

2N3707 2N3710
2N3708 2N3711
2N3709

**SILICON
NPN TRANSISTORS**



TO-92 CASE



www.centralemi.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: ($T_A=25^\circ\text{C}$)

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

SYMBOL

V_{CBO} 30
 V_{CEO} 30
 V_{EBO} 6.0
 I_C 200
 P_D 625
 T_J, T_{stg} -65 to +150

UNITS

V
V
V
mA
mW
 $^\circ\text{C}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

| SYMBOL | TEST CONDITIONS | MIN | MAX | UNITS |
|---------------|--|-----|-----|-------|
| I_{CBO} | $V_{CB}=20\text{V}$ | | 100 | nA |
| I_{EBO} | $V_{EB}=6.0\text{V}$ | | 100 | nA |
| BV_{CEO} | $I_C=1.0\text{mA}$ | 30 | | V |
| $V_{CE(SAT)}$ | $I_C=10\text{mA}, I_B=0.5\text{mA}$ | | 1.0 | V |
| $V_{BE(ON)}$ | $V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$ | 0.5 | 1.0 | V |
| NF | $V_{CE}=5.0\text{V}, I_C=100\mu\text{A}, R_G=10\text{K}\Omega$, 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_{FE} | $V_{CE}=5.0\text{V}, I_C=100\mu\text{A}$ | 100 | 400 | - | - | - | - | - | - | - | - |
| h_{FE} | $V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$ | - | - | 45 | 660 | 45 | 165 | 90 | 330 | 180 | 660 |
| h_{fe} | $V_{CE}=5.0\text{V}, I_C=100\mu\text{A}, f=1.0\text{kHz}$ | 100 | 550 | - | - | - | - | - | - | - | - |
| h_{fe} | $V_{CE}=5.0\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$ | - | - | 45 | 800 | 45 | 250 | 90 | 450 | 180 | 800 |

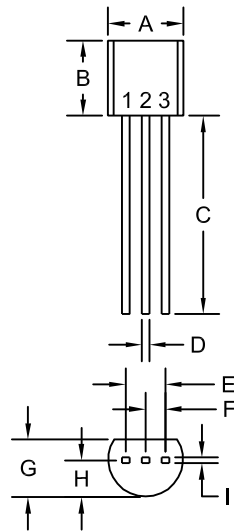
R1 (13-March 2014)

2N3707 2N3710
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TO-92 CASE - MECHANICAL OUTLINE



| DIMENSIONS | | | | |
|------------|--------|-------|-------------|------|
| 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



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

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