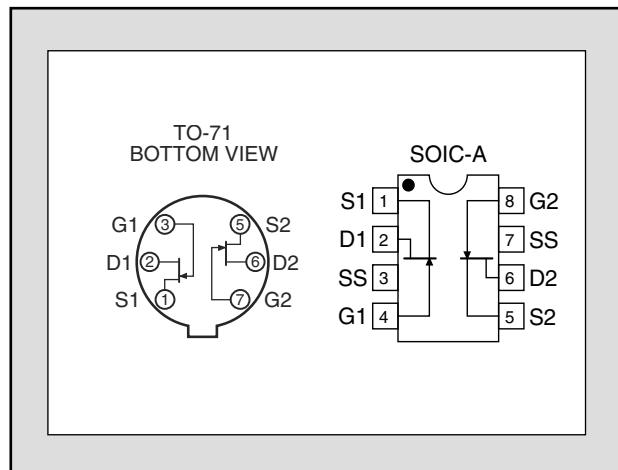


## LSK389

### ULTRA LOW NOISE MONOLITHIC DUAL N-CHANNEL JFET

FEATURES	
ULTRA LOW NOISE	$e_n = 0.9\text{nV}/\sqrt{\text{Hz}}$ (typ)
TIGHT MATCHING	$ V_{GS1-2}  = 20\text{mV}$ max
HIGH BREAKDOWN VOLTAGE	$BV_{GSS} = 40\text{V}$ max
HIGH GAIN	$Y_{fs} = 20\text{mS}$ (typ)
LOW CAPACITANCE	25pF typ
IMPROVED SECOND SOURCE REPLACEMENT FOR 2SK389	
ABSOLUTE MAXIMUM RATINGS <sup>1</sup>	
@ 25 °C (unless otherwise stated)	
Maximum Temperatures	
Storage Temperature	-65 to +150 °C
Operating Junction Temperature	-55 to +135 °C
Maximum Power Dissipation	
Continuous Power Dissipation @ +125 °C	400mW
Maximum Currents	
Gate Forward Current	$I_{G(F)} = 10\text{mA}$
Maximum Voltages	
Gate to Source	$V_{GSS} = 40\text{V}$
Gate to Drain	$V_{GDS} = 40\text{V}$



\*For equivalent single version, see LSK170 family.

#### MATCHING CHARACTERISTICS @ 25 °C (unless otherwise stated)

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNIT	CONDITIONS
$ V_{GS1} - V_{GS2} $	Differential Gate to Source Cutoff Voltage			20	mV	$V_{DS} = 10\text{V}$ , $I_D = 1\text{mA}$
$\frac{I_{DSS1}}{I_{DSS2}}$	Gate to Source Saturation Current Ratio	0.9			-	$V_{DS} = 10\text{V}$ , $V_{GS} = 0\text{V}$

#### ELECTRICAL CHARACTERISTICS @ 25 °C (unless otherwise stated)

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
$BV_{GSS}$	Gate to Source Breakdown Voltage	40			V	$V_{DS} = 0$ , $I_D = 100\mu\text{A}$
$V_{GS(OFF)}$	Gate to Source Pinch-off Voltage	0.15		2	V	$V_{DS} = 10\text{V}$ , $I_D = 0.1\mu\text{A}$
$I_{DSS}$	Drain to Source Saturation Current	LSK389A	2.6	6.5	mA	$V_{DS} = 10\text{V}$ , $V_{GS} = 0$
		LSK389B	6	12		
		LSK389C	10	20		
$I_{GSS}$	Gate to Source Leakage Current			200	pA	$V_{GS} = -30\text{V}$ , $V_{DS} = 0$

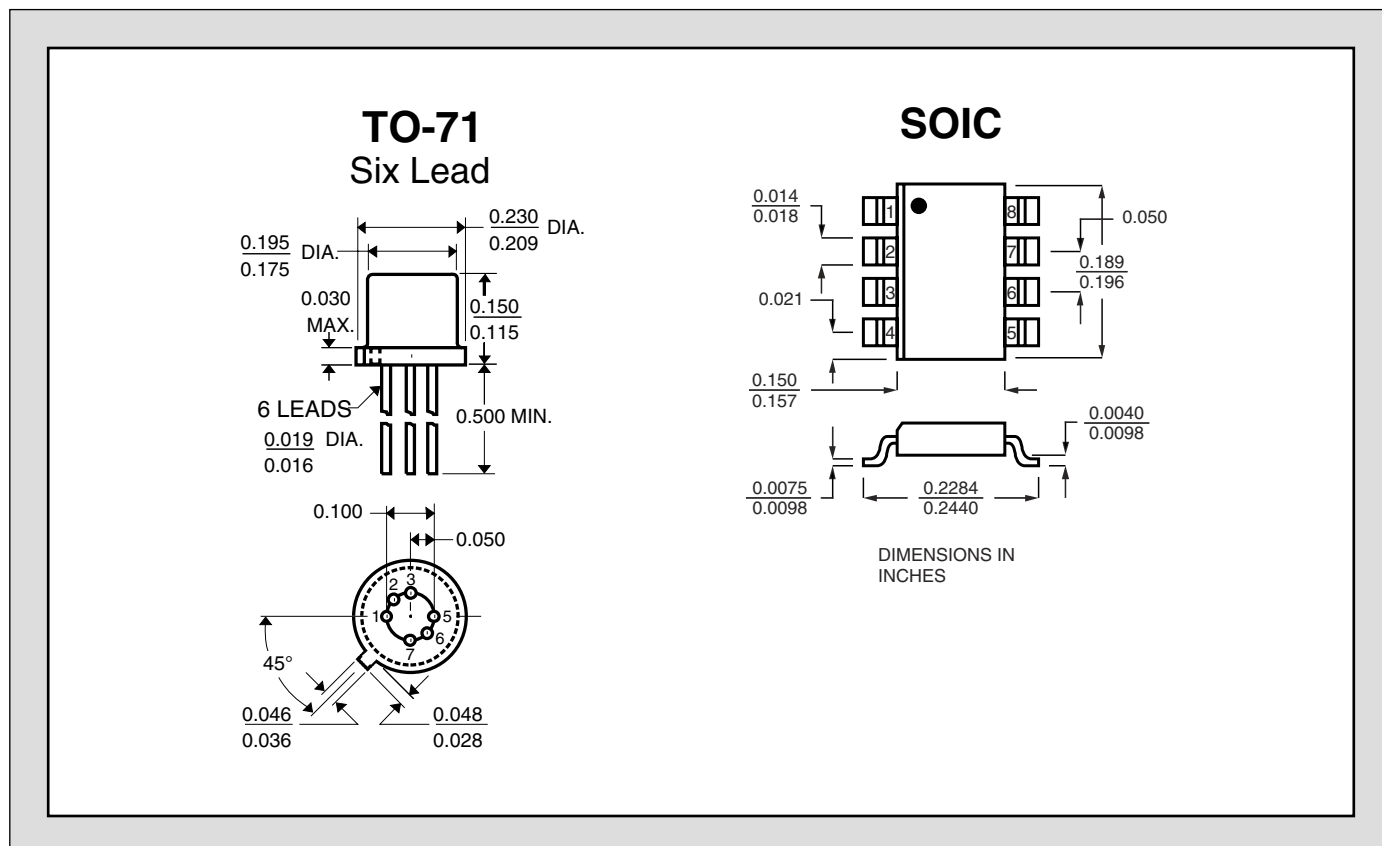
# ELECTRICAL CHARACTERISTICS CONT. @ 25 °C (unless otherwise stated)

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
$Y_{fs}$	Full Conduction Transconductance	8	20		mS	$V_{DS} = 10V$ , $V_{GS} = 0$ , $I_{DSS} = 3mA$ , $f = 1kHz$
$e_n$	Noise Voltage		0.9	1.9	nV/ $\sqrt{Hz}$	$V_{DS} = 10V$ , $I_D = 2mA$ , $f = 1kHz$ , NBW = 1Hz
$e_n$	Noise Voltage		2.5	4	nV/ $\sqrt{Hz}$	$V_{DS} = 10V$ , $I_D = 2mA$ , $f = 10Hz$ , 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	$V_{DG} = 10V$ , $I_D = 0$ , $f = 1MHz$

## ORDERING INFORMATION

LSK389 -		A	-	SOIC-8
		$I_{DSS}$ Range		Package
A	2.6 - 6.5 mA			71 SOIC-8
B	6 - 12 mA			TO-71 6L
C	10 - 20 mA			SOIC-A 8L

## PACKAGE DIMENSIONS



1. Absolute maximum ratings are limiting values above which serviceability may be impaired.

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