

U/SST440,441

MONOLITHIC DUAL N-CHANNEL JFET

FEATURES

Direct Replacement for SILICONIX U/SST440 & U/SST441

HIGH CMRR CMRR $\geq 85\text{dB}$

LOW GATE LEAKAGE $I_{GSS} \leq 1\text{pA}$

ABSOLUTE MAXIMUM RATINGS¹

@ 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 (Total) 500mW

Maximum Currents

Gate Current 50mA

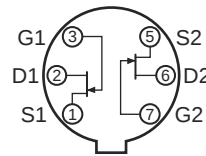
Maximum Voltages

Gate to Drain -25V

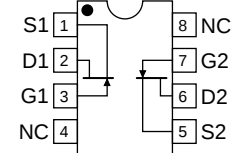
Gate to Source -25V

Gate to Gate $\pm 50\text{V}$

U SERIES TO-71 BOTTOM VIEW



SST SERIES SOIC



MATCHING CHARACTERISTICS @ 25 °C (unless otherwise stated)

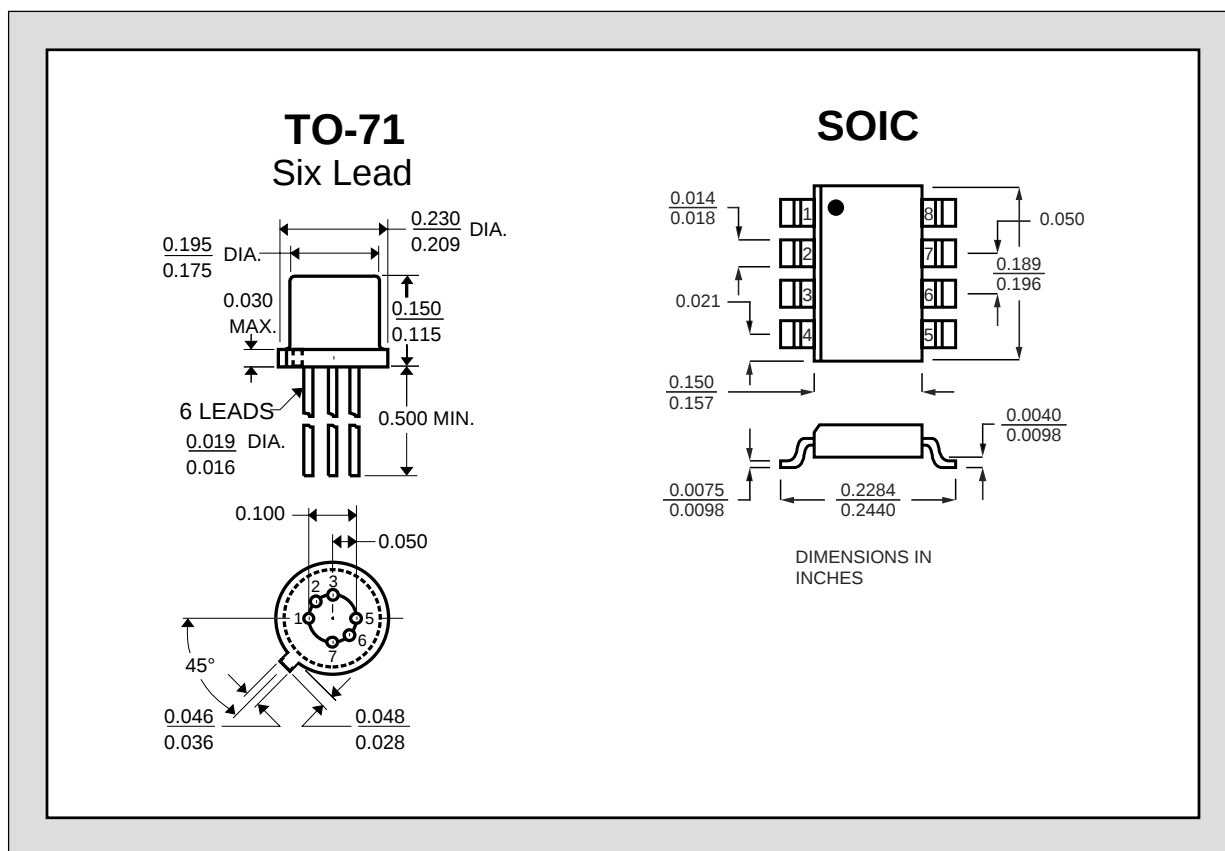
SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
$ V_{GS1} - V_{GS2} $	Differential Gate to Source Cutoff Voltage			10	mV	$V_{DG} = 10\text{V}, I_D = 5\text{mA}$
				20		
$\frac{\Delta V_{GS1} - V_{GS2} }{\Delta T}$	Differential Gate to Source Cutoff Voltage Change with Temperature		20		$\mu\text{V}/^\circ\text{C}$	$V_{DG} = 10\text{V}, I_D = 5\text{mA}$ $T_A = -55 \text{ to } +125^\circ\text{C}$
$\frac{I_{DSS1}}{I_{DSS2}}$	Gate to Source Saturation Current Ratio		0.07			$V_{DS} = 10\text{V}, V_{GS} = 0\text{V}$
$\frac{g_{fs1}}{g_{fs2}}$	Forward Transconductance Ratio ²		0.97			$V_{DS} = 10\text{V}, I_D = 5\text{mA}, f = 1\text{kHz}$
CMRR	Common Mode Rejection Ratio		85		dB	$V_{DG} = 5 \text{ to } 10\text{V}, I_D = 5\text{mA}$

ELECTRICAL CHARACTERISTICS @ 25 °C (unless otherwise stated)

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
BV_{GSS}	Gate to Source Breakdown Voltage	-25			V	$I_G = -1\mu\text{A}, V_{DS} = 0\text{V}$
$V_{GS(off)}$	Gate to Source Cutoff Voltage	-1	-3.5	-6	V	$V_{DS} = 10\text{V}, I_D = 1\text{nA}$
I_{DSS}	Gate to Source Saturation Current ³	6	15	30	mA	$V_{DS} = 10\text{V}, V_{GS} = 0\text{V}$
I_{GSS}	Gate Leakage Current		-1	-500	pA	$V_{GS} = -15\text{V}, V_{DS} = 0\text{V}$
I_G	Gate Operating Current		-1	-500		$V_{DG} = 10\text{V}, I_D = 5\text{mA}$

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	μS	
C_{iss}	Input Capacitance		3		pF	$V_{DS} = 10V, I_D = 5mA, f = 1MHz$
C_{rss}	Reverse Transfer Capacitance		1			
e_n	Equivalent Input Noise Voltage		4		nV/ $\sqrt{Hz}$	$V_{DS} = 10V, I_D = 5mA, f = 10kHz$



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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