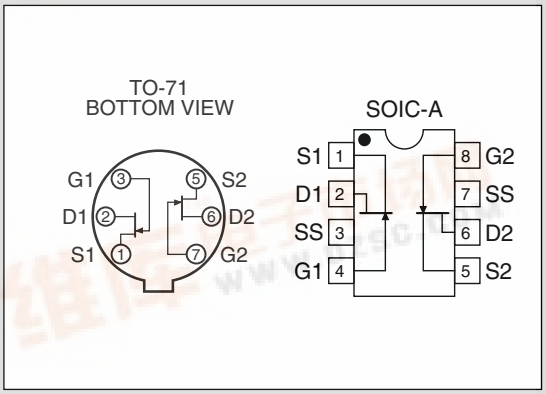
LINEAR SYSTEMS

Linear Integrated Systems

LSK389

ULTRA LOW NOISE MONOLITHIC DUAL N-CHANNEL JFET

FEATURES	
ULTRA LOW NOISE	e_n = 0.9nV/√Hz (typ)
TIGHT MATCHING	$\|V_{GS1-2}\|$ = 20mV max
HIGH BREAKDOWN VOLTAGE	BV_{GSS} = 40V max
HIGH GAIN	Y_{fs} = 20mS (typ)
LOW CAPACITANCE	25pF typ
IMPROVED SECOND SOURCE REPLACEMENT FOR 2SK389	
ABSOLUTE MAXIMUM RATINGS[1] @ 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	$I_{G(F)}$ = 10mA
Maximum Voltages	
Gate to Source	V_{GSS} = 40V
Gate to Drain	V_{GDS} = 40V



*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} = 10V, I_D = 1mA
$\frac{I_{DSS1}}{I_{DSS2}}$	Gate to Source Saturation Current Ratio	0.9			-	V_{DS} = 10V, V_{GS} = 0V

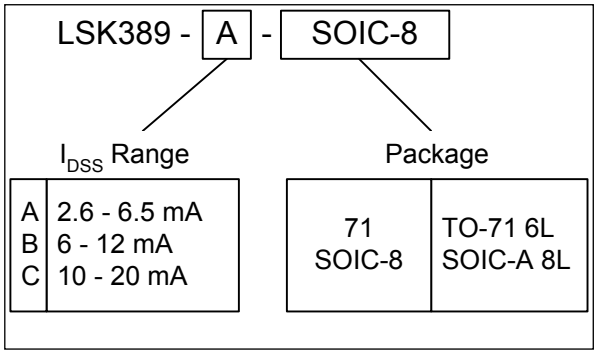
ELECTRICAL CHARACTERISTICS @ 25 °C (unless otherwise stated)

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		0.15		2	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		
I_{GSS}	Gate to Source Leakage Current				200	pA	V_{GS} = -30V, V_{DS} = 0

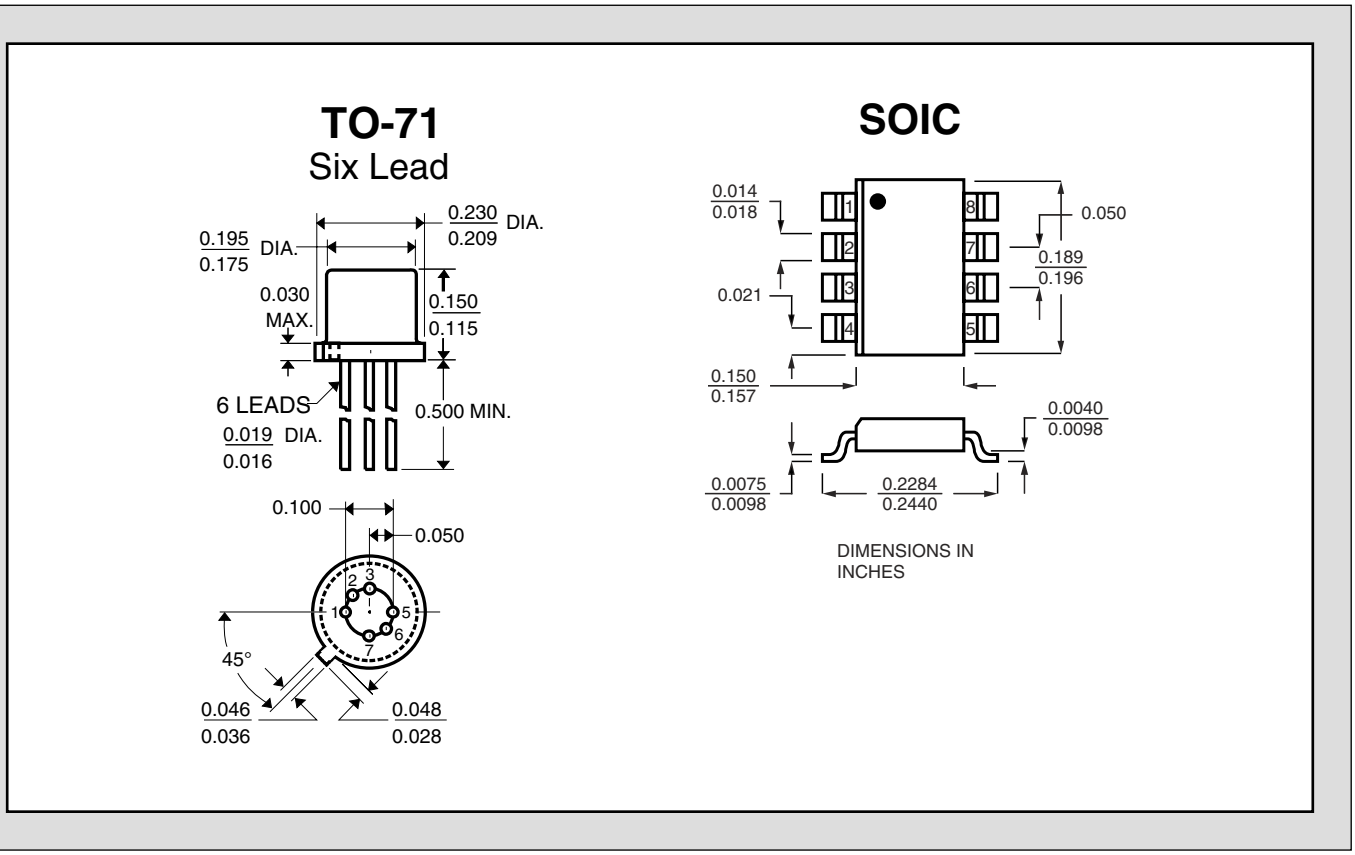
ELECTRICAL CHARACTERISTICS CONT. @ 25 °C (unless otherwise stated)

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/√Hz	V_{DS} = 10V, I_D = 2mA, f = 1kHz, NBW = 1Hz
e_n	Noise Voltage		2.5	4	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,

ORDERING INFORMATION



PACKAGE DIMENSIONS



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