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

Siliconix

Performance Curves NCB-D
See Section 4

- **Wideband Differential Amplifiers**
- **Commutators**

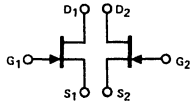
BENEFITS

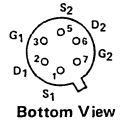
- High Gain
  7500 μmho Minimum g_{fs}
- Specified Matching Characteristics

ABSOLUTE MAXIMUM RATINGS (25°C)

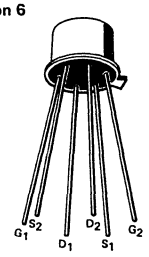
Gate–Gate Voltage ..... ±80 V
Gate-Drain or Gate-Source Voltage ..... -40 V
Gate Current ..... 50 mA
Device Dissipation (Each Side), T_A = 25°C
(Derate 2.2 mW/°C) ..... 325 mW
Total Device Dissipation, T_A = 25°C
(Derate 3.3 mW/°C) ..... 650 mW
Storage Temperature Range ..... -65 to +200°C
Lead Temperature
(1/16" from case for 10 seconds) ..... 300°C

TO-71
See Section 6





Bottom View



ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

		Characteristic		Min	Max	Unit	Test Conditions	
1	STATIC	I_{GSS}	Gate-Reverse Current		-100	pA	V_{GS} = -20 V, V_{DS} = 0	
2					-200	nA		150°C
3		BV_{GSS}	Gate-Source Breakdown Voltage	-40		V	I_G = -1 μA, V_{DS} = 0	
4		$V_{GS(off)}$	Gate-Source Cutoff Voltage	-0.5	-3		V_{DS} = 15 V, I_D = 1 nA	
5		$V_{GS(f)}$	Gate-Source Voltage		2		V_{DS} = 0 V, I_G = 2 mA	
6		I_{DSS}	Saturation Drain Current (Note 1)	5	50	mA	V_{DS} = 15 V, V_{GS} = 0	
7		$r_{DS(on)}$	Static Drain Source ON Resistance		100	Ω	I_D = 1 mA, V_{GS} = 0	
8	DYNAMIC	g_{fs}	Common-Source Forward Transconductance (Note 1)	7500	12,500	μmho	V_{DG} = 15 V, I_D = 2 mA	f = 1 kHz
				7000				f = 100 MHz
9		g_{os}	Common-Source Output Conductance		65			f = 1 kHz
10		C_{rss}	Common-Source Reverse Transfer Capacitance		3	pF		f = 1 MHz
11		C_{iss}	Common-Source Input Capacitance		12			
12		NF	Spot Noise Figure		1.0	dB		f = 10 Hz, R_g = 1M
13		$\overline{e}_n$	Equivalent Short Circuit Input Noise Voltage		50	$\frac{nV}{\sqrt{Hz}}$		f = 10 Hz

		Characteristics		DN5564 Min	DN5564 Max	DN5565 Min	DN5565 Max	DN5566 Min	DN5566 Max	Unit	Test Conditions	
14	MATCHING	$\frac{I_{DSS1}}{I_{DSS2}}$	Saturation Drain Current Ratio (Notes 1 and 2)	0.95	1	0.95	1	0.95	1	–	V_{DS} = 15 V, V_{GS} = 0	
15		$\lvert V_{GS1}-V_{GS2}\rvert$	Differential Gate-Source Voltage		5		10		20	mV	V_{DS} = 15 V, I_D = 2 mA	
16		$\frac{\Delta\lvert V_{GS1}-V_{GS2}\rvert}{\Delta T}$	Gate-Source Voltage Differential Drift (Note 3)		10		25		50	μV/°C		T_A = 25°C, T_B = 125°C
					10		25		50			T_A = -55°C, T_B = 25°C
17		$\frac{g_{fs1}}{g_{fs2}}$	Transconductance Ratio (Notes 1 and 2)	0.95	1	0.90	1	0.90	1	–		f = 1 kHz

NCB-D

NOTES:
1. Pulse test required, pulse width 300 μs, duty cycle ≤ 3%.
2. Assumes smaller value in numerator.
3. Measured at ends points, T_A and T_B

3