



ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748-5089
<http://www.nteinc.com>

NTE461

Silicon N-Channel JFET Transistor

Dual, Matched Pair

DC Amp/Sampler/Chopper

Features:

- High Input Impedance: $I_G < 50\text{pA}$
- Minimum System Error and Calibrations
- TO-71 Case Style

Absolute Maximum Ratings:

Gate Drain or Gate Source Voltage	.....	-50V
Gate Current	.....	30mA
Device Dissipation ($T_A = +25^\circ\text{C}$, Each Side)	.....	250mW
Derate Above 25°C}	.....	1.67mW/ $^\circ\text{C}$
Total Device Dissipation ($T_A = +25^\circ\text{C}$)	.....	400mW
Derate Above 25°C}	.....	2.67mW/ $^\circ\text{C}$
Storage Temperature Range	.....	-65° to +200°C
Lead Temperature (During Soldering, 1/16" from case for 30sec)	.....	+300°C

Electrical Characteristics: ($T_A = +25^\circ\text{C}$, unless otherwise specified)

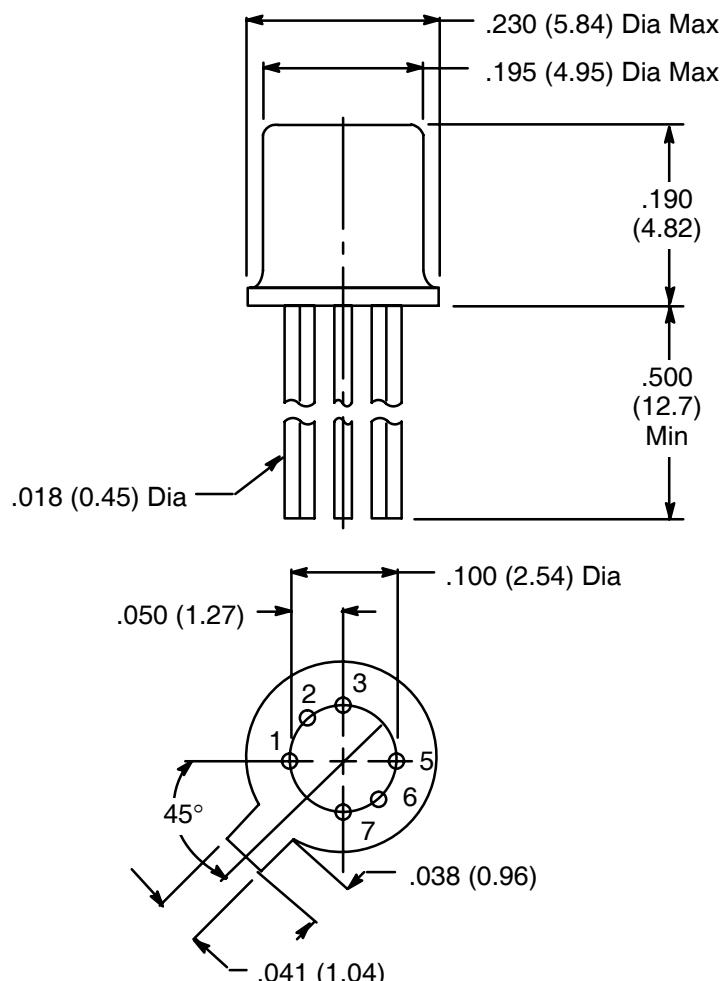
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Gate-Source Breakdown Voltage	$V_{(\text{BR})\text{GSS}}$	$I_G = -1\mu\text{A}$, $V_{DS} = 0$	-50	-	-	V
Gate Reverse Current	I_{GSS}	$V_{GS} = -30\text{V}$, $V_{DS} = 0$	-	-	-100	pA
Gate-Source Cutoff Voltage	$V_{GS(\text{off})}$	$V_{DG} = 15\text{V}$, $I_D = 0.5\text{nA}$	-0.5	-	-4.5	V
Saturation Drain Current	I_{DSS}	$V_{DS} = 15\text{V}$, $V_{GS} = 0$	0.5	-	8.0	mA
Gate Operating Current	I_G	$V_{DG} = 15\text{V}$, $I_D = 200\mu\text{A}$	-	-	-50	pA
Dynamic Characteristics						
Forward Transconductance	g_{fs}	$g = 1\text{kHz}$	1500	-	6000	μmhos
Input Capacitance	C_{iss}	$V_{DS} = 15\text{V}$, $V_{GS} = 0$	-	-	6	pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 15\text{V}$, $V_{GS} = 0$	-	-	2	pF

Electrical Characteristics (Cont'd): ($T_A = +25^\circ\text{C}$, unless otherwise specified)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Matching Characteristics							
Differential Gate Current	$I_{G1}-I_{G2}$	$V_{DG} = 15\text{V}$, $I_D = 200\mu\text{A}$, $T_A = +25^\circ\text{C}$		-	-	5	nA
Saturation Drain Current Ratio	I_{DSS1}/I_{DSS2}	$V_{DS} = 15\text{V}$, $V_{GS} = 0$, Note 1		0.95	-	1.0	
Differential Gate-Source Voltage	$V_{GS1}-V_{GS2}$	$V_{GD} = 15\text{V}$	$I_D = 50\mu\text{A}$	-	-	15	mV
			$I_D = 200\mu\text{A}$	-	-	15	mV
Gate-Source Voltage Differential Drift		$V_{DG} = 15\text{V}$, $I_D = 200\mu\text{A}$, Note 2	$T_A = +25^\circ\text{C}/T_B = +125^\circ\text{C}$	-	-	40	$\mu\text{V}/^\circ\text{C}$
			$T_A = -55^\circ\text{C}/T_B = +25^\circ\text{C}$	-	-	40	$\mu\text{V}/^\circ\text{C}$
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 .



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