INTERSIL

2N3823
N-Channel JFET

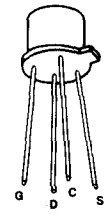
1

FOR VHF AMPLIFIER OSCILLATOR MIXER APPLICATIONS

- **Noise Figure < 2.5 dB at 100 MHz**
- **Low Capacitance**
- **Transconductance up to 6500 μmho**

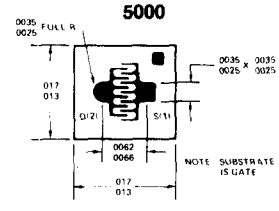
PIN CONFIGURATION

TO-72



CHIP TOPOGRAPHY

5000



ORDERING INFORMATION

TO-72	WAFER	DICE
2N3823	2N3823/W	2N3823/D

ABSOLUTE MAXIMUM RATINGS (25°C)

Gate-Source Voltage ..... -30V
Gate-Drain Voltage ..... -30V
Gate Current ..... 10 mA
Total Device Dissipation at (or below) 25°C
Free-Air Temperature ..... 300 mW
Storage Temperature Range ..... -65 to +200°C
Lead Temperature 1/16" From Case to 10 Sec .....300°C

ELECTRICAL CHARACTERISTICS (25°C)

CHARACTERISTIC		MIN	MAX	UNIT	TEST CONDITIONS	
I_{GSS}	Gate Reverse Current		-0.5	nA	V_{GS} = -20V, V_{DS} = 0	
			-0.5	μA		150°C
BV_{GSS}	Gate-Source Breakdown Voltage	-30		V	I_G = 1 μA, V_{DS} = 0	
$V_{GS(off)}$	Gate-Source Cutoff Voltage		-8		V_{DS} = 15V, I_D = 0.5 nA	
V_{GS}	Gate-Source Voltage	-1.0	-7.5		V_{DS} = 15V, I_D = 400 μA	
I_{DSS}	Saturation Drain Current	4	20	mA	V_{DS} = 15V, V_{GS} = 0 (Note 3)	
g_{fs}	Common-Source Forward Transconductance	3,500	6,500	μmho	V_{DS} = 15V, V_{GS} = 0	f = 1 kHz (Note 1)
$\|y_{fs}\|$	Common-Source Forward Transadmittance	3,200				f = 100 MHz
g_{os}	Common-Source Output Transconductance		35			f = 1 kHz (Note 1)
g_{iss}	Common-Source Input Conductance		800			f = 200 MHz
g_{oss}	Common-Source Output Conductance		200			
C_{iss}	Common-Source Input Capacitance		6	pF		f = 1 MHz
C_{rss}	Common-Source Reverse Transfer Capacitance		2			
NF	Noise Figure		2.5	dB	V_{DS} = 15V, V_{GS} = 0 R_G = 1 kΩ	f = 100 MHz

NOTE 1: These parameters are measured during a 2 msec interval 100 msec after d-c power is applied.