

## Excellent Integrated System Limited

Stocking Distributor

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[Central Semiconductor Corp](#)  
[PN4391 TRE](#)

For any questions, you can email us directly:

[sales@integrated-circuit.com](mailto:sales@integrated-circuit.com)

**PN4391  
PN4392  
PN4393**

**N-CHANNEL  
SILICON JFET**



**TO-92 CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR PN4391 series types are N-Channel silicon JFETs designed for analog switching and chopper applications.

**MARKING: FULL PART NUMBER**

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

Gate-Drain Voltage  
Gate-Source Voltage  
Gate Current  
Power Dissipation  
Operating and Storage Junction Temperature

**SYMBOL**

V<sub>GD</sub> 40  
V<sub>GS</sub> 40  
I<sub>G</sub> 50  
P<sub>D</sub> 625  
T<sub>J</sub>, T<sub>stg</sub> -65 to +150

**UNITS**

V  
V  
mA  
mW  
°C

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

| SYMBOL                | TEST CONDITIONS                                                    | PN4391 |     | PN4392 |     | PN4393 |     | UNITS |
|-----------------------|--------------------------------------------------------------------|--------|-----|--------|-----|--------|-----|-------|
|                       |                                                                    | MIN    | MAX | MIN    | MAX | MIN    | MAX |       |
| I <sub>GSS</sub>      | V <sub>GS</sub> =20V                                               | -      | 0.1 | -      | 0.1 | -      | 0.1 | nA    |
| I <sub>GSS</sub>      | V <sub>GS</sub> =20V, T <sub>A</sub> =100°C                        | -      | 0.2 | -      | 0.2 | -      | 0.2 | μA    |
| I <sub>DSS</sub>      | V <sub>DS</sub> =20V                                               | 50     | 150 | 25     | 75  | 5.0    | 30  | mA    |
| I <sub>D</sub> (OFF)  | V <sub>DS</sub> =20V, V <sub>GS</sub> =12V                         | -      | 0.1 | -      | -   | -      | -   | nA    |
| I <sub>D</sub> (OFF)  | V <sub>DS</sub> =20V, V <sub>GS</sub> =7.0V                        | -      | -   | -      | 0.1 | -      | -   | nA    |
| I <sub>D</sub> (OFF)  | V <sub>DS</sub> =20V, V <sub>GS</sub> =5.0V                        | -      | -   | -      | -   | -      | 0.1 | nA    |
| I <sub>D</sub> (OFF)  | V <sub>DS</sub> =20V, V <sub>GS</sub> =12V, T <sub>A</sub> =100°C  | -      | 0.2 | -      | -   | -      | -   | μA    |
| I <sub>D</sub> (OFF)  | V <sub>DS</sub> =20V, V <sub>GS</sub> =7.0V, T <sub>A</sub> =100°C | -      | -   | -      | 0.2 | -      | -   | μA    |
| I <sub>D</sub> (OFF)  | V <sub>DS</sub> =20V, V <sub>GS</sub> =5.0V, T <sub>A</sub> =100°C | -      | -   | -      | -   | -      | 0.2 | μA    |
| BV <sub>GSS</sub>     | I <sub>G</sub> =1.0μA                                              | 40     | -   | 40     | -   | 40     | -   | V     |
| V <sub>GS</sub> (OFF) | V <sub>DS</sub> =20V, I <sub>D</sub> =1.0nA                        | 4.0    | 10  | 2.0    | 5.0 | 0.5    | 3.0 | V     |
| V <sub>GS</sub> (f)   | V <sub>DS</sub> =0, I <sub>G</sub> =1.0mA                          | -      | 1.0 | -      | 1.0 | -      | 1.0 | V     |
| V <sub>DS</sub> (ON)  | I <sub>D</sub> =12mA                                               | -      | 0.4 | -      | -   | -      | -   | V     |
| V <sub>DS</sub> (ON)  | I <sub>D</sub> =6.0mA                                              | -      | -   | -      | 0.4 | -      | -   | V     |
| V <sub>DS</sub> (ON)  | I <sub>D</sub> =3.0mA                                              | -      | -   | -      | -   | -      | 0.4 | V     |
| r <sub>DS</sub> (ON)  | I <sub>D</sub> =1.0mA, V <sub>GS</sub> =0                          | -      | 30  | -      | 60  | -      | 100 | Ω     |
| r <sub>ds</sub> (on)  | V <sub>GS</sub> =0, I <sub>D</sub> =0, f=1.0kHz                    | -      | 30  | -      | 60  | -      | 100 | Ω     |
| C <sub>rss</sub>      | V <sub>GS</sub> =12V, V <sub>DS</sub> =0, f=1.0MHz                 | -      | 3.5 | -      | -   | -      | -   | pF    |
| C <sub>rss</sub>      | V <sub>GS</sub> =7.0V, V <sub>DS</sub> =0, f=1.0MHz                | -      | -   | -      | 3.5 | -      | -   | pF    |
| C <sub>rss</sub>      | V <sub>GS</sub> =5.0V, V <sub>DS</sub> =0, f=1.0MHz                | -      | -   | -      | -   | -      | 3.5 | pF    |
| C <sub>iss</sub>      | V <sub>DS</sub> =20V, V <sub>GS</sub> =0, f=1.0MHz                 | -      | 14  | -      | 14  | -      | 14  | pF    |

R1 (30-January 2012)

**PN4391  
PN4392  
PN4393**

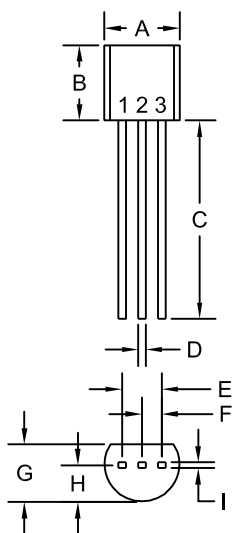
**N-CHANNEL  
SILICON JFET**



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

| SYMBOL           | TEST CONDITIONS                  | PN4391 |     | PN4392 |     | PN4393 |     | UNITS |
|------------------|----------------------------------|--------|-----|--------|-----|--------|-----|-------|
|                  |                                  | MIN    | MAX | MIN    | MAX | MIN    | MAX |       |
| $t_r$            | $I_D(\text{ON})=12\text{mA}$     | -      | 5.0 | -      | -   | -      | -   | ns    |
| $t_r$            | $I_D(\text{ON})=6.0\text{mA}$    | -      | -   | -      | 5.0 | -      | -   | ns    |
| $t_r$            | $I_D(\text{ON})=3.0\text{mA}$    | -      | -   | -      | -   | -      | 5.0 | ns    |
| $t_f$            | $V_{GS}(\text{OFF})=12\text{V}$  | -      | 15  | -      | -   | -      | -   | ns    |
| $t_f$            | $V_{GS}(\text{OFF})=7.0\text{V}$ | -      | -   | -      | 20  | -      | -   | ns    |
| $t_f$            | $V_{GS}(\text{OFF})=5.0\text{V}$ | -      | -   | -      | -   | -      | 30  | ns    |
| $t_{\text{on}}$  | $I_D(\text{ON})=12\text{mA}$     | -      | 15  | -      | -   | -      | -   | ns    |
| $t_{\text{on}}$  | $I_D(\text{ON})=6.0\text{mA}$    | -      | -   | -      | 15  | -      | -   | ns    |
| $t_{\text{on}}$  | $I_D(\text{ON})=3.0\text{mA}$    | -      | -   | -      | -   | -      | 15  | ns    |
| $t_{\text{off}}$ | $V_{GS}(\text{OFF})=12\text{V}$  | -      | 20  | -      | -   | -      | -   | ns    |
| $t_{\text{off}}$ | $V_{GS}(\text{OFF})=7.0\text{V}$ | -      | -   | -      | 35  | -      | -   | ns    |
| $t_{\text{off}}$ | $V_{GS}(\text{OFF})=5.0\text{V}$ | -      | -   | -      | -   | -      | 50  | ns    |

**TO-92 CASE - MECHANICAL OUTLINE**



R1

| SYMBOL  | DIMENSIONS |       |             |      |
|---------|------------|-------|-------------|------|
|         | 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) Drain
- 2) Source
- 3) Gate

**MARKING: FULL PART NUMBER**

R1 (30-January 2012)

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

#### Worldwide Field Representatives:

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