

2N4091  
2N4092  
2N4093

SILICON  
N-CHANNEL JFETS



TO-18 CASE



www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 2N4091 series devices are N-Channel silicon JFETs designed for switching applications.

**MARKING: FULL PART NUMBER**

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

	SYMBOL		UNITS
Gate-Drain Voltage	$V_{GD}$	40	V
Gate-Source Voltage	$V_{GS}$	40	V
Drain-Source Voltage	$V_{DS}$	40	V
Gate Current	$I_G$	10	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	$^\circ\text{C}$

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

SYMBOL	TEST CONDITIONS	2N4091		2N4092		2N4093		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
$I_{DSS}$	$V_{GS}=20\text{V}, V_{GS}=0$	30	-	15	-	8.0	-	mA
$I_{SGO}$	$V_{SG}=20\text{V}$	-	0.2	-	0.2	-	0.2	nA
$I_{DGO}$	$V_{DG}=20\text{V}$	-	0.2	-	0.2	-	0.2	nA
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=12\text{V}$	-	0.2	-	-	-	-	nA
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=8.0\text{V}$	-	-	-	0.2	-	-	nA
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=6.0\text{V}$	-	-	-	-	-	0.2	nA
$BV_{GSS}$	$I_G=1.0\mu\text{A}$	40	-	40	-	40	-	V
$BV_{DGO}$	$I_D=1.0\mu\text{A}$	40	-	40	-	40	-	V
$V_{GS(OFF)}$	$V_{DS}=20\text{V}, I_D=1.0\text{nA}$	5.0	10	2.0	7.0	1.0	5.0	V
$V_{DS(ON)}$	$I_D=6.6\text{mA}, V_{GS}=0$	-	0.2	-	-	-	-	V
$V_{DS(ON)}$	$I_D=4.0\text{mA}, V_{GS}=0$	-	-	-	0.2	-	-	V
$V_{DS(ON)}$	$I_D=2.5\text{mA}, V_{GS}=0$	-	-	-	-	-	0.2	V
$r_{DS(ON)}$	$I_D=1.0\text{mA}, V_{GS}=0$	-	30	-	50	-	80	$\Omega$
$r_{ds(on)}$	$V_{GS}=0, I_D=0, f=1.0\text{kHz}$	-	30	-	50	-	80	$\Omega$
$C_{iss}$	$V_{DS}=20\text{V}, V_{GS}=0, f=1.0\text{MHz}$	-	16	-	16	-	16	pF
$C_{rss}$	$V_{DS}=0, V_{GS}=20\text{V}, f=1.0\text{MHz}$	-	5.0	-	5.0	-	5.0	pF
$t_{on}$	$I_{D(ON)}=6.6\text{mA}$	-	25	-	-	-	-	ns
$t_{on}$	$I_{D(ON)}=4.0\text{mA}$	-	-	-	35	-	-	ns
$t_{on}$	$I_{D(ON)}=2.5\text{mA}$	-	-	-	-	-	60	ns
$t_{off}$	$V_{GS(OFF)}=12\text{V}$	-	40	-	-	-	-	ns
$t_{off}$	$V_{GS(OFF)}=8.0\text{V}$	-	-	-	60	-	-	ns
$t_{off}$	$V_{GS(OFF)}=6.0\text{V}$	-	-	-	-	-	80	ns

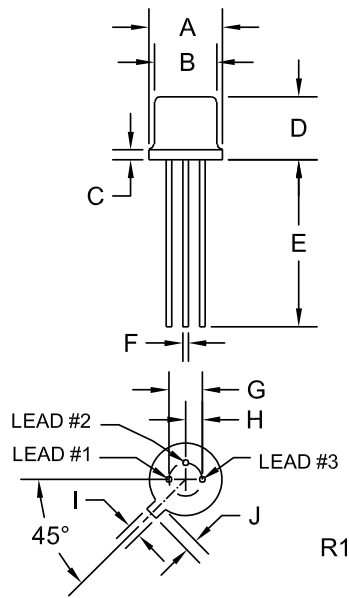
R0 (23-April 2019)

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TO-18 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	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)

LEAD CODE:

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

MARKING: FULL PART NUMBER

R0 (23-April 2019)

## 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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