

2N4391
2N4392
2N4393

SILICON
N-CHANNEL JFET



TO-18 CASE



www.centralsemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N4391 series types are N-Channel silicon JFETs designed for analog switching and chopper applications.

MARKING: FULL PART NUMBER

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

Gate-Drain Voltage	V_{GD}	40	V
Gate-Source Voltage	V_{GS}	40	V
Gate Current	I_G	50	mA
Power Dissipation ($T_C=25^\circ\text{C}$)	P_D	1.8	W
Operating and Storage Junction Temperature	T_J, T_{Stg}	-65 to +175	°C

SYMBOL	2N4391		2N4392		2N4393		UNITS	
	MIN	MAX	MIN	MAX	MIN	MAX		
V_{GD}	-	0.1	-	0.1	-	0.1	nA	
V_{GS}	-	0.2	-	0.2	-	0.2	µA	
I_D	50	150	25	75	5.0	30	mA	
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=12\text{V}$	-	0.1	-	-	-	nA	
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=7.0\text{V}$	-	-	-	0.1	-	nA	
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=5.0\text{V}$	-	-	-	-	0.1	nA	
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=12\text{V}, T_A=150^\circ\text{C}$	-	0.2	-	-	-	µA	
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=7.0\text{V}, T_A=150^\circ\text{C}$	-	-	-	0.2	-	µA	
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=5.0\text{V}, T_A=150^\circ\text{C}$	-	-	-	-	0.2	µA	
BV_{GSS}	$I_G=1.0\mu\text{A}$	40	-	40	40	-	V	
$V_{GS(OFF)}$	$V_{DS}=20\text{V}, I_D=1.0\text{nA}$	4.0	10	2.0	5.0	0.5	3.0	V
$V_{GS(f)}$	$V_{DS}=0, I_G=1.0\text{mA}$	-	1.0	-	1.0	-	1.0	V
$V_{DS(ON)}$	$I_D=12\text{mA}$	-	0.4	-	-	-	-	V
$V_{DS(ON)}$	$I_D=6.0\text{mA}$	-	-	-	0.4	-	-	V
$V_{DS(ON)}$	$I_D=3.0\text{mA}$	-	-	-	-	-	0.4	V
$r_{DS(ON)}$	$I_D=1.0\text{mA}, V_{GS}=0$	-	30	-	60	-	100	Ω
$r_{ds(on)}$	$V_{GS}=0, I_D=0, f=1.0\text{kHz}$	-	30	-	60	-	100	Ω
C_{rss}	$V_{GS}=12\text{V}, V_{DS}=0, f=1.0\text{MHz}$	-	4.0	-	-	-	-	pF
C_{rss}	$V_{GS}=7.0\text{V}, V_{DS}=0, f=1.0\text{MHz}$	-	-	-	4.0	-	-	pF
C_{rss}	$V_{GS}=5.0\text{V}, V_{DS}=0, f=1.0\text{MHz}$	-	-	-	-	-	4.0	pF
C_{iss}	$V_{DS}=20\text{V}, V_{GS}=0, f=1.0\text{MHz}$	-	14	-	14	-	14	pF

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

SYMBOL	TEST CONDITIONS	2N4391		2N4392		UNITS		
		MIN	MAX	MIN	MAX			
I_{GSS}	$V_{GS}=20\text{V}$	-	0.1	-	0.1	nA		
I_{GSS}	$V_{GS}=20\text{V}, T_A=125^\circ\text{C}$	-	0.2	-	0.2	µA		
I_{DSS}	$V_{DS}=20\text{V}$	50	150	25	75	mA		
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=12\text{V}$	-	0.1	-	-	nA		
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=7.0\text{V}$	-	-	-	0.1	nA		
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=5.0\text{V}$	-	-	-	-	nA		
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=12\text{V}, T_A=150^\circ\text{C}$	-	0.2	-	-	µA		
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=7.0\text{V}, T_A=150^\circ\text{C}$	-	-	0.2	-	µA		
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=5.0\text{V}, T_A=150^\circ\text{C}$	-	-	-	0.2	µA		
BV_{GSS}	$I_G=1.0\mu\text{A}$	40	-	40	40	-	V	
$V_{GS(OFF)}$	$V_{DS}=20\text{V}, I_D=1.0\text{nA}$	4.0	10	2.0	5.0	0.5	3.0	V
$V_{GS(f)}$	$V_{DS}=0, I_G=1.0\text{mA}$	-	1.0	-	1.0	-	1.0	V
$V_{DS(ON)}$	$I_D=12\text{mA}$	-	0.4	-	-	-	-	V
$V_{DS(ON)}$	$I_D=6.0\text{mA}$	-	-	-	0.4	-	-	V
$V_{DS(ON)}$	$I_D=3.0\text{mA}$	-	-	-	-	-	0.4	V
$r_{DS(ON)}$	$I_D=1.0\text{mA}, V_{GS}=0$	-	30	-	60	-	100	Ω
$r_{ds(on)}$	$V_{GS}=0, I_D=0, f=1.0\text{kHz}$	-	30	-	60	-	100	Ω
C_{rss}	$V_{GS}=12\text{V}, V_{DS}=0, f=1.0\text{MHz}$	-	4.0	-	-	-	-	pF
C_{rss}	$V_{GS}=7.0\text{V}, V_{DS}=0, f=1.0\text{MHz}$	-	-	-	4.0	-	-	pF
C_{rss}	$V_{GS}=5.0\text{V}, V_{DS}=0, f=1.0\text{MHz}$	-	-	-	-	-	4.0	pF
C_{iss}	$V_{DS}=20\text{V}, V_{GS}=0, f=1.0\text{MHz}$	-	14	-	14	-	14	pF

2N4391
2N4392
2N4393

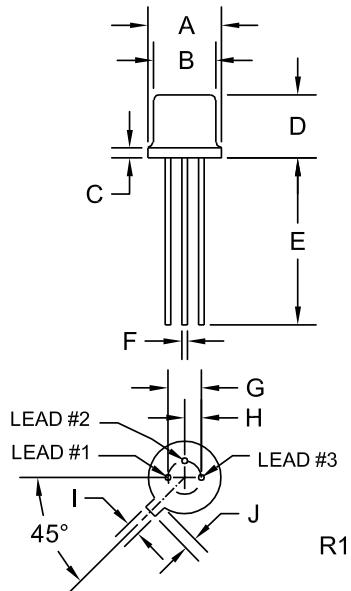
SILICON
N-CHANNEL JFET



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

SYMBOL	TEST CONDITIONS	2N4391		2N4392		2N4393		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
t_r	$I_D(\text{ON})=12\text{mA}$	-	5.0	-	-	-	-	ns
t_r	$I_D(\text{ON})=6.0\text{mA}$	-	-	-	5.0	-	-	ns
t_r	$I_D(\text{ON})=3.0\text{mA}$	-	-	-	-	-	5.0	ns
t_f	$V_{GS(\text{OFF})}=12\text{V}$	-	15	-	-	-	-	ns
t_f	$V_{GS(\text{OFF})}=7.0\text{V}$	-	-	-	20	-	-	ns
t_f	$V_{GS(\text{OFF})}=5.0\text{V}$	-	-	-	-	-	30	ns
t_{on}	$I_D(\text{ON})=12\text{mA}$	-	15	-	-	-	-	ns
t_{on}	$I_D(\text{ON})=6.0\text{mA}$	-	-	-	15	-	-	ns
t_{on}	$I_D(\text{ON})=3.0\text{mA}$	-	-	-	-	-	15	ns
t_{off}	$V_{GS(\text{OFF})}=12\text{V}$	-	20	-	-	-	-	ns
t_{off}	$V_{GS(\text{OFF})}=7.0\text{V}$	-	-	-	35	-	-	ns
t_{off}	$V_{GS(\text{OFF})}=5.0\text{V}$	-	-	-	-	-	50	ns

TO-18 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
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)

LEAD CODE:

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

MARKING: FULL PART NUMBER

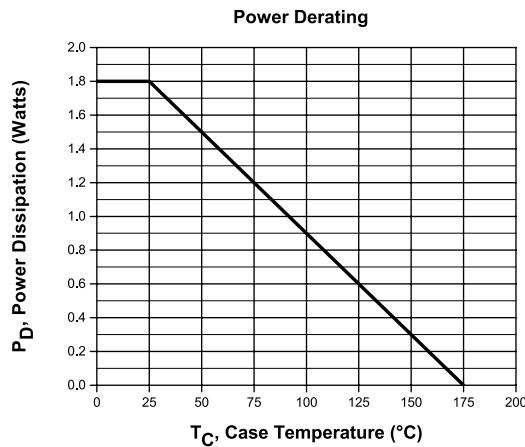
R3 (18-August 2022)

2N4391
2N4392
2N4393

SILICON
N-CHANNEL JFET



TYPICAL ELECTRICAL CHARACTERISTICS



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.centralsemi.com

Worldwide Field Representatives:

www.centralsemi.com/wwreps

Worldwide Distributors:

www.centralsemi.com/wwdistributors

For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: www.centralsemi.com/terms