

matched dual n-channel JFETs designed for . . .



Performance Curves NFA
See Section 5

- **Low and Medium Frequency Differential Amplifiers**
- **High Input Impedance Amplifiers**

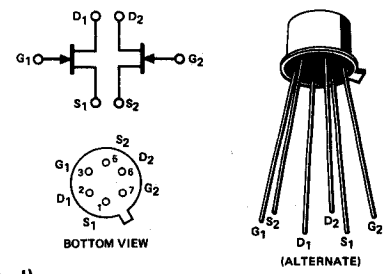
BENEFITS

- Wide Dynamic Range
I_G Specified @ V_{DS} = 20 V
- Low Capacitance
C_{iss} < 4 pF

***ABSOLUTE MAXIMUM RATINGS (25°C)**

Any Lead-To-Case Voltage	±100 V
Gate-Drain or Gate-Source Voltage	-50 V
Gate-To-Gate Voltage	±100 V
Gate Current	50 mA
Total Device Dissipation 85°C (Each Side)	250 mW
Case Temperature (Both Sides)	500 mW
Power Derating (Each Side)	2.86 mW/°C
(Both Sides)	4.3 mW/°C
Storage Temperature Range	-65 to +250°C
Lead Temperature (1/16" from case for 10 seconds)	300°C

TO-71
See Section 7



***ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)**

Characteristic	2N3956		2N3957		2N3958		Unit	Test Conditions	
	Min	Max	Min	Max	Min	Max			
1 I _{GSS} Gate Reverse Current		-100		-100		-100	pA	V _{GS} = -30 V, V _{DS} = 0 T _A = 150°C	
	2		-500		-500				nA
3 BV _{GSS} Gate-Source Breakdown Voltage	-50		-50		-50		V	V _{DS} = 0 V, I _G = -1 μA	
4 V _{GS(off)} Gate-Source Cutoff Voltage	-1.0	-4.5	-1.0	-4.5	-1.0	-4.5		V _{DS} = 20 V, I _D = 1 nA	
5 V _{GS(f)} Gate-Source Forward Voltage		2.0		2.0		2.0	V	V _{DS} = 0 V, I _G = 1 mA	
6 V _{GS} Gate-Source Voltage		-4.2		-4.2		-4.2		V _{DS} = 20 V, I _D = 50 μA	
7 V _{GS} Gate-Source Voltage	-0.5	-4.0	-0.5	-4.0	-0.5	-4.0	V	V _{DS} = 20 V, I _D = 200 μA	
8 I _G Gate Operating Current		-50		-50		-50		pA	
9 I _G Gate Operating Current		-250		-250		-250	nA	T _A = 125°C	
10 I _{DSS} Saturation Drain Current	0.5	5.0	0.5	5.0	0.5	5.0		mA	V _{DS} = 20 V, V _{GS} = 0
11 y _{fs} Common-Source Forward Transconductance	1000	3000	1000	3000	1000	3000	μmho	V _{DS} = 20 V, V _{GS} = 0	f = 1 kHz
	12	1000	1000		1000				f = 200 MHz
13 θ _{os} Common-Source Output Conductance		35		35		35	pF	V _{DS} = 20 V, V _{GS} = 0	f = 1 kHz
14 C _{iss} Common-Source Input Capacitance		4.0		4.0		4.0			f = 1 MHz
15 C _{rss} Common-Source Reverse Transfer Capacitance		1.2		1.2		1.2	pF	V _{DS} = 20 V, V _{GS} = 0	f = 100 Hz
16 C _{dgo} Drain-Gate Capacitance		1.5		1.5		1.5			V _{DG} = 10 V, I _S = 0
17 NF Common-Source Spot Noise Figure		0.5		0.5		0.5	dB	V _{DS} = 20 V, V _{GS} = 0 V, R _G = 10 MΩ	f = 100 Hz
18 I _{G1} -I _{G2} Differential Gate Reverse Current		10		10		10			nA
19 I _{DSS1} /I _{DSS2} Saturation Drain Current Ratio (Note 1)	0.95	1.0	0.90	1.0	0.85	1.0	-	V _{DS} = 20 V, V _{GS} = 0	
20 V _{GS1} -V _{GS2} Differential Gate-Source Voltage		15		20		25			mV
21 ΔV _{GS1} -V _{GS2} Gate-Source Voltage Differential Change With Temperature		4.0		6.0		8.0	T = 25°C to 125°C		
22 ΔV _{GS1} -V _{GS2} Gate-Source Voltage Differential Change With Temperature		5.0		7.5		10.0	-	V _{DS} = 20 V, I _D = 200 μA	f = 1 kHz
23 θ _{fs1} /θ _{fs2} Transconductance Ratio (Note 1)	0.95	1.0	0.90	1.0	0.85	1.0			

*JEDEC registered data

NOTE:

1. Assumes smaller value in numerator.

NFA

3