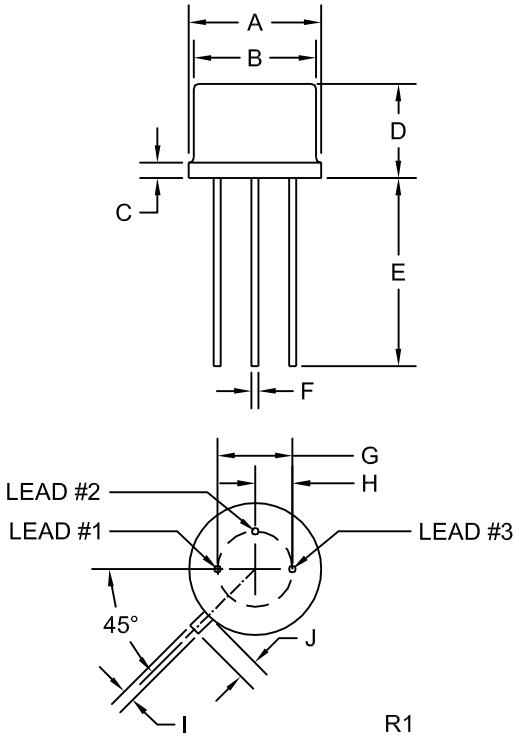
TO-39 CASE - MECHANICAL OUTLINE



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

TO-39 (REV: R1)

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

MARKING: FULL PART NUMBER

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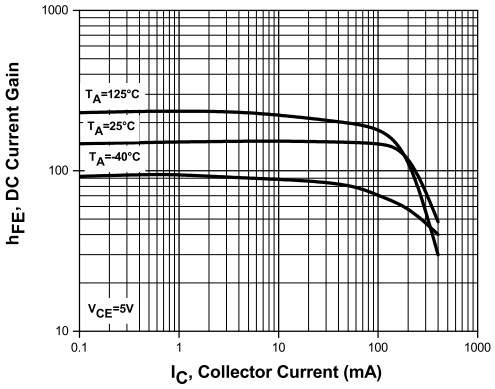
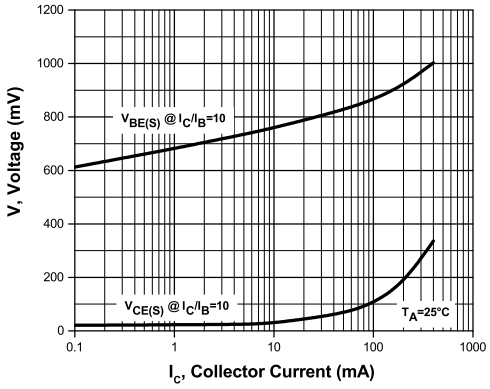
TYPICAL ELECTRICAL CHARACTERISTICS

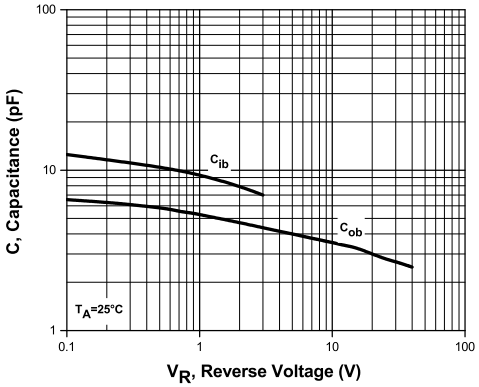
DC Current Gain



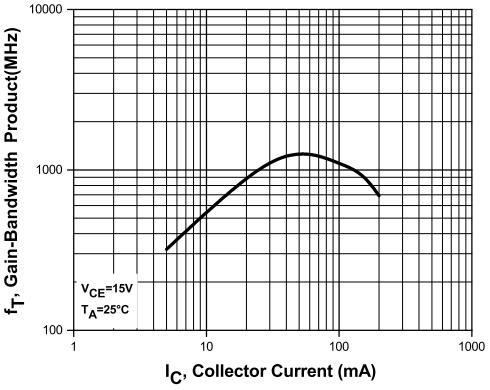
"ON" Voltage



Capacitance



Current Gain-Bandwidth Product



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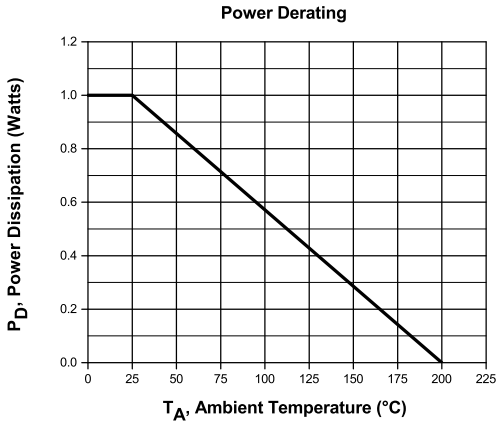
TYPICAL ELECTRICAL CHARACTERISTICS



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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