



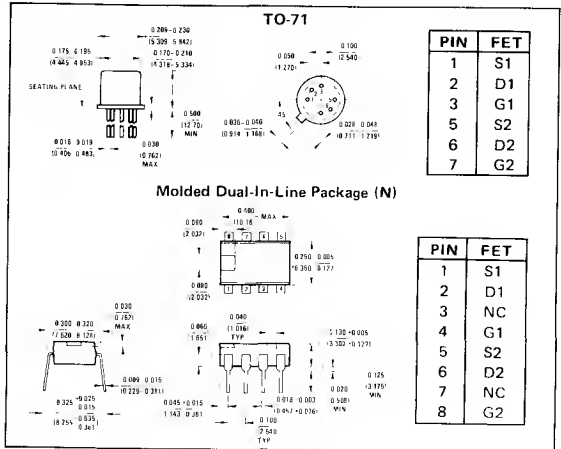
2N5564-66/NPD5564-66 N-Channel Monolithic Dual JFETs

General Description

The 2N/NPD5564 thru 2N/NPD5566 series of N-channel monolithic dual JFETs is designed for broadband low noise differential amplifier or applications requiring dual matched moderate ON resistance analog switches.

Absolute Maximum Ratings (25°C)

Gate-to-Gate Voltage	±40V
Gate-Drain or Gate-Source Voltage	-40V
Gate Current	50 mA
Device Dissipation (Each Side), T _A = 25°C (Derate 2.2 mW/°C)	325 mW
Total Device Dissipation, T _A = 25°C (Derate 3.3 mW/°C)	650 mW
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	COONITIONS	MIN	MAX	UNITS
I _{GSS}	Gate-Reverse Current V _{GS} = -20V, V _{DS} = 0 150°C		-100	μA
BV _{GSS}	Gate-Source Breakdown Voltage I _G = -1μA, V _{DS} = 0	-40		V
V _{GS(OFF)}	Gate-Source Cutoff Voltage V _{DS} = 15V, I _D = 1 mA	-0.5	3	V
V _{GS(f)}	Gate-Source Voltage V _{DS} = 0V, I _G = 2 mA	1	0	V
I _{DSS}	Saturation Drain Current V _{DS} = 15V, V _{GS} = 0, (Note 1)	5	30	mA
r _{DS(ON)}	Static Drain Source "ON" Resistance I _D = 1 mA, V _{GS} = 0		100	Ω
g _{fs}	Common Source Forward Transconductance (Note 1)	f = 1 kHz 7500	12,500	μmho
g _{os}	Common-Source Output Conductance	f = 100 MHz 7000		
C _{rss}	Common-Source Reverse Transfer Capacitance	f = 1 kHz	45	pF
C _{iss}	Common-Source Input Capacitance	f = 1 MHz	3	
NF	Spot Noise Figure	f = 10 Hz, R _G = 1M	1.0	dB
e _n	Equivalent Input Noise Voltage	f = 10 Hz	50	$\frac{nV}{\sqrt{Hz}}$

Matching Characteristics

PARAMETER	COONITIONS	NPO/2N5564		NPO/2N5565		NPO/2N5566		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
I _{DSS1} I _{DSS2}	Saturation Drain Current Ratio V _{DS} = 15V, V _{GS} = 0, (Note 1)	0.95	1	0.95	1	0.95	1	
V _{GS1} - V _{GS2}	Differential Gate-Source Voltage V _{DS} = 15V, I _D = 2 mA		5		10		20	mV
$\frac{\Delta V_{GS1} - V_{GS2} }{\Delta T}$	Gate Source Voltage Differential Drift (Note 2)		10		25		50	μV/°C
$\frac{g_{f1}}{g_{f2}}$	Transconductance Ratio f = 1 kHz	0.95	1	0.90	1	0.90	1	

Note 1: Pulse test required, pulse width 300 μs, duty cycle ≤ 3%.
Note 2: Measured at end points, T_A and T_B.