NJ14AL Process

Silicon Junction Field-Effect Transistor

- Low-Noise, High Gain Amplifier
- Rf AMP to 1.0 Ghz

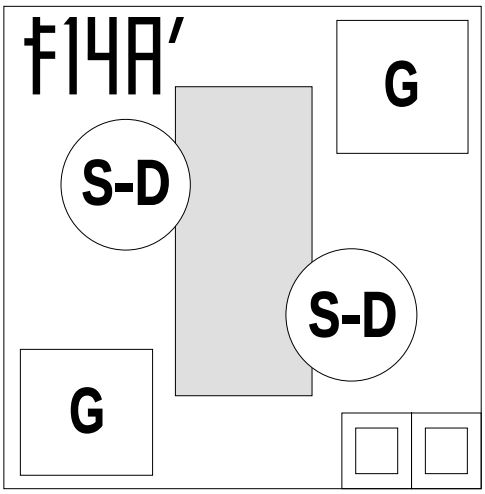
Absolute maximum ratings at TA = 25°C

Gate Current, Ig	10 mA
Operating Junction Temperature, Tj	+150°C
Storage Temperature, Ts	– 65°C to +175°C

Devices in this Databook based on the NJ14AL Process.

Datasheet

IF140, IF140A
IF142



Die Size = 0.016" X 0.016"
All Round Bond Pads = 0.0028"
All Square Bond Pads = 0.004"
Substrate is also Gate.

At 25°C free air temperature:		NJ14AL Process					
Static Electrical Characteristics		**Min**	**Typ**	**Max**	**Unit**	**Test Conditions**	
Gate Source Breakdown Voltage	$V_{(BR)GSS}$	– 15	– 22		V	I_G = – 1 µA, V_{DS} = ØV	
Gate Reverse Current	I_{GSS}		– 2.0	– 100	pA	V_{GS} = – 10V, V_{DS} = ØV	
Gate Source Cutoff Voltage	$V_{GS(OFF)}$	– 0.5		– 7	V	V_{GS} = 10V, I_D = 1 nA	
Drain Saturation Current (Pulsed)	I_{DSS}	0.5	10	20	mA	V_{DS} = 10V, V_{GS} = ØV	
Dynamic Electrical Characteristics							
Common Source Forward Transconductance	g_{fs}		5.5		mS	V_{DS} = 10V, V_{GS} = ØV	f = 1 kHz
Common Source Input Capacitance	C_{iss}		2.3		pF	V_{DS} = 15V, V_{GS} = ØV	f = 1 MHz
Common Source Reverse Transfer Capacitance	C_{rss}		0.5		pF	V_{DS} = 15V, V_{GS} = ØV	f = 1 MHz
Equivalent Noise Voltage	$\bar{e}_N$		4		nV/√HZ	V_{DS} = 10V, I_D = 5 mA	f = 1 kHz

InterFET Corporation
1000 N. Shiloh Road, Garland, TX 75042
(972) 487-1287 FAX (972) 276-3375
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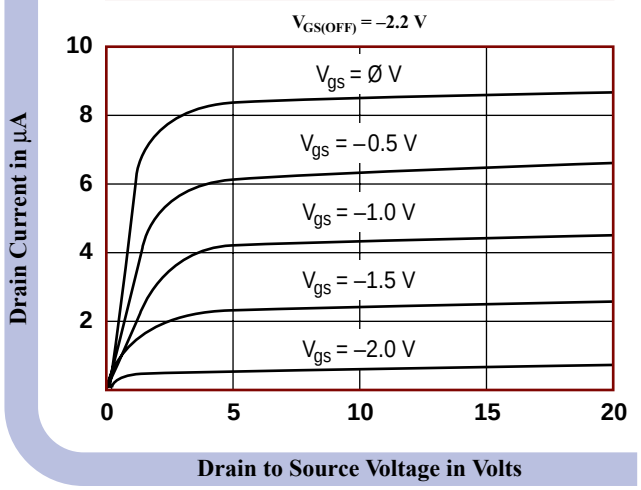
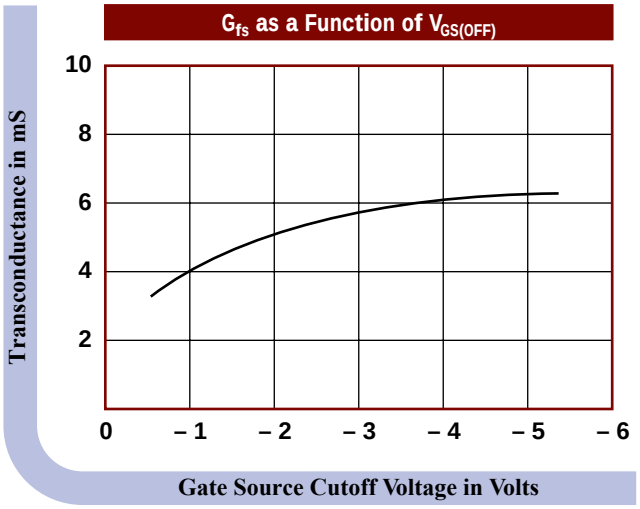
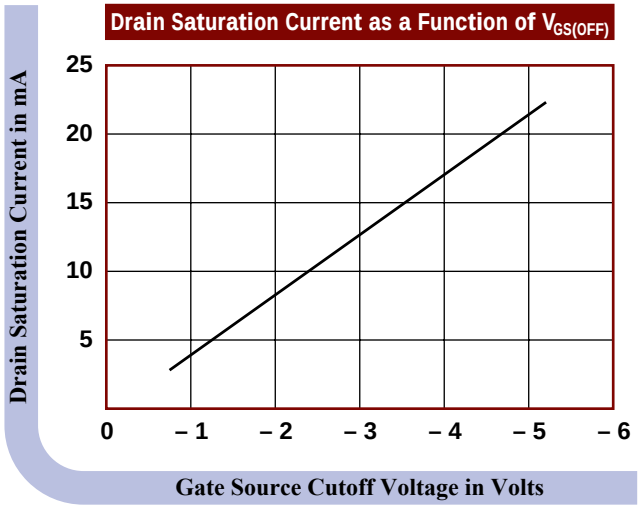
Drain Current as a Function of V_{DS}



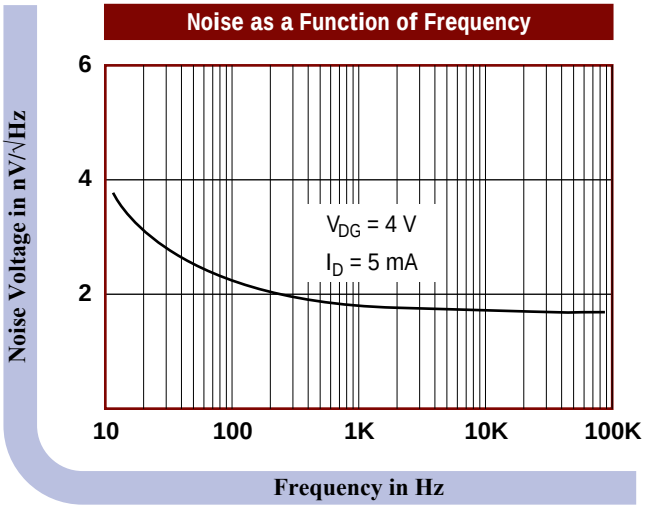
G_{fs} as a Function of $V_{GS(OFF)}$



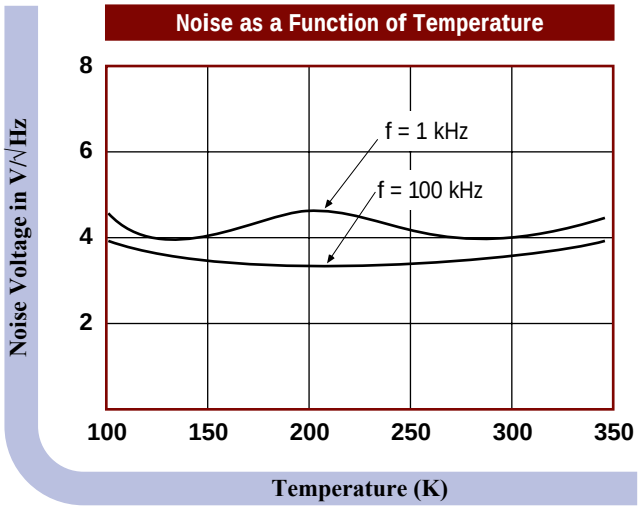
Drain Saturation Current as a Function of $V_{GS(OFF)}$



Noise as a Function of Frequency



Noise as a Function of Temperature



Input Capacitance as a Function of V_{GS}