

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	μA
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	μA
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	Ω
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

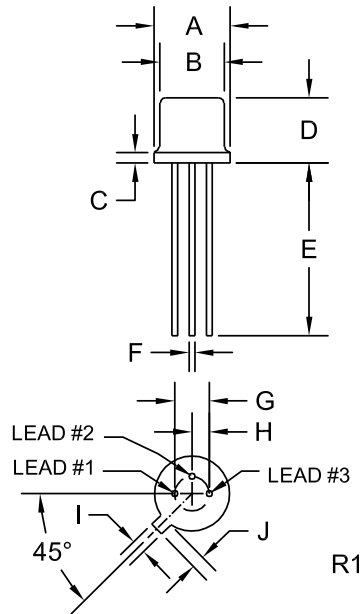
R0 (11-June 2012)

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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



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).

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

Worldwide Field Representatives:
www.centrasemi.com/wwreps

Worldwide Distributors:
www.centrasemi.com/wwdistributors

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