



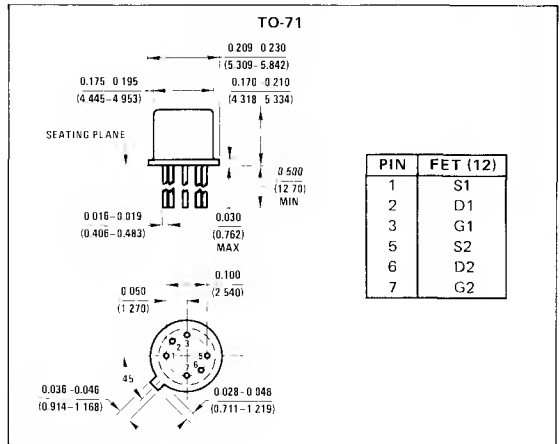
2N3954-55/2N3954A-55A N-Channel Monolithic Dual JFETs

General Description

The 2N3954 thru 2N3955/A series of N-channel monolithic dual JFETs is designed for low to medium frequency differential amplifier applications requiring low noise, high common-mode rejection, and very tight match.

Absolute Maximum Ratings (25°C)

Gate-Drain or Gate-Source Voltage	-50V
Gate-to-Gate Voltage	+50V
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°C to +200°C
Lead Temperature (1/16" from case for 10 seconds)	300°C



Electrical Characteristics (25°C unless otherwise noted)

PARAMETER	CONDITIONS	2N3954		2N3954A		2N3955		2N3955A		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
I _{GSS}	Gate Reverse Current V _{GS} = 30V V _{DS} = 0		100		-100		-100		-100	µA
			500		-500		-500		-500	nA
	T _A = 125°C									
bV _{GSS}	Gate-Source Breakdown Voltage V _{DS} = 0, I _G = 1 µA	-50		50		50		50		V
V _{GS(off)}	Gate-Source Cutoff Voltage V _{DS} = 20V, I _D = 1 nA	1.0	4.5	1.0	-4.5	1.0	4.5	1.0	4.5	
V _{GS(fo)}	Gate-Source Forward Voltage V _{DS} = 0, I _G = 1 mA		2.0		2.0		2.0		2.0	
V _{GS}	Gate-Source Voltage V _{DS} = 20V		I _D = 50 µA 4.2		I _D = 200 µA -4.0		I _D = 50 µA 4.0		I _D = 200 µA -4.0	
I _G	Gate Operating Current V _{DS} = 20V I _D = 200 µA		-50		50		50		50	µA
			250		250		-250		-250	nA
	T _A = 125°C									
I _{DSS}	Saturation Drain Current V _{DS} = 20V, V _{GS} = 0	0.5	5.0	0.5	5.0	0.5	5.0	0.5	5.0	mA
g _{fs}	Common Source Forward Transconductance V _{DS} = 20V V _{GS} = 0		f = 1 kHz 1000		3000		1000		3000	µmho
			f = 200 MHz 1000		1000		1000		1000	
g _{os}	Common Source Output Conductance f = 1 kHz		35		35		35		35	
C _{iss}	Common Source Input Capacitance f = 1 MHz		4.0		4.0		4.0		4.0	pF
C _{iss}	Common Source Reverse Transfer Capacitance f = 1 MHz		1.2		1.2		1.2		1.2	
C _{dgo}	Drain Gate Capacitance V _{DS} = 10V I _S = 0		1.5		1.5		1.5		1.5	
NF	Common Source Noise Figure V _{DS} = 20V V _{GS} = 0 R _G = 10 MΩ		0.5		0.5		0.5		0.5	dB
I _{G1} - I _{G2}	Differential Gate Current V _{DS} = 20V I _D = 200 µA		10		10		10		10	nA
I _{DSS1} - I _{DSS2}	Drain Saturation Current Ratio V _{DS} = 20V, V _{GS} = 0	0.95	1.0	0.95	1.0	0.95	1.0	0.95	1.0	
V _{GS1} - V _{GS2}	Differential Gate Source Voltage V _{DS} = 20V I _D = 200 µA		5.0		5.0		10.0		5.0	mV
ΔV _{GS1} - V _{GS2}	Gate Source Differential Voltage Change with Temperature T = 25°C to 55°C T = 25°C to 125°C		0.8		0.4		2.0		1.2	
			1.0		0.5		2.5		1.5	
g _{fs1} - g _{fs2}	Transconductance Ratio f = 1 kHz	0.97	1.0	0.97	1.0	0.97	1.0	0.95	1.0	