

INTERSIL

2N3821, 2N3822

N-Channel JFET

FEATURES

- Low Capacitance
- Up to 6500 μmho Transconductance

ABSOLUTE MAXIMUM RATINGS

@ 25°C (unless otherwise noted)

Maximum Temperatures

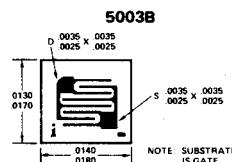
Storage Temperature	-65°C to +200°C
Operating Junction Temperature	+200°C
Lead Temperature (Soldering, 10 sec time limit)	+260°C

Maximum Power Dissipation

Device Dissipation @ Free Air Temperature	300 mW
Linear Derating	1.7 mW/°C

Maximum Voltages & Current

V_{GS} Gate to Source Voltage	-50 V
V_{GD} Gate to Drain Voltage	-50 V
I_G Gate Current	10 mA

**PIN
CONFIGURATION****CHIP
TOPOGRAPHY****ORDERING INFORMATION**

TO-72	WAFER	DICE
2N3821	2N3821/W	2N3821/D
2N3822	2N3822/W	2N3822/D

ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

PARAMETER	2N3821		2N3822		UNIT	TEST CONDITIONS	
	MIN	MAX	MIN	MAX			
I_{GSS} Gate Reverse Current		-0.1		-0.1	nA	$V_{GS} = -30 \text{ V}, V_{DS} = 0$	
		-0.1		-0.1	μA		150°C
BV_{GSS} Gate-Source Breakdown Voltage	-50		-50			$I_G = -1 \mu\text{A}, V_{DS} = 0$	
$V_{GS(\text{off})}$ Gate-Source Cutoff Voltage		-4		-6		$V_{DS} = 15 \text{ V}, I_D = 0.5 \text{ nA}$	
V_{GS} Gate-Source Voltage	-0.5	-2				$V_{DS} = 15 \text{ V}, I_D = 50 \mu\text{A}$	
				-1		$V_{DS} = 15 \text{ V}, I_D = 200 \mu\text{A}$	
I_{DSS} Saturation Drain Current	0.5	2.5	2	10	mA	$V_{DS} = 15 \text{ V}, V_{GS} = 0$ (Note 3)	
g_{fs} Common-Source Forward Transconductance (Note 1)	1500	4500	3000	6500			$f = 1 \text{ kHz}$
$ Y_{fs} $ Common-Source Forward Transadmittance	1500		3000		μmho		$f = 100 \text{ MHz}$
g_{os} Common-Source Output Conductance (Note 1)		10		20		$V_{DS} = 15 \text{ V}, V_{GS} = 0$	$f = 1 \text{ kHz}$
C_{iss} Common-Source Input Capacitance		6		6	pF		$f = 1 \text{ MHz}$
C_{rss} Common-Source Reverse Transfer Capacitance		3		3			
NF Noise Figure		5		5	dB	$V_{DS} = 15 \text{ V}, V_{GS} = 0, R_{gen} = 1 \text{ meg}, BW = 5 \text{ Hz}$	
e_n Equivalent Input Noise Voltage		200		200	$\frac{\text{nV}}{\sqrt{\text{Hz}}}$	$V_{DS} = 15 \text{ V}, V_{GS} = 0, BW = 5 \text{ Hz}$	$f = 10 \text{ Hz}$

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