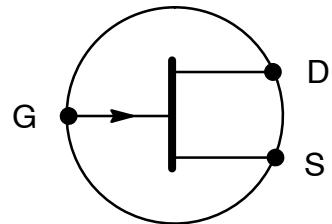# NTE461
Silicon N−Channel JFET Transistor
Dual, Matched Pair
DC Amp/Sampler/Chopper
TO−71 Type Package

Features:

- High Input Impedance: I_G < 50pA
- Minimum System Error and Calibrations
- TO−71 Case Style

Absolute Maximum Ratings:

Gate Drain or Gate Source Voltage . . . . −50V

Gate Current 30mA

Device Dissipation (T_A = +25°C, Each Side) 250mW
      Derate Above 25°C . . . . 1.67mW/°C

Total Device Dissipation (T_A = +25°C) 400mW
      Derate Above 25°C . . . . 2.67mW/°C

Storage Temperature Range . . . . −65° to +200°C

Lead Temperature (During Soldering, 1/16" from case for 30sec) . . . . +300°C

Electrical Characteristics: (T_A = +25°C, unless otherwise specified)
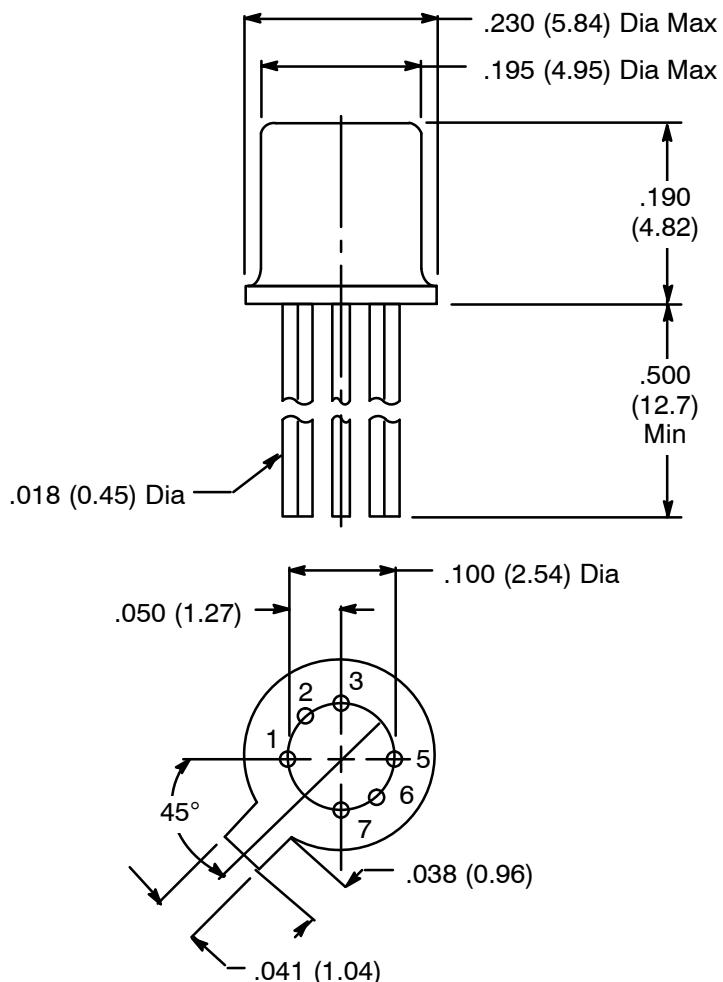
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Gate−Source Breakdown Voltage	$V_{(BR)GSS}$	I_G = −1μA, V_{DS} = 0	−50	–	–	V
Gate Reverse Current	I_{GSS}	V_{GS} = −30V, V_{DS} = 0	–	–	−100	pA
Gate−Source Cutoff Voltage	$V_{GS(off)}$	V_{DG} = 15V, I_D = 0.5nA	−0.5	–	−4.5	V
Saturation Drain Current	I_{DSS}	V_{DS} = 15V, V_{GS} = 0	0.5	–	8.0	mA
Gate Operating Current	I_G	V_{DG} = 15V, I_D = 200μA	–	–	−50	pA
Dynamic Characteristics						
Forward Transcondutance	g_{fs}	g = 1kHz	1500	–	6000	μmhos
Input Capacitance	C_{iss}	V_{DS} = 15V, V_{GS} = 0	–	–	6	pF
Reverse Transfer Capacitance	C_{rss}	V_{DS} = 15V, V_{GS} = 0	–	–	2	pF

Electrical Characteristics (Cont'd): (T_A = +25°C, unless otherwise specified)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Matching Characteristics							
Differential Gate Current	I_{G1}–I_{G2}	V_{DG} = 15V, I_D = 200µA, T_A = +25°C		–	–	5	nA
Saturation Drain Current Ratio	I_{DSS1}/I_{DSS2}	V_{DS} = 15V, V_{GS} = 0, Note 1		0.95	–	1.0	
Differential Gate–Source Voltage	V_{GS1}–V_{GS2}	V_{GD} = 15V	I_D = 50µA	–	–	15	mV
			I_D = 200µA	–	–	15	mV
Gate–Source Voltage Differential Drift		V_{DG} = 15V, I_D = 200µA, Note 2	T_A = +25°C/T_B = +125°C	–	–	40	µV/°C
			T_A = –55°C/T_B = +25°C	–	–	40	µV/°C
Transconductance Ratio	g_{fs1}/g_{fs2}			0.95	–	1.0	
Differential Output Conductance	g_{os1}–g_{os2}			–	–	3	µmhos

Note 1. Assumes smaller value in numerator.
Note 2. Measured at end points, T_A and T_B.

.230 (5.84) Dia Max
.195 (4.95) Dia Max
.190 (4.82)
.500 (12.7) Min
.018 (0.45) Dia
.100 (2.54) Dia
.050 (1.27)
45°
.038 (0.96)
.041 (1.04)

Pin4 and Pin8 are Omitted
All Leads are Isolated from Case

Pin 1   S1
Pin 2   D1
Pin 3   G1
Pin 5   S2
Pin 6   D2
Pin 7   G2