

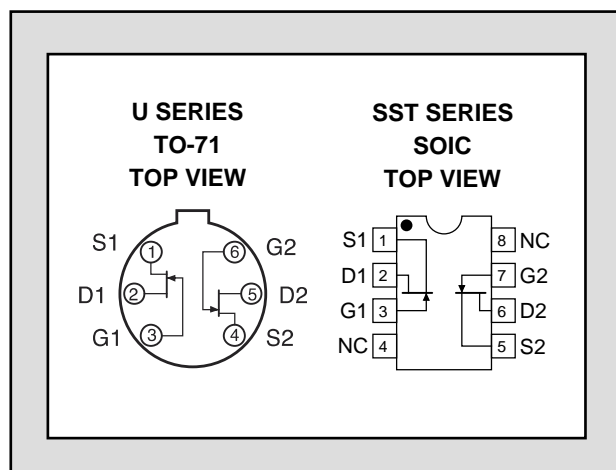
# LINEAR SYSTEMS

Twenty-Five Years Of Quality Through Innovation

## U/SST440, 441

WIDEBAND HIGH GAIN  
MONOLITHIC DUAL  
N-CHANNEL JFET AMPLIFIER

FEATURES	
Direct Replacement for SILICONIX U/SST440 & U/SST441	
HIGH CMRR	CMRR $\geq$ 85dB
LOW GATE LEAKAGE	$I_{GSS} \leq$ 1pA
ABSOLUTE MAXIMUM RATINGS <sup>1</sup>	
@ 25 °C (unless otherwise stated)	
Maximum Temperatures	
Storage Temperature	-55 to +150 °C
Operating Junction Temperature	-55 to +150 °C
Maximum Power Dissipation @ TA = 25°C	
Continuous Power Dissipation (Total)	500mW
Maximum Currents	
Gate Current	50mA
Maximum Voltages	
Gate to Drain	-25V
Gate to Source	-25V
Gate to Gate	$\pm$ 50V



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

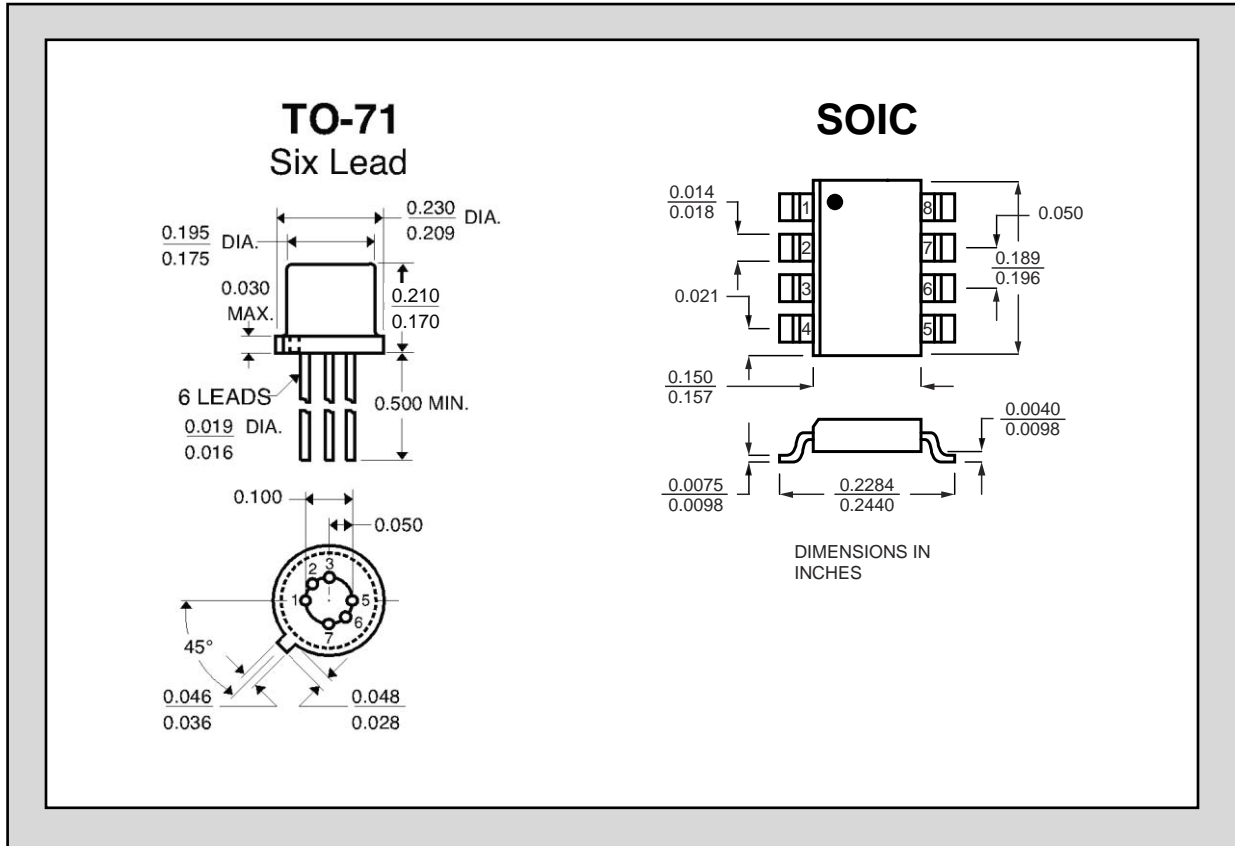
SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
$ V_{GS1} - V_{GS2} $	Differential Gate to Source Cutoff Voltage	U/SST440		10	mV	$V_{DG} = 10V, I_D = 5mA$
		U/SST441		20		
$\frac{\Delta V_{GS1} - V_{GS2} }{\Delta T}$	Differential Gate to Source Cutoff Voltage Change with Temperature		20		$\mu V/^\circ C$	$V_{DG} = 10V, I_D = 5mA$ $T_A = -55 \text{ to } +125^\circ C$
$\frac{I_{DSS1}}{I_{DSS2}}$	Gate to Source Saturation Current Ratio <sup>3</sup>		0.98			$V_{DS} = 10V, V_{GS} = 0V$
$\frac{g_{fs1}}{g_{fs2}}$	Forward Transconductance Ratio <sup>2</sup>		0.97			$V_{DS} = 10V, I_D = 5mA, f = 1kHz$
CMRR	Common Mode Rejection Ratio		85		dB	$V_{DG} = 5 \text{ to } 10V, I_D = 5mA$

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

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
$BV_{GSS}$	Gate to Source Breakdown Voltage	-25			V	$I_G = -1\mu A, V_{DS} = 0V$
$V_{GS(off)}$	Gate to Source Cutoff Voltage	-1	-3.5	-6	V	$V_{DS} = 10V, I_D = 1nA$
$I_{DSS}$	Gate to Source Saturation Current <sup>2</sup>	6	15	30	mA	$V_{DS} = 10V, V_{GS} = 0V$
$I_{GSS}$	Gate Leakage Current		-1	-500	pA	$V_{GS} = -15V, V_{DS} = 0V$
$I_G$	Gate Operating Current		-1	-500		$V_{DG} = 10V, I_D = 5mA$

**ELECTRICAL CHARACTERISTICS CONTINUED @ 25 °C (unless otherwise stated)**

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
$g_{fs}$	Forward Transconductance	4.5	6	9	mS	$V_{DS} = 10V, I_D = 5mA, f = 1kHz$
$g_{os}$	Output Conductance		70	200	$\mu S$	
$C_{iss}$	Input Capacitance		3		$\mu F$	$V_{DS} = 10V, I_D = 5mA, f = 1MHz$
$C_{rss}$	Reverse Transfer Capacitance		1			
$e_n$	Equivalent Input Noise Voltage		4		nV/ $\sqrt{Hz}$	$V_{DS} = 10V, I_D = 5mA, f = 10kHz$



**NOTES:**

1. Absolute maximum ratings are limiting values above which serviceability may be impaired.
2. Pulse Test:  $PW \leq 300\mu s$  Duty Cycle  $\leq 3\%$
3. Assumes smaller value in numerator.

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