monolithic dual n-channel JFETs *designed for . . .*

Siliconix

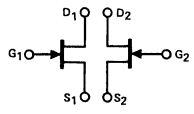
Performance Curves NQP
See Section 4

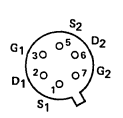
- **Low and Medium Frequency Differential Amplifiers**
- **High Input Impedance Amplifiers**

BENEFITS

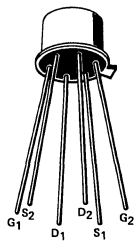
- Wide Dynamic Range
  I_G Specified @ V_{DS} = 20 V
- Low Capacitance
  $C_{iss} < 4$ pF

TO-71
See Section 6





Bottom View



*ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

		Characteristic		2N3956		2N3957		2N3958		Unit	Test Conditions	
				Min	Max	Min	Max	Min	Max			
1	STATIC	I_{GSS}	Gate Reverse Current		-100		-100		-100	pA	V_{GS} = -30 V, V_{DS} = 0	
2					-500		-500		-500	nA		T_A = 150°C
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_{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				-0.5	-4.0	-0.5	-4.0	-0.5	-4.0		V_{DS} = 20 V, I_D = 200 μA	
8		I_G	Gate Operating Current		-50		-50		-50	pA	V_{DS} = 20 V, I_D = 200 μA	
9					-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	DYNAMIC	$\lvert y_{fs} \rvert$	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		g_{os}	Common-Source Output Conductance		35		35		35			f = 1 kHz
14		C_{iss}	Common-Source Input Capacitance		4.0		4 0		4 0	pF		f = 1 MHz
15		C_{rss}	Common-Source Reverse Transfer Capacitance		1.2		1.2		1.2			
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	MATCHING	$\lvert I_{G1} - I_{G2} \rvert$	Differential Gate Reverse Current		10		10		10	nA	V_{DS} = 20 V, I_D = 200 μA	T = 125°C
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		$\lvert V_{GS1} - V_{GS2} \rvert$	Differential Gate-Source Voltage		15		20		25	mV	V_{DS} = 20 V, I_D = 200 μA	
21		$\Delta\lvert V_{GS1} - V_{GS2} \rvert$	Gate-Source Voltage Differential Change With Temperature		4.0		6.0		8.0			T = 25°C to -55°C
22					5.0		7.5		10.0			T = 25°C to 125°C
23		g_{fs1}/g_{fs2}	Transconductance Ratio (Note 1)	0.95	1 0	0.90	1.0	0.85	1.0	–		f = 1 kHz

*JEDEC registered data

NOTE:

1. Assumes smaller value in numerator.

NQP