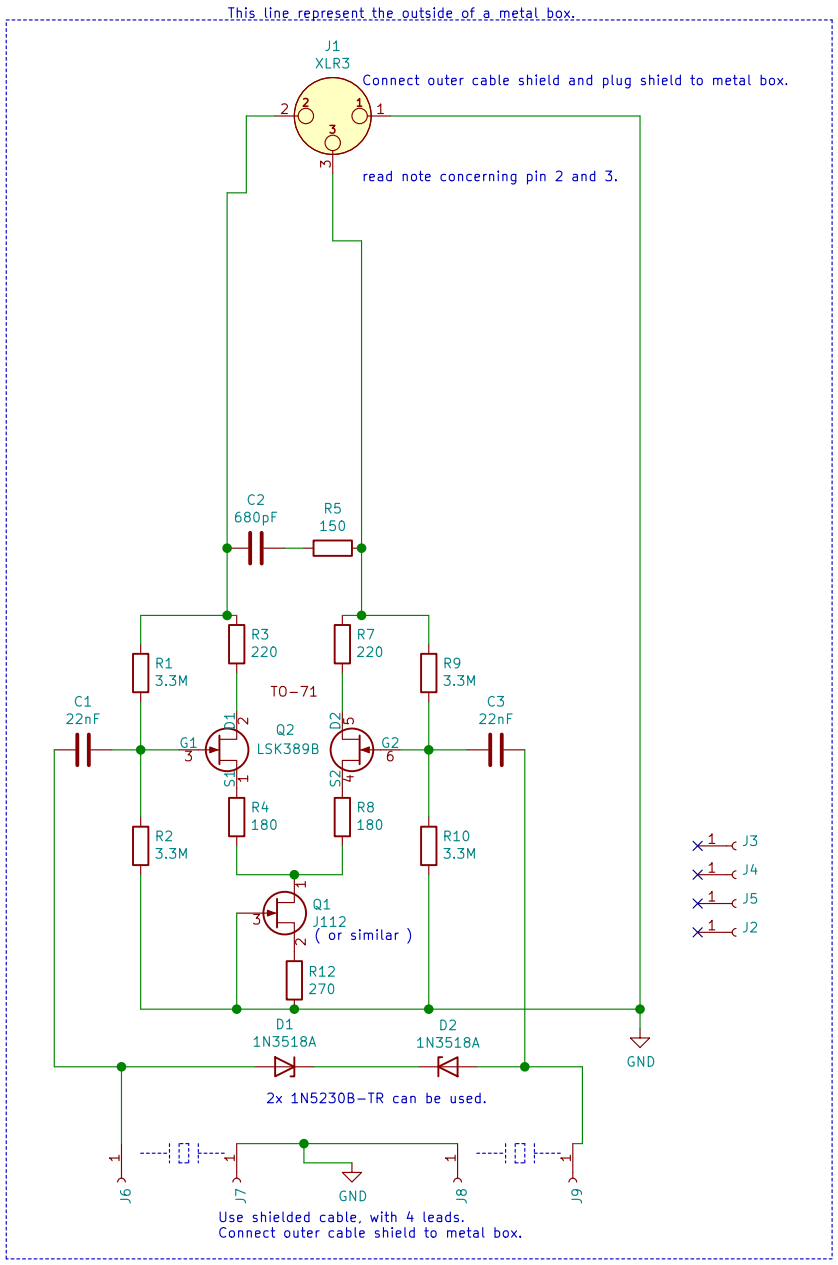


LSK389 A/B/C/D

Ultra Low Noise Monolithic Dual N-Channel JFET Amplifier

Electrical Characteristics @ 25°C (unless otherwise stated)

SYMBOL	CHARACTERISTIC		MIN	TYP	MAX	UNITS	CONDITIONS
BV_{GSS}	Gate to Source Breakdown Voltage		-40	---	---	V	V_{DS} = 0, I_D = -100µA
$V_{GS(OFF)}$	Gate to Source Pinch-off Voltage		-0.3	---	-1.6	V	V_{DS} = 10V, I_D = 0.1µA
I_{DSS}	Drain to Source Saturation Current	LSK389A	2.6	---	6.5	mA	V_{DS} = 10V, V_{GS} = 0
		LSK389B	6	---	12		
		LSK389C	10	---	20		
		LSK389D	17	---	30		
I_{GSS}	Gate to Source Leakage Current		---	-100	-300	pA	V_{GS} = -25V, V_{DS} = 0
I_{G1-G2}	Gate to Gate Isolation Current		---	±1.0	±50	nA	V_{G1-G2} = ±45V, I_D = I_S = 0A
G_{fs}	Full Conduction Transconductance		8	20	---	mS	V_{DS} = 10V, V_{GS} = 0, f = 1kHz
e_n	Noise Voltage		---	1.3	1.9	nV/√Hz	V_{DS} = 10V, I_D = 2mA, f = 1kHz, NBW = 1Hz
e_n	Noise Voltage		---	1.5	4.0	nV/√Hz	V_{DS} = 10V, I_D = 2mA, f = 10Hz, NBW = 1Hz
C_{iss}	Common Source Input Capacitance		---	25	---	pF	V_{DS} = 10V, V_{GS} = 0, f = 1MHz,
C_{rss}	Common Source Reverse Transfer Cap.		---	5.5	---	pF	V_{DG} = 10V, I_D = 0, f = 1MHz,

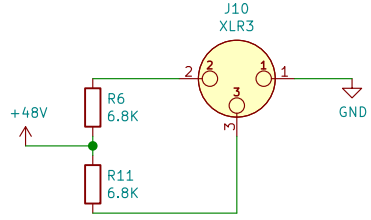
Matching Characteristics @ 25°C (unless otherwise stated)

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
$\lvert V_{GS1} - V_{GS2} \rvert$	Differential Gate to Source Cutoff Voltage	---	6.0	15	mV	V_{DS} = 10V, I_D = 1mA
$\frac{I_{DSS1}}{I_{DSS2}}$	Saturation Drain Current Ratio	0.9	1.0	1.1	n/a	V_{DS} = 10V, V_{GS} = 0V

Absolute Maximum Ratings@ 25 °C (unless otherwise stated)Maximum Temperatures
Storage Temperature-65 to +150°C
Junction Operating Temperature-55 to +150°C
Maximum Continuous Power Dissipation @ +25°C 400mW
Maximum Currents:
Gate Forward CurrentIG(F)= 10mA
Maximum Voltages:
Gate to SourceVGSS= 40
VGate to DrainVGDS= 40V

Idss: 4.25 mA

The voltages on pin 2 and 3 is the result from this simplified voltage supply circuit:



All resistors, FETs and capacitators are THT.
Use film resistors and film caps!

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File: piezo-jfet.sch

Title: Balanced amplifier for piezo elements.

Size: A4	Date:	Rev:
KiCad E.D.A. eeschema 5.1.10		Id: 1/1