

2N4856  
2N4856A

N-CHANNEL  
SILICON JFET



TO-18 CASE



www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N4856 and 2N4856A 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)

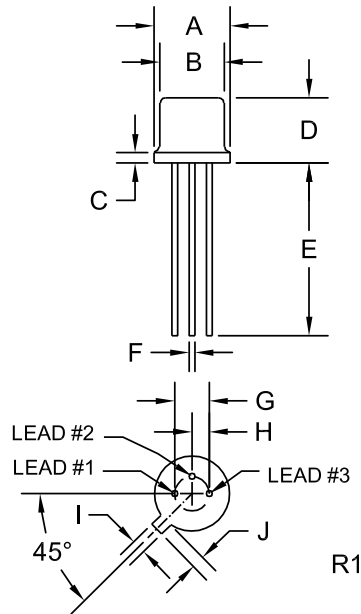
| SYMBOL        | TEST CONDITIONS  | MIN | MAX  | UNITS         |
|---------------|--|-----|------|---------------|
| $I_{GSS}$     | $V_{GS}=20\text{V}, V_{DS}=0$  |     | 0.25 | nA            |
| $I_{GSS}$     | $V_{GS}=20\text{V}, V_{DS}=0, T_A=150^\circ\text{C}$                   |     | 0.5  | $\mu\text{A}$ |
| $I_{DSS}$     | $V_{DS}=15\text{V}, V_{GS}=0$  | 50  |      | 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             |
| $V_{GS(OFF)}$ | $V_{DS}=15\text{V}, I_D=0.5\text{nA}$                                  | 4.0 | 10   | V             |
| $V_{DS(ON)}$  | $I_D=20\text{mA}, V_{GS}=0$  |     | 0.75 | V             |
| $r_{DS(ON)}$  | $V_{GS}=0, I_D=0, f=1.0\text{kHz}$                                     |     | 25   | $\Omega$      |
| $C_{rss}$     | $V_{GS}=10\text{V}, V_{DS}=0, f=1.0\text{MHz}$ (2N4856)                |     | 8.0  | pF            |
| $C_{rss}$     | $V_{GS}=10\text{V}, V_{DS}=0, f=1.0\text{MHz}$ (2N4856A)               |     | 4.0  | pF            |
| $C_{iss}$     | $V_{GS}=10\text{V}, V_{DS}=0, f=1.0\text{MHz}$ (2N4856)                |     | 18   | pF            |
| $C_{iss}$     | $V_{GS}=10\text{V}, V_{DS}=0, f=1.0\text{MHz}$ (2N4856A)               |     | 10   | pF            |
| $t_d$         | $V_{DD}=10\text{V}, V_{GS(OFF)}=10\text{V}, I_D=20\text{mA}$ (2N4856)  |     | 6.0  | ns            |
| $t_d$         | $V_{DD}=10\text{V}, V_{GS(OFF)}=10\text{V}, I_D=20\text{mA}$ (2N4856A) |     | 5.0  | ns            |
| $t_r$         | $V_{DD}=10\text{V}, V_{GS(OFF)}=10\text{V}, I_D=20\text{mA}$           |     | 3.0  | ns            |
| $t_{off}$     | $V_{DD}=10\text{V}, V_{GS(OFF)}=10\text{V}, I_D=20\text{mA}$ (2N4856)  |     | 25   | ns            |
| $t_{off}$     | $V_{DD}=10\text{V}, V_{GS(OFF)}=10\text{V}, I_D=20\text{mA}$ (2N4856A) |     | 20   | ns            |

R0 (11-June 2012)

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TO-18 CASE - MECHANICAL OUTLINE



**LEAD CODE:**

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

**MARKING: FULL PART NUMBER**

| SYMBOL  | 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 (11-June 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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### 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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