



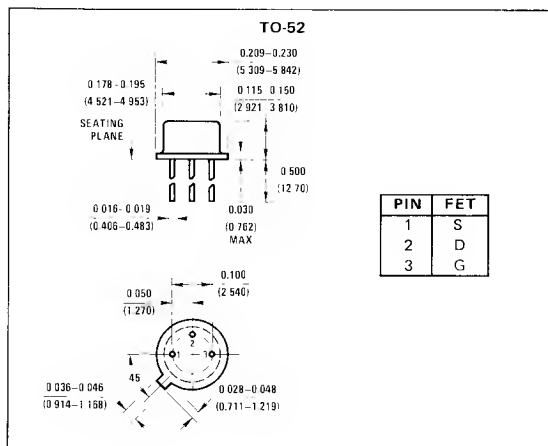
U308-10 N-Channel JFETs

General Description

The U308 thru U310 series of N-channel JFETs is designed for VHF amplifier, oscillator and mixer applications.

Absolute Maximum Ratings (25°C)

Gate-Drain or Gate-Source Voltage	-25V
Gate Current	20 mA
Total Power Dissipation	500 mW
Power Derating	4 mW/°C
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	CONDITIONS	U308		U309		U310		UNITS
		MIN	TYP	MAX	MIN	TYP	MAX	
I_{GSS} Gate Reverse Current	$V_{GS} = -15V$ $V_{DS} = 0$ $T = 125^\circ C$			-150			-150	μA
BV_{GSS} Gate Source Breakdown Voltage	$I_G = 1 \mu A, V_{DS} = 0$	-25		-150	-25		-150	V
$V_{GS(off)}$ Gate Source Cutoff Voltage	$V_{DS} = 10V, I_D = 1 nA$	-1.0		-6.0	-1.0	4.0	-2.5	6.0
I_{DSS} Saturation Drain Current	$V_{DS} = 10V, V_{GS} = 0$ (Note 1)	12		60	12	30	24	60
$V_{GS(f)}$ Gate-Source Forward Voltage	$I_G = 10 mA, V_{DS} = 0$			1.0			1.0	V
g_{fg} Common Gate Forward Transconductance, (Note 1)	$V_{DS} = 10V, I_D = 10 mA$ $f = 1 kHz$	10		20	10	20	10	18
g_{ogs} Common Gate Output Conductance				150			150	150
C_{gd} Drain Gate Capacitance	$V_{DS} = 10V, V_{GS} = -10V$ $f = 1 MHz$			2.5			2.5	2.5
C_{gs} Gate Source Capacitance				5.0			5.0	5.0
e_n Equivalent Short Circuit Input Noise Voltage	$V_{DS} = 10V, I_D = 10 mA$ $f = 100 Hz$		10			10		10
g_{fg} Common Gate Forward Transconductance	$V_{DS} = 10V, I_D = 10 mA$	$f = 100 MHz$	12		12		12	mmho
		$f = 450 MHz$	11		11		11	
g_{ogs} Common-Gate Output Conductance		$f = 100 MHz$	0.18		0.18		0.18	
		$f = 450 MHz$	0.7		0.7		0.7	
G_{pg} Common-Gate Power Gain		$f = 100 MHz$	15		15		15	dB
		$f = 450 MHz$	10		10		10	
NF Noise Figure		$f = 100 MHz$	1.5		1.5		1.5	
		$f = 450 MHz$	3.2		3.2		3.2	

Note 1: Pulse test duration = 2 ms.