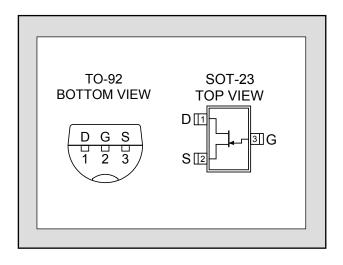


Linear Integrated Systems

FEATURES					
ULTRA LOW NOISE (f = 1kHz)	$e_n = 0.9 \text{nV}/\sqrt{\text{Hz}}$				
HIGH BREAKDOWN VOLTAGE	BV _{GSS} = 40V max				
HIGH GAIN	$Y_{fs} = 22mS (typ)$				
HIGH INPUT IMPEDANCE	$I_G = -500$ pA max				
LOW CAPACITANCE	22pF max				
IMPROVED SECOND SOURCE REPLACEMENT FOR 2SK170					
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	$V_{GDS} = 40V$				

LSK170

ULTRA LOW NOISE SINGLE N-CHANNEL JFET



*For equivalent monolithic dual, see LSK389 family.

ELECTRICAL CHARACTERISTICS @ 25 °C (unless otherwise stated)

SYMBOL	CHARACTERISTIC		MIN	TYP	MAX	UNITS	CONDITIONS	
BV _{GSS}	Gate to Source Breakdown Voltage		40			V	$V_{DS} = 0$, $I_{D} = 100 \mu A$	
$V_{GS(OFF)}$	Gate to Source Pinch-off Voltage		0.2		2	V	$V_{DS} = 10V, I_{D} = 1nA$	
V_{GS}	Gate to Source Operating Voltage			0.5		V	$V_{DS} = 10V, I_{D} = 1mA$	
I _{DSS}	Drain to Source Saturation Current	LSK170A	2.6		6.5	mA	V _{DG} = 10V, V _{GS} = 0	
		LSK170B	6		12			
		LSK170C	10		20			
I _G	Gate Operating Current				0.5	nA	V _{DG} = 10V, I _D = 1mA	
I _{GSS}	Gate to Source Leakage Current				1	nA	$V_{DG} = 10V, V_{DS} = 0$	
Y _{fss}	Full Conduction Transconductance			22		mS	$V_{GD} = 10V, V_{GS} = 0, f = 1kHz$	
Y _{fs}	Typical Conduction Transconductance			10		mS	$V_{DG} = 15V, I_{D} = 1mA$	
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			20		pF	V _{DS} = 15V, I _D = 500μA	
C _{RSS}	Common Source Reverse Tr	ansfer Cap.		5		pF	V _{DS} = 13V, 1 _D = 300μA	

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

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