

N0014X Process Geometry

Features

- Low Input Capacitance: 2.3pF Typical
- Low Gate Leakage: 3pA Typical
- High Input Impedance
- Small Die: 365um X 365um X 203um
- Bond Pads: 90um X 90um and 66um Dia.
- Substrate Connected to Gate
- Au Back Side Finish

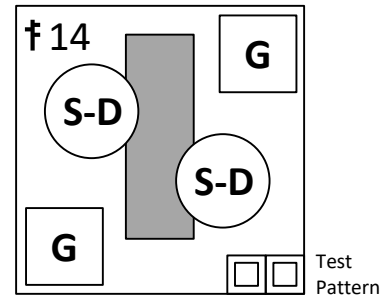
Applications

- Small Signal Amplifiers
- Audio Amplifiers
- High Gain, Low Leakage
- Custom Part Options

Description

The InterFET N0014X Geometry is targeted for low leakage, low noise, high gain applications. The low input capacitance makes it ideal for higher frequency applications.

Geometry Top View



Standard Parts

Product Summary

Parameters		Min	Typ	Max	Unit
BV _{GSS}	Gate to Source Breakdown Voltage	-10	-15		V
I _{DSS}	Drain to Source Saturation Current	0.5		30	mA
V _{GS(off)}	Gate to Source Cutoff Voltage	-0.5		-7	V
G _{FS}	Forward Transconductance		8		mS

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

Parameters		Min	Typ	Max	Unit
V _{RGS}	Reverse Gate to Source or Drain Voltage	-10	-15		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)

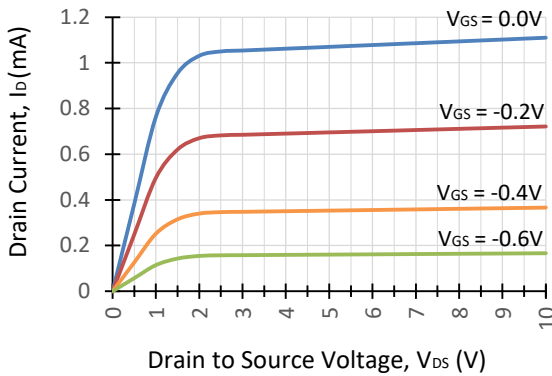
Parameters	Conditions	Min	Typ	Max	Unit
BV _{GSS} Gate to Source Breakdown Voltage	I _G = -1μA, V _{DS} = 0V	-10	-15		V
I _{GSS} Gate to Source Reverse Current	V _{GS} = -10V, V _{DS} = 0V		-3		pA
V _{GS(OFF)} Gate to Source Cutoff Voltage	V _{DS} = 10V, I _D = 1nA	-0.5		-7	V
I _{DSS} Drain to Source Saturation Current	V _{DS} = 10V, V _{GS} = 0V	0.5		30	mA

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

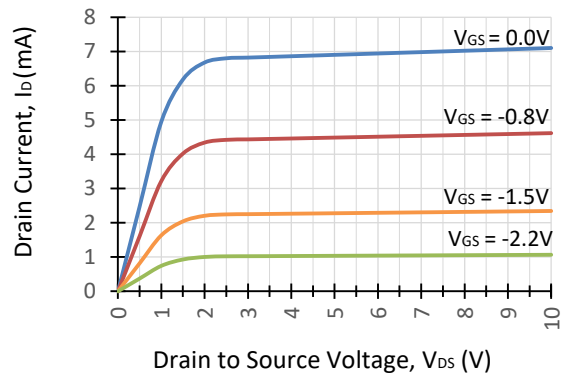
Parameters	Conditions	Min	Typ	Max	Unit
G _{FS} Forward Transconductance	V _{DS} = 10V, V _{GS} = 0V, f = 1kHz		8		mS
C _{iss} Input Capacitance	V _{DS} = 15V, V _{GS} = 0V, f = 1MHz		2.3		pF
C _{rss} Reverse Transfer Capacitance	V _{DS} = 15V, V _{GS} = 0V, f = 1MHz		0.5		pF
e _n Noise Voltage	V _{DS} = 10V, I _D = 0.5mA f = 1kHz		3.8		nV/√Hz

Typical N0014X Characteristics

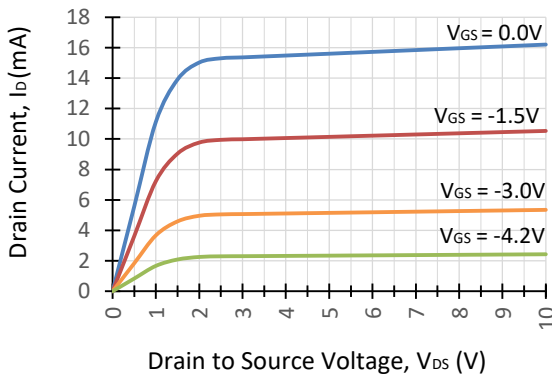
Typical Output @ $V_{GS(OFF)} = -0.8V$



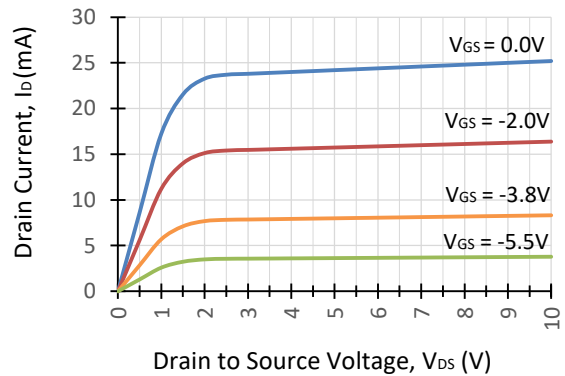
Typical Output @ $V_{GS(OFF)} = -2.5V$



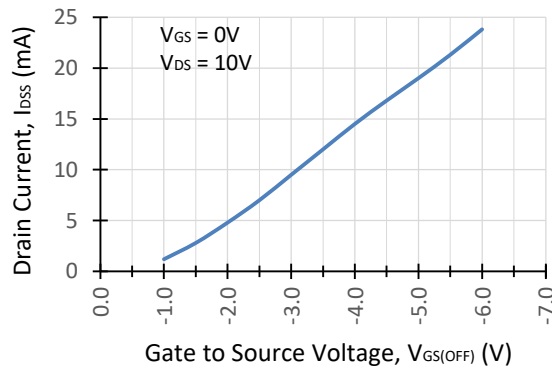
Typical Output @ $V_{GS(OFF)} = -4.5V$



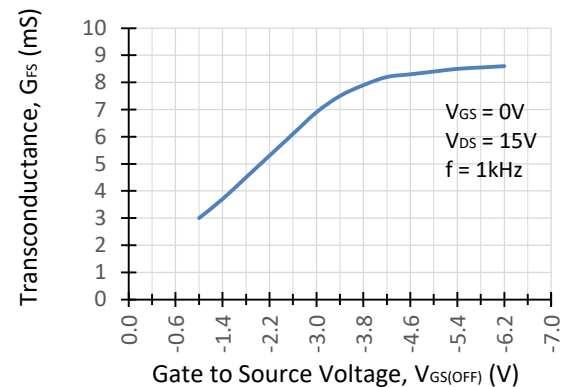
Typical Output @ $V_{GS(OFF)} = -6.0V$



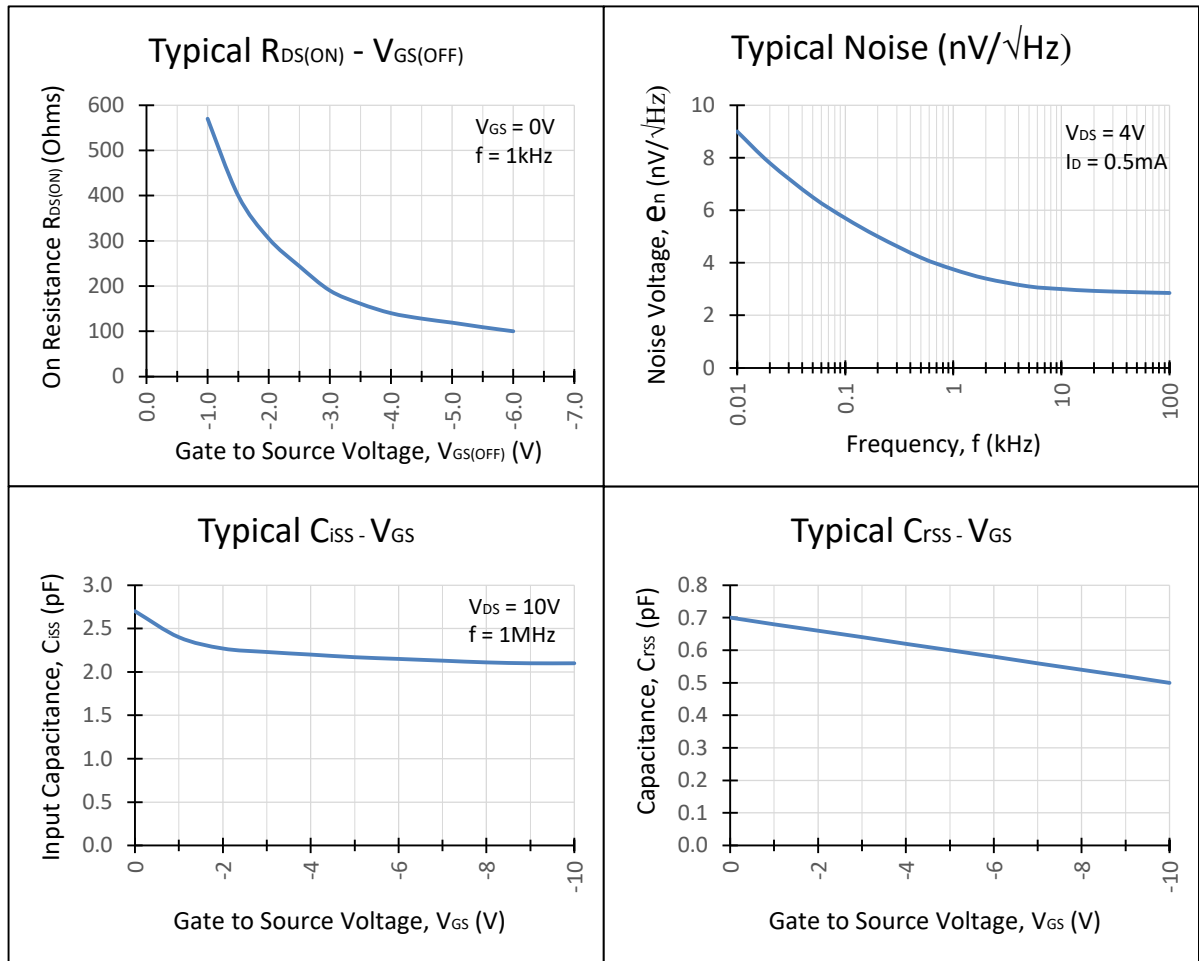
Typical $I_{DSS} - V_{GS(OFF)}$



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

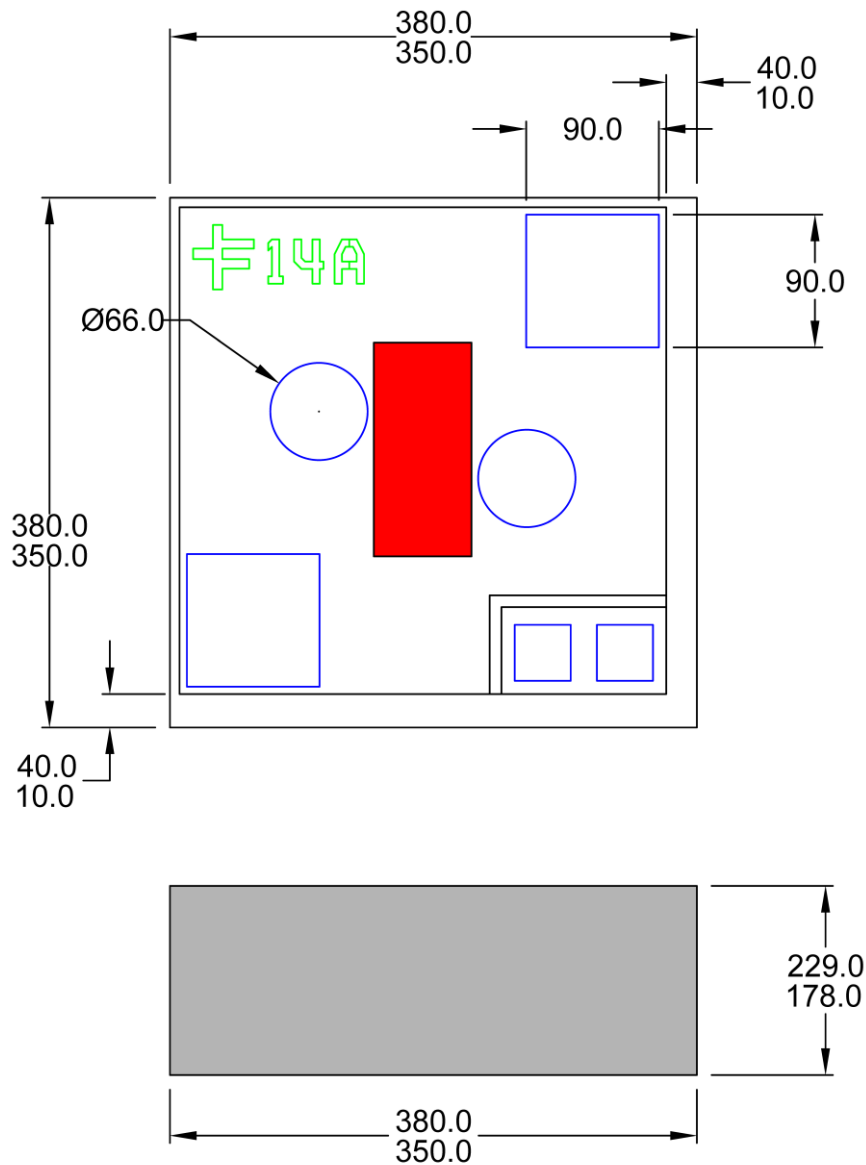


Typical N0014X Characteristics (Continued)



N0014X Die Geometry Mechanical

Raw Die Dimensions



1. All linear dimensions are in micrometers.