

2N4857
2N4857A

N-CHANNEL
SILICON JFET



TO-18 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N4857 and 2N4857A 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)

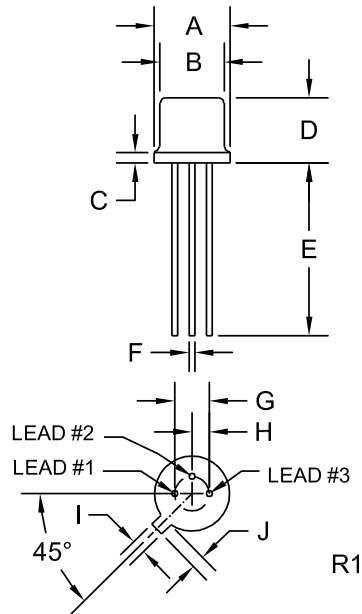
| SYMBOL | TEST CONDITIONS | MIN | MAX | UNITS |
|---------------|---|-----|------|---------------|
| I_{GSS} | $V_{GS}=20\text{V}, V_{DS}=0$ | | 0.25 | nA |
| I_{GSS} | $V_{GS}=20\text{V}, V_{DS}=0, T_A=150^\circ\text{C}$ | | 0.5 | μA |
| I_{DSS} | $V_{DS}=15\text{V}, V_{GS}=0$ | 20 | 100 | mA |
| $I_{D(OFF)}$ | $V_{DS}=15\text{V}, V_{GS}=10\text{V}$ | | 0.25 | nA |
| $I_{D(OFF)}$ | $V_{DS}=15\text{V}, V_{GS}=10\text{V}, T_A=150^\circ\text{C}$ | | 0.5 | μA |
| BV_{GSS} | $I_G=1.0\mu\text{A}, V_{DS}=0$ | 40 | | V |
| $V_{GS(OFF)}$ | $V_{DS}=15\text{V}, I_D=0.5\text{nA}$ | 2.0 | 6.0 | V |
| $V_{DS(ON)}$ | $I_D=10\text{mA}, V_{GS}=0$ | | 0.5 | V |
| $r_{DS(ON)}$ | $V_{GS}=0, I_D=0, f=1.0\text{kHz}$ | | 40 | Ω |
| C_{rss} | $V_{GS}=10\text{V}, V_{DS}=0, f=1.0\text{MHz}$ (2N4857) | | 8.0 | pF |
| C_{rss} | $V_{GS}=10\text{V}, V_{DS}=0, f=1.0\text{MHz}$ (2N4857A) | | 3.5 | pF |
| C_{iss} | $V_{GS}=10\text{V}, V_{DS}=0, f=1.0\text{MHz}$ (2N4857) | | 18 | pF |
| C_{iss} | $V_{GS}=10\text{V}, V_{DS}=0, f=1.0\text{MHz}$ (2N4857A) | | 10 | pF |
| t_d | $V_{DD}=10\text{V}, V_{GS(OFF)}=6.0\text{V}, I_D=10\text{mA}$ | | 6.0 | ns |
| t_r | $V_{DD}=10\text{V}, V_{GS(OFF)}=6.0\text{V}, I_D=10\text{mA}$ | | 4.0 | ns |
| t_{off} | $V_{DD}=10\text{V}, V_{GS(OFF)}=6.0\text{V}, I_D=10\text{mA}$ (2N4857) | | 50 | ns |
| t_{off} | $V_{DD}=10\text{V}, V_{GS(OFF)}=6.0\text{V}, I_D=10\text{mA}$ (2N4857A) | | 40 | ns |

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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



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

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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