

2N4859  
2N4859A

N-CHANNEL  
SILICON JFET



TO-18 CASE



www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N4859 and 2N4859A 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**

$V_{DS}$  30  
 $V_{DG}$  30  
 $V_{GSR}$  30  
 $I_{GF}$  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)

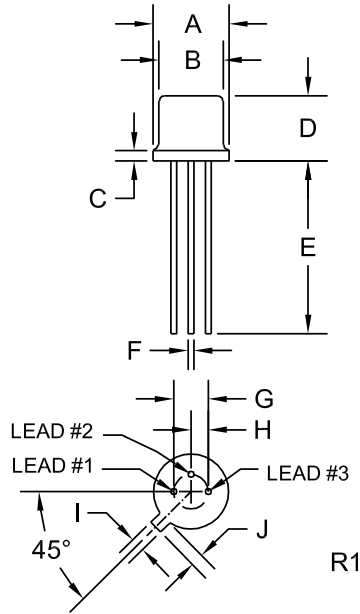
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
$I_{GSS}$	$V_{GS}=15\text{V}, V_{DS}=0$		0.25	nA
$I_{GSS}$	$V_{GS}=15\text{V}, V_{DS}=0, T_A=150^\circ\text{C}$		0.5	$\mu\text{A}$
$I_{DSS}$	$V_{DS}=15\text{V}, V_{GS}=0$	50		mA
$I_D(\text{OFF})$	$V_{DS}=15\text{V}, V_{GS}=10\text{V}$		0.25	nA
$I_D(\text{OFF})$	$V_{DS}=15\text{V}, V_{GS}=10\text{V}, T_A=150^\circ\text{C}$		0.5	$\mu\text{A}$
$BV_{GSS}$	$I_G=1.0\mu\text{A}, V_{DS}=0$	30		V
$V_{GS}(\text{OFF})$	$V_{DS}=15\text{V}, I_D=0.5\text{nA}$	4.0	10	V
$V_{DS}(\text{ON})$	$I_D=20\text{mA}, V_{GS}=0$		0.75	V
$r_{DS}(\text{ON})$	$V_{GS}=0, I_D=0, f=1.0\text{kHz}$		25	$\Omega$
$C_{rss}$	$V_{GS}=10\text{V}, V_{DS}=0, f=1.0\text{MHz}$ (2N4859)		8.0	pF
$C_{rss}$	$V_{GS}=10\text{V}, V_{DS}=0, f=1.0\text{MHz}$ (2N4859A)		4.0	pF
$C_{iss}$	$V_{GS}=10\text{V}, V_{DS}=0, f=1.0\text{MHz}$ (2N4859)		18	pF
$C_{iss}$	$V_{GS}=10\text{V}, V_{DS}=0, f=1.0\text{MHz}$ (2N4859A)		10	pF
$t_d$	$V_{DD}=10\text{V}, V_{GS}(\text{OFF})=10\text{V}, I_D=20\text{mA}$ (2N4859)		6.0	ns
$t_d$	$V_{DD}=10\text{V}, V_{GS}(\text{OFF})=10\text{V}, I_D=20\text{mA}$ (2N4859A)		5.0	ns
$t_r$	$V_{DD}=10\text{V}, V_{GS}(\text{OFF})=10\text{V}, I_D=20\text{mA}$		3.0	ns
$t_{off}$	$V_{DD}=10\text{V}, V_{GS}(\text{OFF})=10\text{V}, I_D=20\text{mA}$ (2N4859)		25	ns
$t_{off}$	$V_{DD}=10\text{V}, V_{GS}(\text{OFF})=10\text{V}, I_D=20\text{mA}$ (2N4859A)		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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