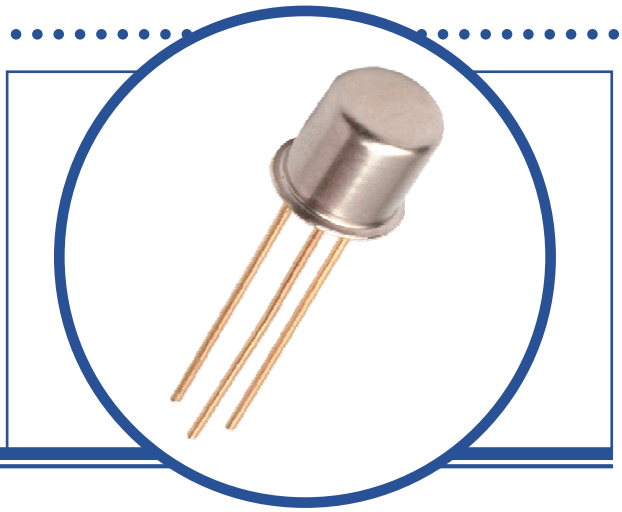
SILICON SMALL SIGNAL N-CHANNEL JFET

TT electronics
Semelab Limited

2N4391

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



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise stated)

V_{DS}	Drain – Source Voltage		40V
V_{GS}	Gate – Source Voltage		-40V
V_{GD}	Gate – Drain Voltage		-40V
I_G	Gate Current		50mA
P_D	Total Power Dissipation at	T_A = 25°C	300mW
		Derate Above 25°C	2mW/°C
T_J	Junction Temperature Range		-55 to +175°C
T_{stg}	Storage Temperature Range		-65 to +200°C

THERMAL PROPERTIES

Symbols	Parameters	Max.	Units
$R_{\theta JA}$	Thermal Resistance, Junction To Ambient	500	°C/W

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ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise stated)

Symbols	Parameters	Test Conditions		Min.	Typ.	Max.	Units
$V_{(BR)GSS}$	Gate – Source Breakdown Voltage	V_{DS} = 0V	I_G = 1.0µA	-40			V
$V_{GS(off)}$	Gate – Source Cut-off Voltage	V_{DS} = 20V	I_D = 1.0nA	-4		-10	
I_{DSS} (1)	Saturation Drain Current	V_{DS} = 20V	V_{GS} = 0V	50		150	mA
I_{GSS}	Gate Reverse Current	V_{DS} = 0V	V_{GS} = -20V			-100	pA
			T_A = 150°C			-200	nA
$I_{D(off)}$	Drain Cut-off Current	V_{DS} = 20V	V_{GS} = -12V			100	pA
			T_A = 150°C			200	nA
$V_{DS(on)}$	Drain – Source On Voltage	V_{GS} = 0V	I_D = 12mA			0.4	V
$R_{DS(on)}$	Drain – Source On Resistance	V_{GS} = 0	I_D = 1.0mA			30	Ω

DYNAMIC CHARACTERISTICS

Symbols	Parameters	Test Conditions		Min.	Typ.	Max.	Units
C_{iss}	Common – Source Input Capacitance	V_{DS} = 20V f = 1.0MHz	V_{GS} = 0V			26	pF
C_{rss}	Common – Source Reverse Transfer Capacitance	V_{DS} = 0V f = 1.0MHz	V_{GS} = -12V			5	
$R_{DS(on)}$	Drain – Source On Resistance	V_{GS} = 0 f = 1.0KHz	I_D = 0A			30	Ω
t_r	Rise Time	V_{DD} = 10V V_{GS} = 0V	V_{GSX} = -12V $I_{D(on)}$ = 12mA			5	ns
$t_{d(on)}$	Turn-on Delay Time					15	
t_f	Fall Time					15	
$t_{d(off)}$	Turn-off Delay Time					20	

(1) Pulse Width ≤ 380us, δ ≤ 2%

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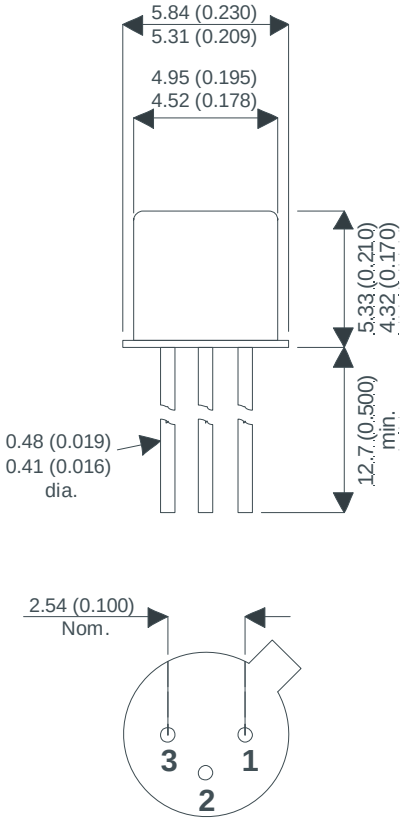
MECHANICAL DATA

Dimensions in mm (inches)



TO-18 (TO-206AA) METAL PACKAGE

Underside View

Pin 1 – Source Pin 2 – Drain Pin 3 - Gate