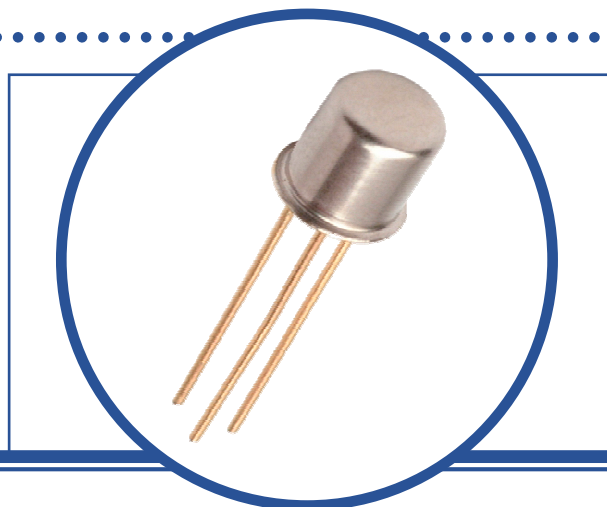


# SILICON SMALL SIGNAL N-CHANNEL JFET

## 2N4393

- High Speed Switching.
- Low On Resistance.
- Designed For High Reliability and Space Applications.



### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub> = 25°C unless otherwise stated)

V <sub>DS</sub>	Drain – Source Voltage	40V
V <sub>GS</sub>	Gate – Source Voltage	-40V
V <sub>GD</sub>	Gate – Drain Voltage	-40V
I <sub>G</sub>	Gate Current	50mA
P <sub>D</sub>	Total Power Dissipation at T <sub>A</sub> = 25°C Derate Above 25°C	300mW 2mW/°C
T <sub>J</sub>	Junction Temperature Range	-55 to +175°C
T <sub>stg</sub>	Storage Temperature Range	-65 to +200°C

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise stated)

Symbols	Parameters	Test Conditions	Min.	Typ.	Max.	Units
V <sub>(BR)GSS</sub>	Gate – Source Breakdown Voltage	V <sub>DS</sub> = 0V I <sub>G</sub> = 1.0μA	-40			V
V <sub>GS(off)</sub>	Gate – Source Cut-off Voltage	V <sub>DS</sub> = 20V I <sub>D</sub> = 1.0nA	-0.5		-3	
I <sub>DSS</sub> <sup>(1)</sup>	Saturation Drain Current	V <sub>DS</sub> = 20V V <sub>GS</sub> = 0V	5		30	mA
I <sub>GSS</sub>	Gate Reverse Current	V <sub>DS</sub> = 0V V <sub>GS</sub> = -20V			-100	pA
		T <sub>A</sub> = 150°C			-200	nA
I <sub>D(off)</sub>	Drain Cut-off Current	V <sub>DS</sub> = 20V V <sub>GS</sub> = -5V			100	pA
		T <sub>A</sub> = 150°C			200	nA
V <sub>DS(on)</sub>	Drain – Source On Voltage	V <sub>GS</sub> = 0V I <sub>D</sub> = 3mA			0.4	V
R <sub>DS(on)</sub>	Drain – Source On Resistance	V <sub>GS</sub> = 0 I <sub>D</sub> = 1.0mA			100	Ω

Semelab Limited reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.



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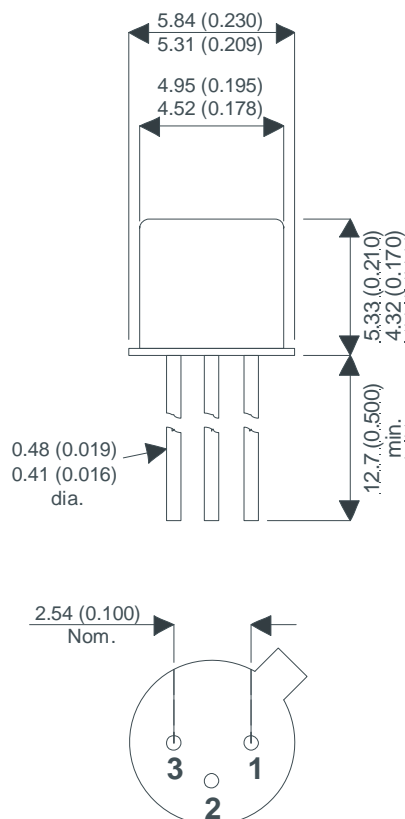
## DYNAMIC CHARACTERISTICS

Symbols	Parameters	Test Conditions	Min.	Typ.	Max.	Units
$C_{iss}$	Common – Source Input Capacitance	$V_{DS} = 20V$ $V_{GS} = 0V$ $f = 1.0MHz$			26	pF
$C_{rss}$	Common – Source Reverse Transfer Capacitance	$V_{DS} = 0V$ $V_{GS} = -5V$ $f = 1.0MHz$			5	
$R_{DS(on)}$	Drain – Source On Resistance	$V_{GS} = 0$ $I_D = 0A$ $f = 1.0KHz$			100	$\Omega$
$t_r$	Rise Time	$V_{DD} = 10V$ $V_{GSX} = -5V$ $V_{GS} = 0V$ $I_{D(on)} = 3mA$			5	ns
$t_{d(on)}$	Turn-on Delay Time				15	
$t_f$	Fall Time				30	
$t_{d(off)}$	Turn-off Delay Time				50	

(1) Pulse Width  $\leq 380\mu s$ ,  $\delta \leq 2\%$

## MECHANICAL DATA

Dimensions in mm (inches)



## TO-18 (TO-206AA) METAL PACKAGE Underside View

Pin 1 – Source

Pin 2 – Drain

Pin 3 - Gate