

2N3707 2N3710  
2N3708 2N3711  
2N3709

**SILICON  
NPN TRANSISTORS**



**TO-92 CASE**



[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N3707 series devices are silicon NPN transistors designed for low level, low noise (2N3707), low level, high gain (2N3708, 2N3709, 2N3710, 2N3711) applications. Recommended PNP complementary series is 2N4058 thru 2N4062.

**MARKING: FULL PART NUMBER**

**MAXIMUM RATINGS:** (T<sub>A</sub>=25°C)

Collector-Base Voltage	
Collector-Emitter Voltage	
Emitter-Base Voltage	
Continuous Collector Current	
Power Dissipation	
Operating and Storage Junction Temperature	

SYMBOL		UNITS
V <sub>CBO</sub>	30	V
V <sub>CEO</sub>	30	V
V <sub>EBO</sub>	6.0	V
I <sub>C</sub>	200	mA
P <sub>D</sub>	625	mW
T <sub>J</sub> , T <sub>stg</sub>	-65 to +150	°C

**ELECTRICAL CHARACTERISTICS:** (T<sub>A</sub>=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I <sub>CBO</sub>	V <sub>CB</sub> =20V		100	nA
I <sub>EBO</sub>	V <sub>EB</sub> =6.0V		100	nA
BV <sub>CEO</sub>	I <sub>C</sub> =1.0mA	30		V
V <sub>CE(SAT)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =0.5mA		1.0	V
V <sub>BE(ON)</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0mA	0.5	1.0	V
NF	V <sub>CE</sub> =5.0V, I <sub>C</sub> =100µA, R <sub>G</sub> =10KΩ, BW=15.7kHz (2N3707 only)		5.0	dB

SYMBOL	TEST CONDITIONS	2N3707		2N3708		2N3709		2N3710		2N3711	
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =100µA	100	400	-	-	-	-	-	-	-	-
h <sub>FE</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0mA	-	-	45	660	45	165	90	330	180	660
h <sub>fe</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =100µA, f=1.0kHz	100	550	-	-	-	-	-	-	-	-
h <sub>fe</sub>	V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0mA, f=1.0kHz	-	-	45	800	45	250	90	450	180	800

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 NPN TRANSISTORS



TO-92 CASE - MECHANICAL OUTLINE



R1

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.175	0.205	4.45	5.21
B	0.170	0.210	4.32	5.33
C	0.500	-	12.70	-
D	0.016	0.022	0.41	0.56
E	0.100		2.54	
F	0.050		1.27	
G	0.125	0.165	3.18	4.19
H	0.080	0.105	2.03	2.67
I	0.015		0.38	

TO-92 (REV: R1)

LEAD CODE:

- 1) Emitter
- 2) Collector
- 3) Base

MARKING:

FULL PART NUMBER

R1 (13-March 2014)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### 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

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### DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2<sup>nd</sup> 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

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### 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).

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### CONTACT US

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