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)

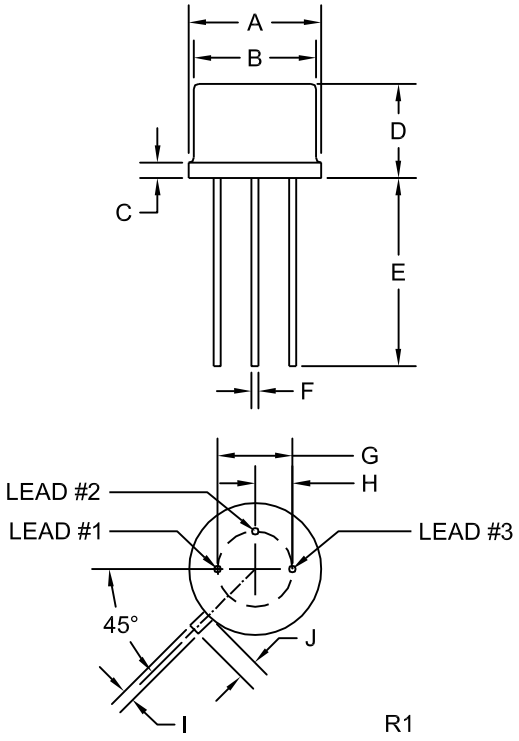
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CEV}	V_{CE}=35V, V_{BE}=1.5V			5.0	mA
I_{CEV}	V_{CE}=15V, V_{BE}=1.5V, T_C=150°C			5.0	mA
I_{CEO}	V_{CE}=15V			20	μA
I_{EBO}	V_{EB}=3.0V			100	μA
BV_{CBO}	I_C=0.1mA	40			V
BV_{CER}	I_C=5.0mA, R_{BE}=10Ω	40			V
BV_{CEO}	I_C=5.0mA	20			V
$V_{CE(SAT)}$	I_C=100mA, 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)

2N5109

SILICON
NPN RF TRANSISTOR

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

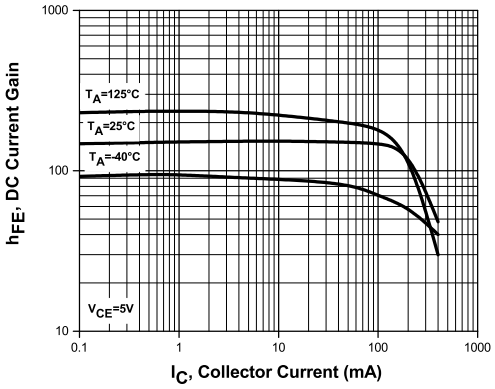
MARKING: FULL PART NUMBER

2N5109

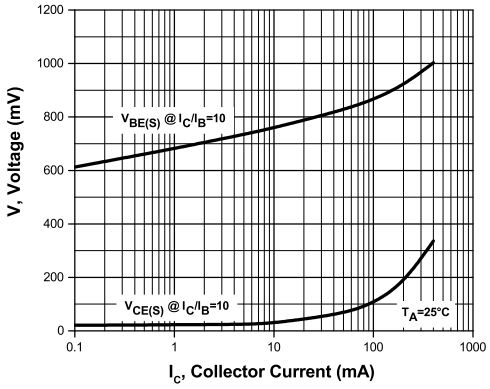
SILICON
NPN RF TRANSISTOR

TYPICAL ELECTRICAL CHARACTERISTICS

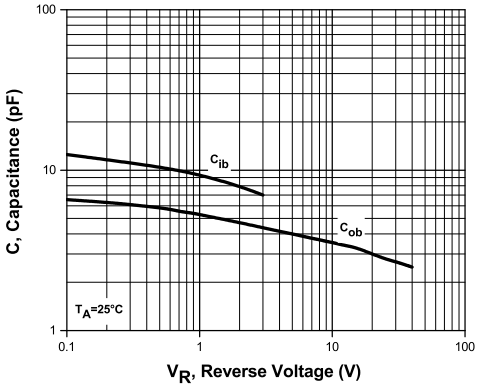
DC Current Gain



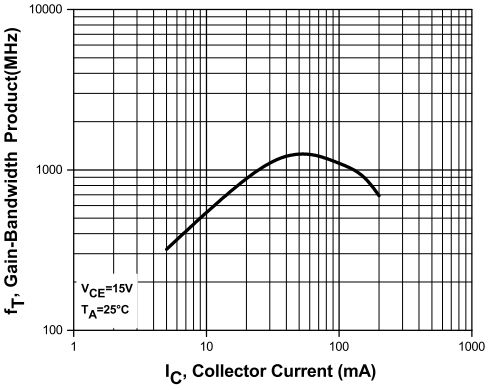
"ON" Voltage



Capacitance



Current Gain-Bandwidth Product

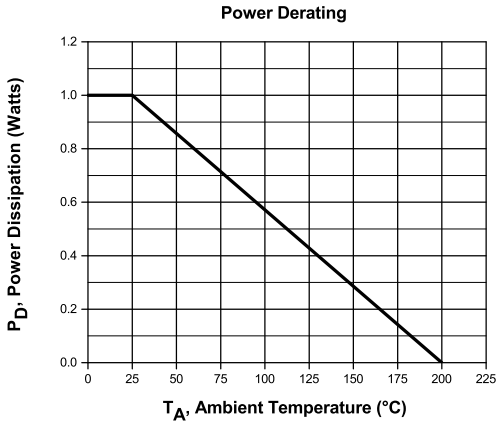


R5 (4-February 2016)

2N5109

SILICON
NPN RF TRANSISTOR

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

Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.
145 Adams Avenue
Hauppauge, NY 11788 USA
Main Tel: (631) 435-1110
Main Fax: (631) 435-1824
Support Team Fax: (631) 435-3388
www.centralsemi.com

Worldwide Field Representatives:
www.centralsemi.com/wwreps

Worldwide Distributors:
www.centralsemi.com/wwdistributors

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Central Semiconductor:

2N5109