

N0001H Process Geometry

Features

- Low Input Capacitance: 2.0pF Typical
- Low Gate Leakage: 0.5pA Typical
- High Breakdown Voltage: -60V Typical
- High Input Impedance
- Small Die: 365um X 365um X 203um
- Bond Pads: 90um X 90um
- Substrate Connected to Gate
- Au Back-Side Finish

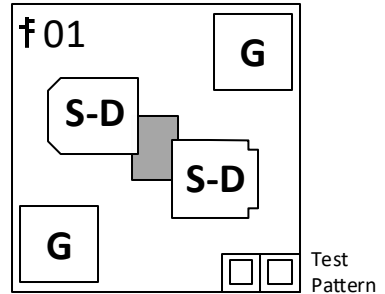
Applications

- Small Signal Amplifier
- Ultrahigh Impedance Pre-Amplifier
- Pico-Amp Diodes (PAD)
- High Input Impedance Buffers
- Custom Part Options

Description

The InterFET N0001H Geometry is targeted high impedance low leakage applications. The low input capacitance makes it ideal for high frequency applications.

Geometry Top View



Standard Parts

- 2N4117/A, 2N4118/A, 2N4119/A
- PAD1, PAD2, PAD5, PAD10
- PAD20, PAD50
- DPAD1, DPAD2, DPAD5, DPAD10
- DPAD20, DPAD50, DPAD100
- IFN421, IFN422, IFN423, IFN424
- IFN425, IFN426, IFN427, IFN428
- VCR7N

Product Summary

Parameters	Min	Typ	Max	Unit
BV _{GSS} Gate to Source Breakdown Voltage	-50	-60		V
I _{DSS} Drain to Source Saturation Current	0.03		0.6	mA
V _{GS(off)} Gate to Source Cutoff Voltage	-0.5		-6.0	V
G _{FS} Forward Transconductance		150		μS

Maximum Ratings (@ T_A = 25°C, Unless otherwise specified)

Parameters	Min	Typ	Max	Unit
V _{RGS} Reverse Gate to Source or Drain Voltage	-50			V
I _{FG} Continuous Forward Gate Current			10	mA
T _J Operating Junction Temperature	-55		150	°C
T _{STG} Storage Temperature	-65		175	°C



Disclaimer: It is the Buyers responsibility for designing, validating and testing the end application under all field use cases and extreme use conditions. Guaranteeing the application meets required standards, regulatory compliance, and all safety and security requirements is the responsibility of the Buyer. These resources are subject to change without notice.

Electrical Characteristics

Static Characteristics (@ TA = 25°C, Unless otherwise specified)

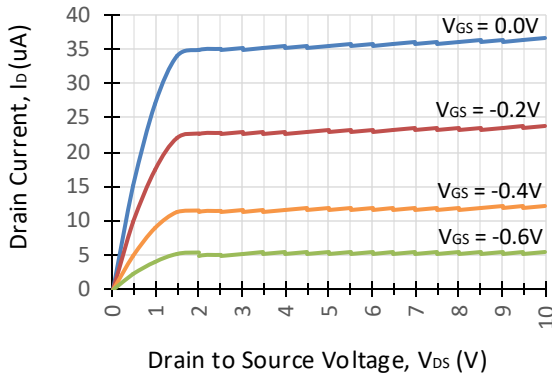
Parameters	Conditions	Min	Typ	Max	Unit
BV _{GSS} Gate to Source Breakdown Voltage	I _G = -1μA, V _{DS} = 0V	-50	-60		V
I _{GSS} Gate to Source Reverse Current	V _{GS} = -20V, V _{DS} = 0V		-0.5	-10	pA
V _{GS(OFF)} Gate to Source Cutoff Voltage	V _{DS} = 10V, I _D = 1μA	-0.5		-6.0	V
I _{DSS} Drain to Source Saturation Current	V _{DS} = 10V, V _{GS} = 0V	0.03		0.6	mA

Dynamic Characteristics (@ TA = 25°C, Unless otherwise specified)

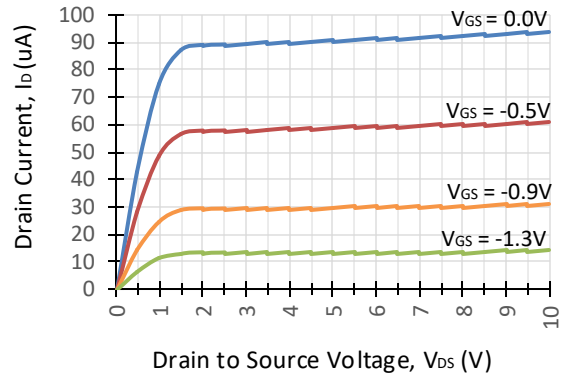
Parameters	Conditions	Min	Typ	Max	Unit
G _{FS} Forward Transconductance	V _{DS} = 10V, V _{GS} = 0V, f = 1kHz		150		μS
C _{iss} Input Capacitance	V _{DS} = 10V, V _{GS} = 0V, f = 1MHz		2		pF
C _{rss} Reverse Transfer Capacitance	V _{DS} = 10V, V _{GS} = 0V, f = 1MHz		0.9		pF
e _n Noise Voltage	V _{DS} = 10V, I _D = 0.03mA, f = 1kHz		14		nV/√Hz

Typical N0001H Characteristics

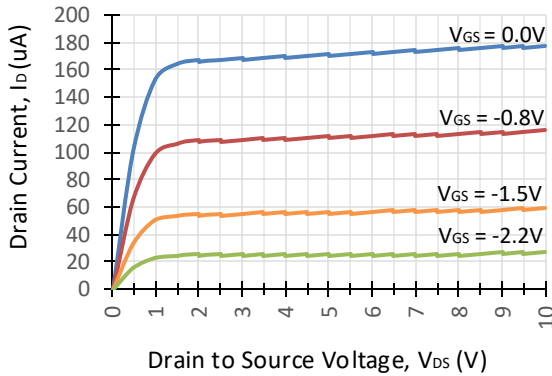
Typical Output @ $V_{GS(OFF)} = -0.8V$



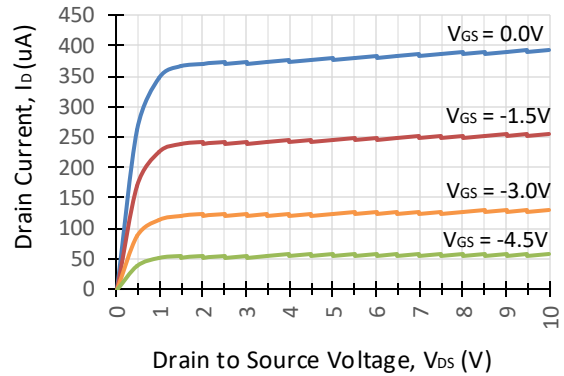
Typical Output @ $V_{GS(OFF)} = -1.5V$



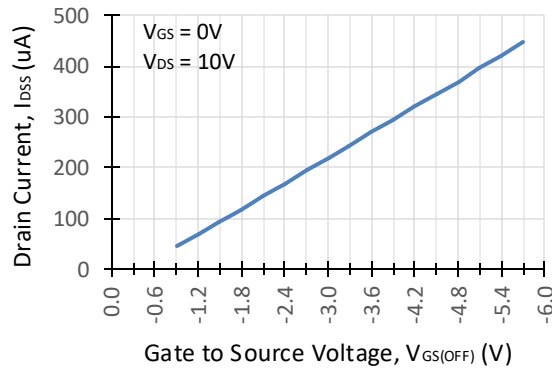
Typical Output @ $V_{GS(OFF)} = -2.5V$



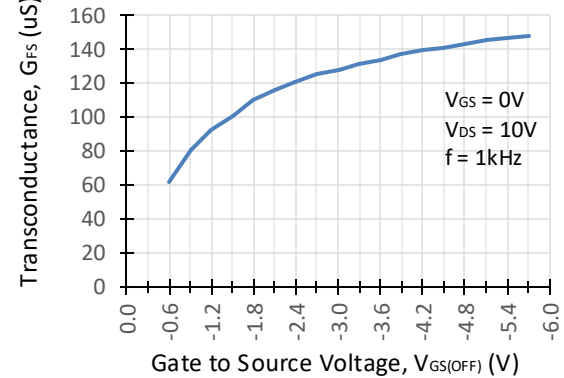
Typical Output @ $V_{GS(OFF)} = -5.0V$



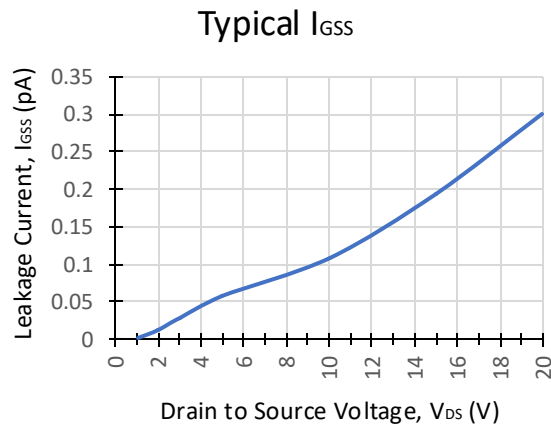
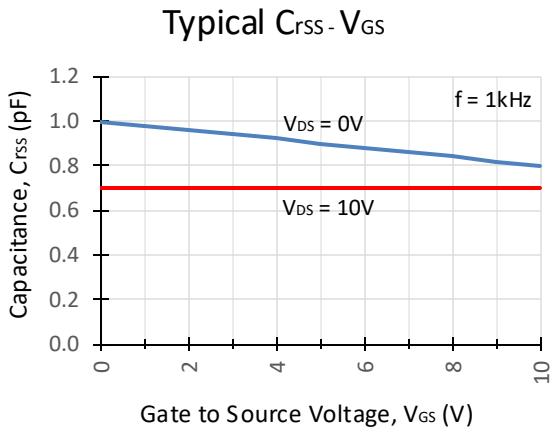
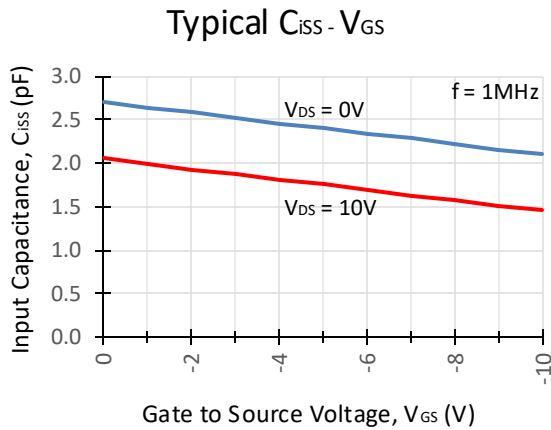
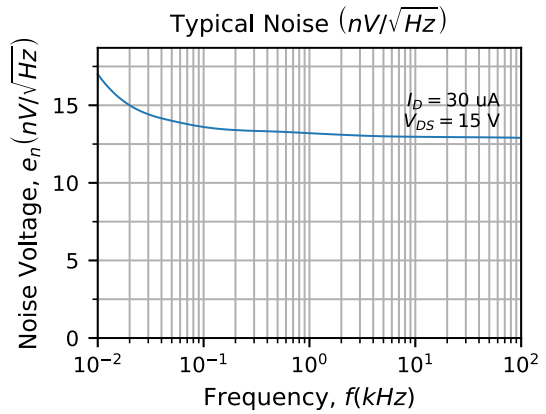
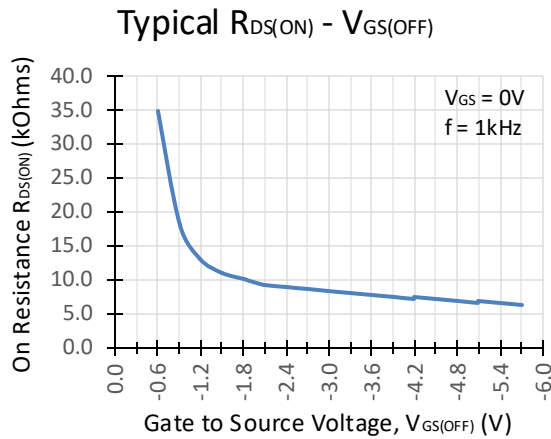
Typical $I_{DSS} - V_{GS(OFF)}$



Typical $G_{FS} - V_{GS(OFF)}$

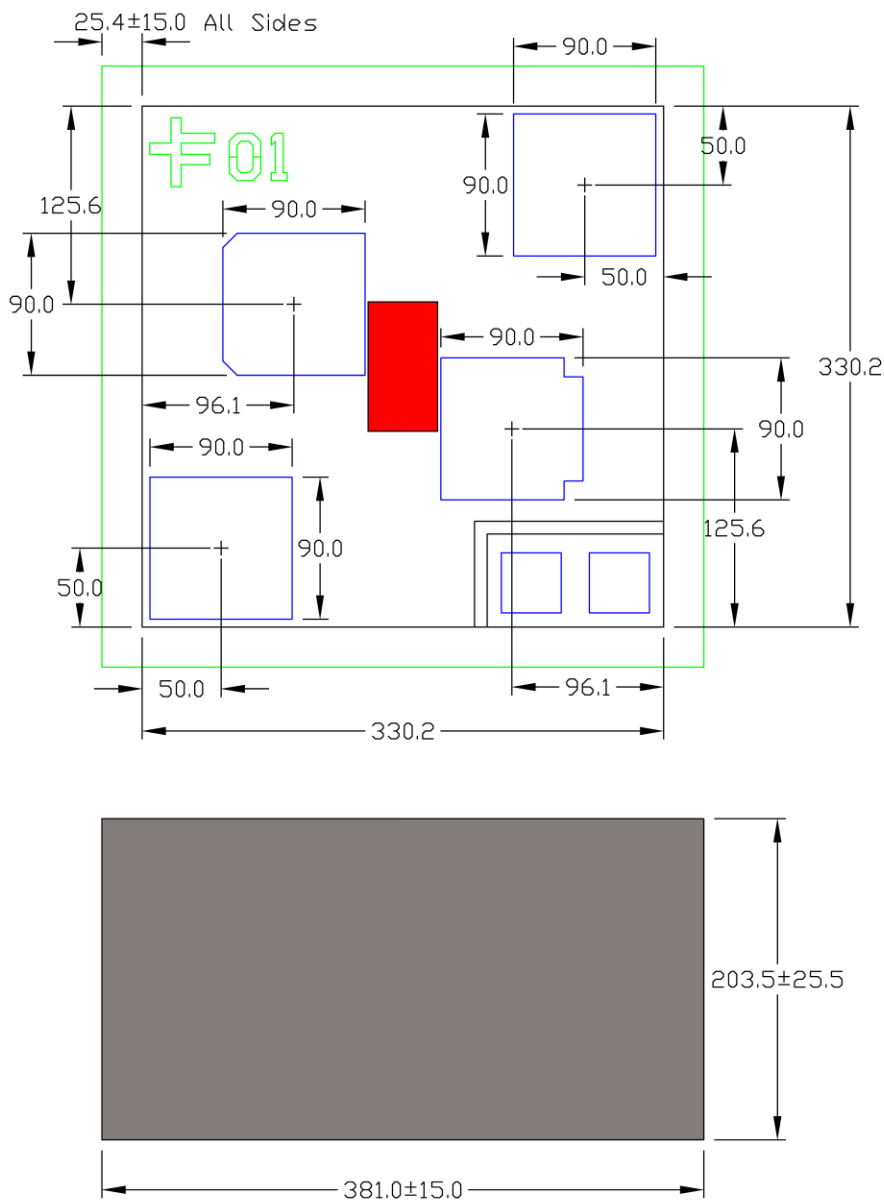


Typical N0001H Characteristics (Continued)



N0001H Die Geometry Mechanical

Raw Die Dimensions



1. All linear dimensions are in micrometers.