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

Siliconix

Performance Curves NQP
See Section 4

■ Low and Medium Frequency Differential Amplifiers

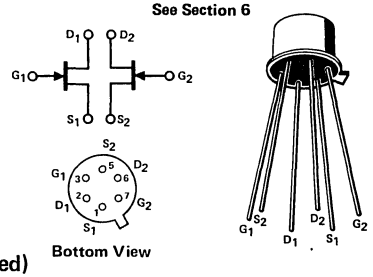
BENEFITS

- Minimum System Error and Calibration
  5 mV Offset Maximum (2N5452)
- Simplifies Amplifier Design
  Output Conductance Less that 1 μmho

*ABSOLUTE MAXIMUM RATINGS (25°C)

Any Lead-To-Case Voltage . . . . . ±100 V
Gate-Drain or Gate-Source Voltage . . . . . -50 V
Gate Current . . . . . 50 mA
Total Device Dissipation at (Each Side) . . . . . 250 mW
85°C 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 6



*ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

		Characteristic		2N5452		2N5453		2N5454		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 V	
2					-200		-200		-200	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	-4.5	-1	-4.5	-1	-4.5	V	V_{DS} = 20 V, I_D = 1 nA	
5		V_{GS}	Gate-Source Voltage	-0.2	-4.2	-0.2	-4.2	-0.2	-4.2	V	V_{DS} = 20 V, I_D = 50 μA	
6		$V_{GS(f)}$	Gate-Source Forward Voltage		2		2		2	V	V_{DS} = 0 V, I_G = 1 mA	
7		I_{DSS}	Drain Saturation Current	0.5	5.0	0.5	5.0	0.5	5.0	mA	V_{DS} = 20 V, V_{GS} = 0 V	
8	DYNAMIC	g_{fs}	Common-Source Forward Transconductance	1000	3000	1000	3000	1000	3000	μmho	V_{DS} = 20 V, V_{GS} = 0 V	f = 1 kHz
9				1000		1000		1000				f = 100 MHz
10		g_{os}	Common-Source Output Conductance		3.0		3.0		3.0	μmho		f = 1 kHz
11					1.0		1.0		1.0		V_{DS} = 20 V, I_D = 200 μA	
12		C_{iss}	Common-Source Input Capacitance		4.0		4.0		4.0	pF	V_{DS} = 20 V, V_{GS} = 0 V	f = 1 MHz
13		C_{rss}	Common-Source Reverse Transfer Capacitance		1.2		1.2		1.2	pF		
14		C_{dgo}	Drain-Gate Capacitance		1.5		1.5		1.5	pF	V_{DG} = 10 V, I_S = 0 V	
15		$\bar{e}_n$	Equivalent Short Circuit Input Noise Voltage		20		20		20	$\frac{nV}{\sqrt{Hz}}$	V_{DS} = 20 V, V_{GS} = 0 V	f = 1 kHz
16		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
17	MATCHING	I_{DSS1}/I_{DSS2}	Drain Saturation Current Ratio (Note 1)	0.95	1.0	0.95	1.0	0.95	1.0	–	V_{DS} = 20 V, V_{GS} = 0 V	
18		$\lvert V_{GS1}-V_{GS2}\rvert$	Differential Gate-Source Voltage		5.0		10.0		15.0	mV	V_{DS} = 20 V, I_D = 200 μA	
19		$\Delta\lvert V_{GS1}-V_{GS2}\rvert$	Gate-Source Voltage Differential Change with Temperature		0.4		0.8		2.0	mV		T = 25°C to -55°C
20					0.5		1.0		2.5	mV		T = 25°C to +125°C
21		g_{fs1}/g_{fs2}	Transconductance Ratio (Note 1)	0.97	1.0	0.97	1.0	0.95	1.0	–		f = 1 kHz
22		$\lvert g_{os1}-g_{os2}\rvert$	Differential Output Conductance		0.25		0.25		0.25	μmhos		

*JEDEC registered data

NOTE:
1. Assumes smaller value in numerator.

NQP

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