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
	Drain to Source Saturation Current	LSK389A	2.6		6.5	mA	$V_{DS} = 10V$, $V_{GS} = 0$
Ines		LSK389B	6		12		
loss		LSK389C	10		20		
		LSK389D	17		30		
I _{GSS}	Gate to Source Leakage Current			-100	-300	pA	V _{GS} = -25V, V _{DS} = 0
la162	Gate to Gate Isolation Current			±1.0	±50	nA	V _{G1-G2} = ±45V, I _D = I _S = 0A
Gts	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)

1	SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
	Vası – Vasz	Differential Gate to Source Cutoff Voltage		6.0	15	mV	$V_{DS} = 10V, I_D = 1mA$
	IDSS1 IDSS2	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

All resistors, FETs and capacitators are THT. Use film resistors and X7R caps! All resistors and caps must be audio grade.

All shield connections must be short as possible.

Sheet: /

File: piezo-jfet.sch

Title: Balanced amplifier for piezo elements. Size: A4

Date: Rev: KiCad E.D.A. eeschema 5.1.10 ld: 1/1

This line represent the outside of a metal box.

Connect outer cable shield and plug shield to metal box.

XLR3

R5

150

220

LSK170B

2x 1N5230B-TR can be used.

GND

For connection to the piezo crystals: Use shielded cable, with 4 leads. Connect outer cable shield to metal box.

3.3M

R10

3.3M

1N3518A H

8

Outer end of cable shield may be connected to the outer box that houses the crystals if that is used. If not, leave unconnected.

22nF

680pF

220

TO-71

Q2

D1 1N3518A

LSK389B

R1 3.3M

R2 3.3M

22nF

×1_c J3

×1 (J5

×1 C J2

GND