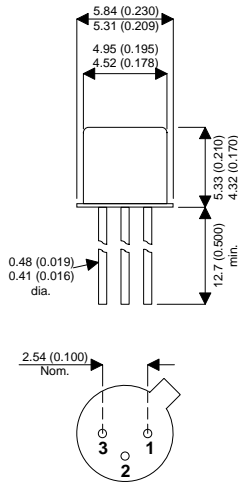


LOW NOISE N-CHANNEL JFET DESIGNED FOR SENSITIVE AMPLIFIER STAGES IN A HERMETICALLY SEALED PACKAGE FOR HIGH RELIABILITY APPLICATIONS

MECHANICAL DATA
Dimensions in mm (inches)



**TO-46
(TO-206AA)**

Underside View

PAD 1 – Source PAD 2 – Drain PAD 3 – Gate

FEATURES

- LOW CUTOFF VOLTAGE
- HIGH INPUT IMPEDANCE
- VERY LOW NOISE
- HIGH GAIN
- CECC SCREENING OPTIONS
- JAN LEVEL SCREENING OPTIONS

APPLICATIONS:

- High Gain, Low Noise Amplifiers
- Low Current, Low Voltage Battery Powered Amplifiers
- Ultrahigh Input Impedance Pre-Amplifiers

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}C$ unless otherwise stated)

V_{DS}	Drain – Source Voltage	50V
V_{DG}	Drain – Gate Voltage	50V
V_{GS}	Gate – Source Voltage	50V
I_G	Gate Current	50mA
P_D	Total Device Dissipation at $T_{AMB} = 25^{\circ}C$	300mW
	Derate above $25^{\circ}C$	2mW/ $^{\circ}C$
T_J	Operating Temperature Range	-55 to +175 $^{\circ}C$
T_{STG}	Storage Temperature Range	-65 to +200 $^{\circ}C$

Semelab Plc 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.

OFF ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{(BR)GSS}$ Gate-Source Breakdown Voltage	$I_G = -1\mu A$	50			V
I_{GSS} Gate Reverse Current	$V_{GS} = -30V$			0.1	nA
$V_{GS(OFF)}$ Gate-Source Cutoff Voltage	$V_{DS} = 15V$ $I_D = 0.1\mu A$	-0.6		-1.8	V

ON ELECTRICAL CHARACTERISTICS

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{DSS} Zero Gate Voltage Drain Current	$V_{DS} = 15V$	0.5		1.5	mA

SMALL SIGNAL CHARACTERISTICS

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$ Y_{fs} $ Forward Transfer Admittance	$V_{DS} = 15V$ $f = 1.0KHz$	800		2400	μS
$ Y_{os} $ Output Admittance				15	
C_{iss} Input Capacitance	$V_{DS} = 15V$ $f = 1.0KHz$			6.0	pF
C_{rss} Reverse Transfer Capacitance				2.0	
$r_{ds(on)}$ Drain Source On Resistance	$V_{DS} = 0V$ $f = 1.0KHz$ $V_{GS} = 0V$			1700	

FUNCTIONAL CHARACTERISTICS

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
NF Noise Figure	$V_{DS} = 15V$ $f = 1.0KHz$ $R_G = 1.0M$			1.0	dB