

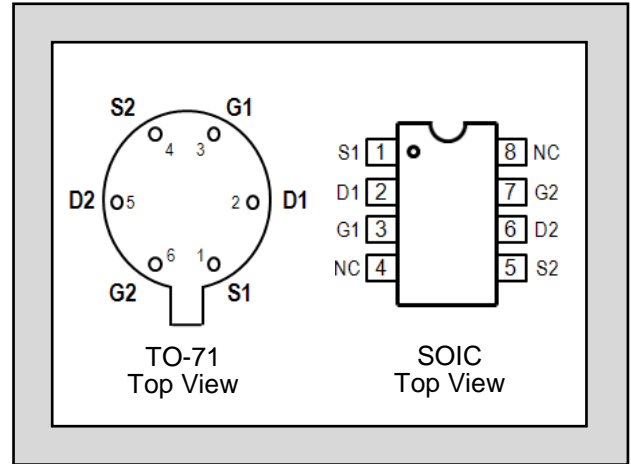
LINEAR SYSTEMS

Twenty-Five Years Of Quality Through Innovation

SST/U401 – SST/U406

LOW NOISE LOW DRIFT
MONOLITHIC DUAL N-CHANNEL
JFET AMPLIFIER

FEATURES		
LOW DRIFT	$ V_{GS1-2}/T = 10\mu V/^{\circ}C$ TYP.	
LOW NOISE	$e_n = 6nV/Hz @ 10Hz$ TYP.	
LOW PINCHOFF	$V_P = 2.5V$ MAX.	
ABSOLUTE MAXIMUM RATINGS NOTE 1		
@ 25 °C (unless otherwise noted)		
Maximum Temperatures		
Storage Temperature	-55 to +150°C	
Operating Junction Temperature	-55 to +150°C	
Maximum Voltage and Current for Each Transistor NOTE 1		
-V _{GSS}	Gate Voltage to Drain or Source	50V
-V _{DSO}	Drain to Source Voltage	50V
-I _{G(f)}	Gate Forward Current	10mA
Maximum Power Dissipation per side NOTE 2		
Device Dissipation TA = 25°C		300mW



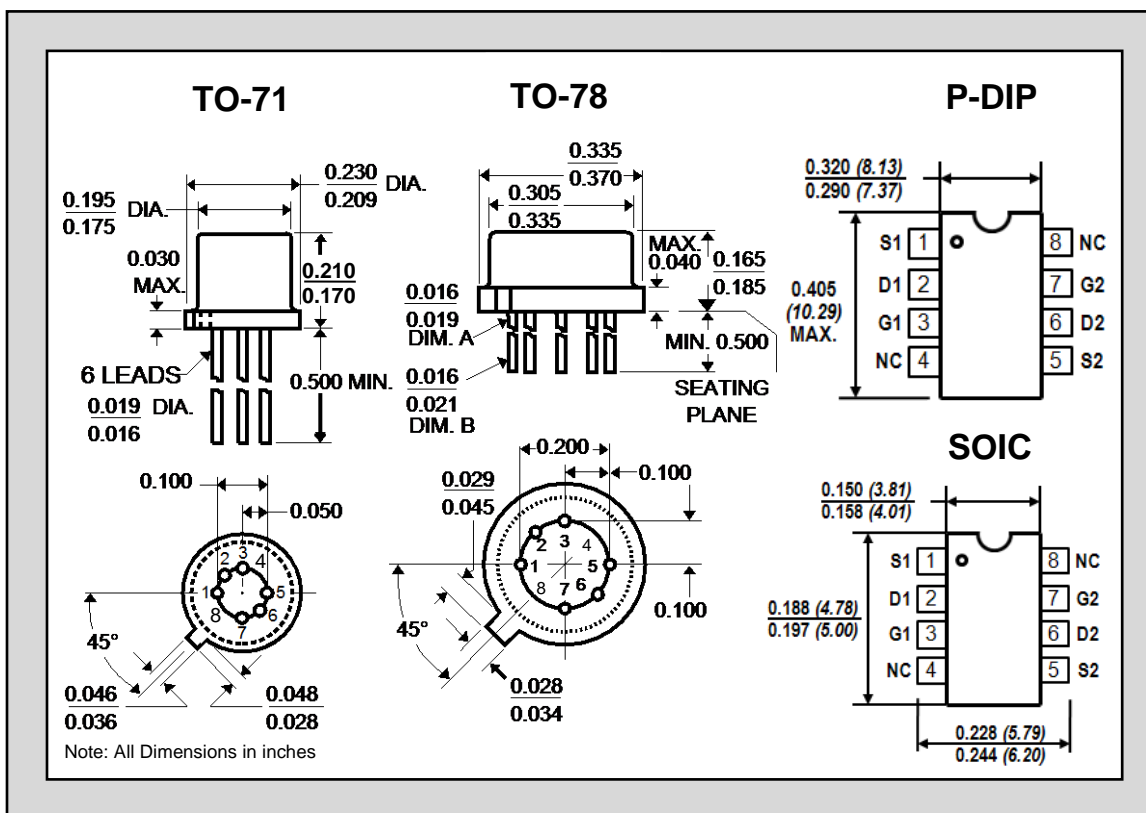
MATCHING CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC	U401	U402	U403	U404	U405	U406	UNITS	CONDITIONS
$ V_{GS1-2}/T $ max.	Drift vs. Temperature	10	10	25	25	40	80	$\mu V/^{\circ}C$	$V_{DG} = 10V, I_D = 200\mu A$ $T_A = -55^{\circ}C$ to $+125^{\circ}C$
$ V_{GS1-2} $ max.	Offset Voltage	5	10	10	15	20	40	mV	$V_{DG} = 10V, I_D = 200\mu A$

ELECTRICAL CHARACTERISTICS TA = 25°C (unless otherwise noted) NOTE 3

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNITS	CONDITIONS
BV _{GSS}	Breakdown Voltage	-50	-60	--	V	$V_{DS} = 0, I_D = 1nA$
BV _{G1G2}	Gate-to-Gate Breakdown	± 50	--	--	V	$I_G = \pm 1\mu A, I_D = 0, I_S = 0$
TRANSCONDUCTANCE						
G _{fss}	Full Conduction	2000	--	7000	μS	$V_{DG} = 10V, V_{GS} = 0, f = 1kHz$
G _{fs}	Typical Operation	1000	--	2000	μS	$V_{DG} = 15V, I_D = 200\mu A, f = 1kHz$
$ G_{fs1}/G_{fs2} $	Mismatch	0.97	--	1.0		
I _{DSS}	Saturation Drain Current	0.5	--	10	mA	$V_{DG} = 10V, V_{GS} = 0$
$\frac{I_{DSS1}}{I_{DSS2}}$	Saturation Current Ratio	0.9	0.98	1.0		
GATE VOLTAGE						
V _{GS(off)} or V _P	Pinchoff Voltage	-0.5	--	-2.5	V	$V_{DS} = 15V, I_D = 1nA$
V _{GS}	Operating Range	--	--	-2.3	V	$V_{DS} = 15V, I_D = 200\mu A$
GATE CURRENT						
I _G	Operating	--	-4	-15	pA	$V_{DG} = 15V, I_D = 200\mu A$
I _G	High Temperature	--	--	-10	nA	$T_A = +125^{\circ}C$
I _{GSS}	Gate Reverse Current	--	--	-100	pA	$V_{GS} = -30V, V_{DS} = 0V$
I _{G1G2}	Gate to Gate Isolation Current	--	--	± 1.0	μA	$V_{G1} - V_{G2} = \pm 50V, I_D = I_S = 0$

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNITS	CONDITIONS
<u>OUTPUT CONDUCTANCE</u>						
G _{oss}	Full Conduction	--	--	40	μS	V _{DS} = 10V, V _{GS} = 0V, f = 1kHz
G _{os}	Operating	--	2	2.7	μS	V _{DS} = 15V, I _D = 200μA, f = 1kHz
<u>COMMON MODE REJECTION</u>						
CMRR	$-20 \log [(V_{GS1}-V_{GS2})/\Delta V_{DG1-2}]$	95	--	--	dB	V _{DG1} = 10V V _{DG2} = 20V I _{D1} = I _{D2} =200μA
<u>NOISE</u>						
NF	Figure	--	--	0.5	dB	V _{DS} = 15V V _{GS} = 0 R _G =10M f= 100Hz NBW= 6Hz
e _n	Voltage	--	6	20	nV/Hz	V _{DS} = 15V I _D = 200μA f= 10Hz NBW= 1Hz
<u>CAPACITANCE</u>						
C _{ISS}	Input	--	4	8	pF	V _{DS} = 15V I _D = 200μA f= 1MHz
C _{RSS}	Reverse Transfer	--	1.5	3	pF	



NOTES:

1. These ratings are limiting values above which the serviceability of any semiconductor may be impaired.
2. Derate 2.4mW/°C when T_A is greater than 25°C
3. All MIN/TYP/MAX limits are absolute numbers. Negative signs indicate electrical polarity only.

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