2N4391
2N4392
2N4393

N-CHANNEL
SILICON JFET



TO-18 CASE

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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°C)	**SYMBOL**		**UNITS**
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°C)	P_D	1.8	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +175	°C

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

		2N4391		2N4392		2N4393		
SYMBOL	**TEST CONDITIONS**	**MIN**	**MAX**	**MIN**	**MAX**	**MIN**	**MAX**	**UNITS**
I_{GSS}	V_{GS}=20V	-	0.1	-	0.1	-	0.1	nA
I_{GSS}	V_{GS}=20V, T_A=125°C	-	0.2	-	0.2	-	0.2	µA
I_{DSS}	V_{DS}=20V	50	150	25	75	5.0	30	mA
$I_{D(OFF)}$	V_{DS}=20V, V_{GS}=12V	-	0.1	-	-	-	-	nA
$I_{D(OFF)}$	V_{DS}=20V, V_{GS}=7.0V	-	-	-	0.1	-	-	nA
$I_{D(OFF)}$	V_{DS}=20V, V_{GS}=5.0V	-	-	-	-	-	0.1	nA
$I_{D(OFF)}$	V_{DS}=20V, V_{GS}=12V, T_A=150°C	-	0.2	-	-	-	-	µA
$I_{D(OFF)}$	V_{DS}=20V, V_{GS}=7.0V, T_A=150°C	-	-	-	0.2	-	-	µA
$I_{D(OFF)}$	V_{DS}=20V, V_{GS}=5.0V, T_A=150°C	-	-	-	-	-	0.2	µA
BV_{GSS}	I_G=1.0µA	40	-	40		40	-	V
$V_{GS(OFF)}$	V_{DS}=20V, I_D=1.0nA	4.0	10	2.0	5.0	0.5	3.0	V
$V_{GS(f)}$	V_{DS}=0, I_G=1.0mA	-	1.0	-	1.0	-	1.0	V
$V_{DS(ON)}$	I_D=12mA	-	0.4	-	-	-	-	V
$V_{DS(ON)}$	I_D=6.0mA	-	-	-	0.4	-	-	V
$V_{DS(ON)}$	I_D=3.0mA	-	-	-	-	-	0.4	V
$r_{DS(ON)}$	I_D=1.0mA, V_{GS}=0	-	30	-	60	-	100	Ω
$r_{ds(on)}$	V_{GS}=0, I_D=0, f=1.0kHz	-	30	-	60	-	100	Ω
C_{rss}	V_{GS}=12V, V_{DS}=0, f=1.0MHz	-	3.5	-	-	-	-	pF
C_{rss}	V_{GS}=7.0V, V_{DS}=0, f=1.0MHz	-	-	-	3.5	-	-	pF
C_{rss}	V_{GS}=5.0V, V_{DS}=0, f=1.0MHz	-	-	-	-	-	3.5	pF
C_{iss}	V_{DS}=20V, V_{GS}=0, f=1.0MHz	-	14	-	14	-	14	pF

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ELECTRICAL CHARACTERISTICS - Continued: (T_A=25°C unless otherwise noted)

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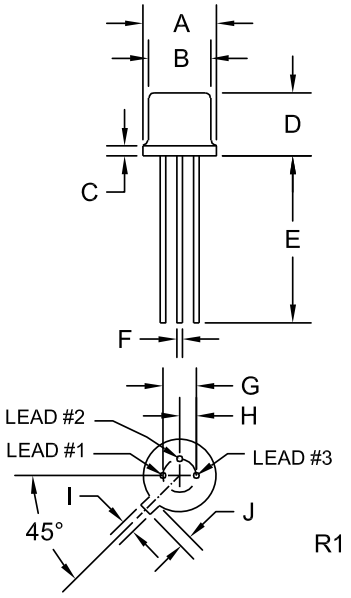
SYMBOL	**TEST CONDITIONS**	**MIN**	**MAX**	**MIN**	**MAX**	**MIN**	**MAX**	**UNITS**
t_r	$I_{D(ON)}$=12mA	-	5.0	-	-	-	-	ns
t_r	$I_{D(ON)}$=6.0mA	-	-	-	5.0	-	-	ns
t_r	$I_{D(ON)}$=3.0mA	-	-	-	-	-	5.0	ns
t_f	$V_{GS(OFF)}$=12V	-	15	-	-	-	-	ns
t_f	$V_{GS(OFF)}$=7.0V	-	-	-	20	-	-	ns
t_f	$V_{GS(OFF)}$=5.0V	-	-	-	-	-	30	ns
t_{on}	$I_{D(ON)}$=12mA	-	15	-	-	-	-	ns
t_{on}	$I_{D(ON)}$=6.0mA	-	-	-	15	-	-	ns
t_{on}	$I_{D(ON)}$=3.0mA	-	-	-	-	-	15	ns
t_{off}	$V_{GS(OFF)}$=12V	-	20	-	-	-	-	ns
t_{off}	$V_{GS(OFF)}$=7.0V	-	-	-	35	-	-	ns
t_{off}	$V_{GS(OFF)}$=5.0V	-	-	-	-	-	50	ns

TO-18 CASE - MECHANICAL OUTLINE



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	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

R1 (30-January 2012)