

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

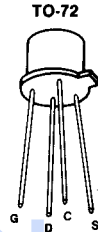
Maximum Power Dissipation

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

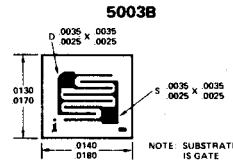
Maximum Voltages & Current

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 V, V _{DS} = 0	150°C
		-0.1		-0.1	μA		
BV _{GSS} Gate-Source Breakdown Voltage	-50		-50		V	I _G = -1 μA , V _{DS} = 0	
V _{GS(off)} Gate-Source Cutoff Voltage		-4		-6		V _{DS} = 15 V, I _D = 0.5 nA	
V _{GS} Gate-Source Voltage	-0.5	-2				V _{DS} = 15 V, I _D = 50 μA	
			-1	-4		V _{DS} = 15 V, I _D = 200 μA	
I _{DSS} Saturation Drain Current	0.5	2.5	2	10	mA	V _{DS} = 15 V, V _{GS} = 0 (Note 3)	
g _{fs} Common-Source Forward Transconductance (Note 1)	1500	4500	3000	6500	μmho	V _{DS} = 15 V, V _{GS} = 0	f = 1 kHz
y _{fs} Common-Source Forward Transadmittance	1500		3000				f = 100 MHz
g _{os} Common-Source Output Conductance (Note 1)		10		20	f = 1 kHz		
C _{iss} Common-Source Input Capacitance		6		6	f = 1 MHz		
C _{rss} Common-Source Reverse Transfer Capacitance		3		3			
NF Noise Figure		5		5	dB	V _{DS} = 15 V, V _{GS} = 0, R _{gen} = 1 meg, BW = 5 Hz	f = 10 Hz
E _n Equivalent Input Noise Voltage		200		200	$\frac{\text{nV}}{\sqrt{\text{Hz}}}$	V _{DS} = 15 V, V _{GS} = 0, BW = 5 Hz	

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