

2N4858  
2N4858A

N-CHANNEL  
SILICON JFET



TO-18 CASE



www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N4858 and 2N4858A are N-Channel silicon JFETs designed for analog switching and chopper applications.

**MARKING: FULL PART NUMBER**

**MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$ )

|  |  |
|--|--|
| Drain-Source Voltage                         |  |
| Drain-Gate Voltage                           |  |
| Reverse Gate-Source Voltage                  |  |
| Forward Gate Current                         |  |
| Power Dissipation ( $T_A=25^\circ\text{C}$ ) |  |
| Operating and Storage Junction Temperature   |  |

**SYMBOL**

|                |             |
|----------------|-------------|
| $V_{DS}$       | 40          |
| $V_{DG}$       | 40          |
| $V_{GSR}$      | 40          |
| $I_{GF}$       | 50          |
| $P_D$          | 360         |
| $T_J, T_{stg}$ | -65 to +200 |

**UNITS**

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

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

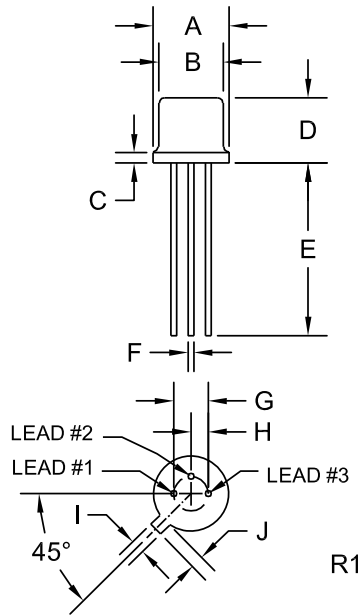
| SYMBOL        | TEST CONDITIONS  | MIN | MAX  | UNITS         |
|---------------|--|-----|------|---------------|
| $I_{GSS}$     | $V_{GS}=20\text{V}, V_{DS}=0$  |     | 0.25 | nA            |
| $I_{GSS}$     | $V_{GS}=20\text{V}, V_{DS}=0, T_A=150^\circ\text{C}$                     |     | 0.5  | $\mu\text{A}$ |
| $I_{DSS}$     | $V_{DS}=15\text{V}, V_{GS}=0$  | 8.0 | 80   | mA            |
| $I_{D(OFF)}$  | $V_{DS}=15\text{V}, V_{GS}=10\text{V}$                                   |     | 0.25 | nA            |
| $I_{D(OFF)}$  | $V_{DS}=15\text{V}, V_{GS}=10\text{V}, T_A=150^\circ\text{C}$            |     | 0.5  | $\mu\text{A}$ |
| $BV_{GSS}$    | $I_G=1.0\mu\text{A}, V_{DS}=0$   | 40  |      | V             |
| $V_{GS(OFF)}$ | $V_{DS}=15\text{V}, I_D=0.5\text{nA}$                                    | 0.8 | 4.0  | V             |
| $V_{DS(ON)}$  | $I_D=5.0\text{mA}, V_{GS}=0$   |     | 0.5  | V             |
| $r_{DS(ON)}$  | $V_{GS}=0, I_D=0, f=1.0\text{kHz}$                                       |     | 60   | $\Omega$      |
| $C_{rss}$     | $V_{GS}=10\text{V}, V_{DS}=0, f=1.0\text{MHz}$ (2N4858)                  |     | 8.0  | pF            |
| $C_{rss}$     | $V_{GS}=10\text{V}, V_{DS}=0, f=1.0\text{MHz}$ (2N4858A)                 |     | 3.5  | pF            |
| $C_{iss}$     | $V_{GS}=10\text{V}, V_{DS}=0, f=1.0\text{MHz}$ (2N4858)                  |     | 18   | pF            |
| $C_{iss}$     | $V_{GS}=10\text{V}, V_{DS}=0, f=1.0\text{MHz}$ (2N4858A)                 |     | 10   | pF            |
| $t_d$         | $V_{DD}=10\text{V}, V_{GS(OFF)}=4.0\text{V}, I_D=5.0\text{mA}$ (2N4858)  |     | 10   | ns            |
| $t_d$         | $V_{DD}=10\text{V}, V_{GS(OFF)}=4.0\text{V}, I_D=5.0\text{mA}$ (2N4858A) |     | 8.0  | ns            |
| $t_r$         | $V_{DD}=10\text{V}, V_{GS(OFF)}=4.0\text{V}, I_D=5.0\text{mA}$ (2N4858)  |     | 10   | ns            |
| $t_r$         | $V_{DD}=10\text{V}, V_{GS(OFF)}=4.0\text{V}, I_D=5.0\text{mA}$ (2N4858A) |     | 8.0  | ns            |
| $t_{off}$     | $V_{DD}=10\text{V}, V_{GS(OFF)}=4.0\text{V}, I_D=5.0\text{mA}$ (2N4858)  |     | 100  | ns            |
| $t_{off}$     | $V_{DD}=10\text{V}, V_{GS(OFF)}=4.0\text{V}, I_D=5.0\text{mA}$ (2N4858A) |     | 80   | ns            |

R0 (19-August 2010)

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TO-18 CASE - MECHANICAL OUTLINE



**LEAD CODE:**

- 1) Source
- 2) Drain
- 3) Gate

**MARKING: FULL PART NUMBER**

| SYMBOL  | DIMENSIONS |       |             |      |
|---------|------------|-------|-------------|------|
|         | INCHES     |       | MILLIMETERS |      |
|         | MIN        | MAX   | MIN         | MAX  |
| A (DIA) | 0.209      | 0.230 | 5.31        | 5.84 |
| B (DIA) | 0.178      | 0.195 | 4.52        | 4.95 |
| C       | -          | 0.030 | -           | 0.76 |
| D       | 0.170      | 0.210 | 4.32        | 5.33 |
| E       | 0.500      | -     | 12.70       | -    |
| F (DIA) | 0.016      | 0.019 | 0.41        | 0.48 |
| G (DIA) | 0.100      |       | 2.54        |      |
| H       | 0.050      |       | 1.27        |      |
| I       | 0.036      | 0.046 | 0.91        | 1.17 |
| J       | 0.028      | 0.048 | 0.71        | 1.22 |

TO-18 (REV: R1)

R0 (19-August 2010)

## 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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