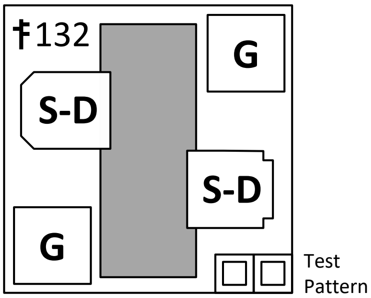
N0132H Process Geometry

Features

- Low Noise: 1.5 nV/√Hz Typical
- Typical Input Capacitance: 12pF
- Typical Breakdown Voltage: -60V
- High Input Impedance
- Small Die: 518um X 518um X 203um
- Bond Pads: 90um X 90um
- Substrate Connected to Gate
- Au Back-Side Finish

Geometry Top View



Applications

- Low Noise Amplifier
- Audio Amplifiers
- Mid to High-Gain Applications
- Matched Pair Applications
- Custom Part Options

Standard Parts

- IFN112

Description

The InterFET N0132H Geometry is ideal for low noise high gain applications. Similar features to the N0132S Geometry with higher BV and lower input capacitance.

Product Summary

Parameters		Min	Typ	Max	Unit
BV_{GSS}	Gate to Source Breakdown Voltage	-45	-60		V
I_{DSS}	Drain to Source Saturation Current	5		120	mA
$V_{GS(off)}$	Gate to Source Cutoff Voltage	-0.5		-7	V
G_{FS}	Forward Transconductance		28		mS

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

Parameters		Min	Typ	Max	Unit
V_{RGS}	Reverse Gate to Source or Drain Voltage	-45	-60		V
I_{FG}	Continuous Forward Gate Current			10	mA
T_J	Operating Junction Temperature	-55		150	°C
T_{STG}	Storage Temperature	-65		175	°C

Electrical Characteristics

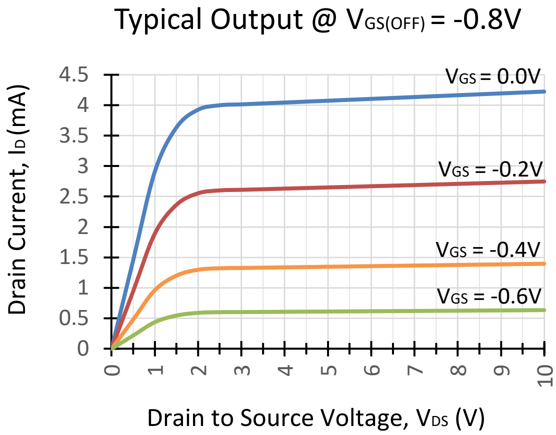
Static Characteristics (@ TA = 25°C, Unless otherwise specified)

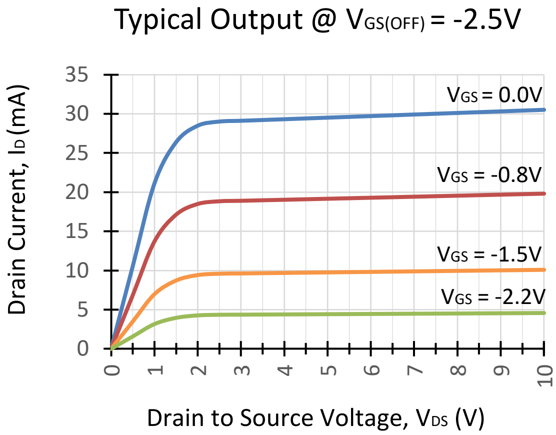
Parameters		Conditions	Min	Typ	Max	Unit
BV_{GSS}	Gate to Source Breakdown Voltage	I_G = -1µA, V_{DS} = 0V	-45	-60		V
I_{GSS}	Gate to Source Reverse Current	V_{GS} = -10V, V_{DS} = 0V		-50	-100	pA
$V_{GS(OFF)}$	Gate to Source Cutoff Voltage	V_{DS} = 10V, I_D = 1nA	-0.5		-7	V
I_{DSS}	Drain to Source Saturation Current	V_{DS} = 10V, V_{GS} = 0V	5		120	mA

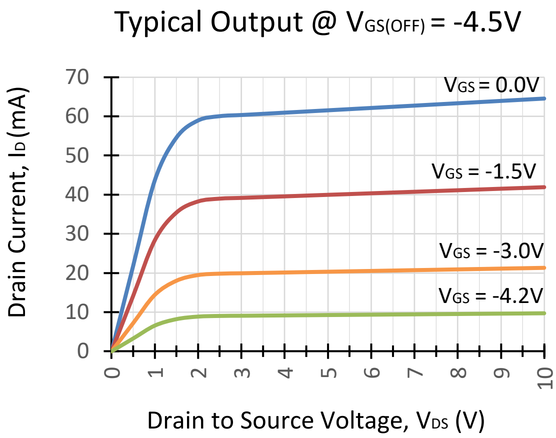
Dynamic Characteristics (@ TA = 25°C, Unless otherwise specified)

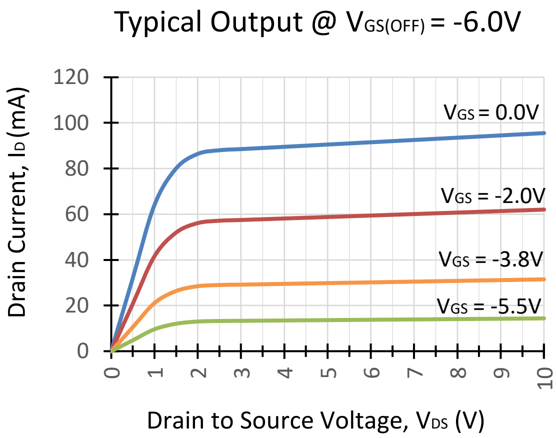
Parameters		Conditions	Min	Typ	Max	Unit
G_{FS}	Forward Transconductance	V_{DS} = 10V, V_{GS} = 0 V, f = 1kHz		28		mS
C_{iss}	Input Capacitance	V_{DS} = 10V, V_{GS} = 0 V, f = 1MHz		12		pF
C_{rss}	Reverse Transfer Capacitance	V_{DS} = 0V, V_{GS} = -10 V, f = 1MHz		2.5		pF
e_n	Noise Voltage	V_{DS} = 4V, I_D = 5mA, f = 1kHz		1.5		nV/√Hz

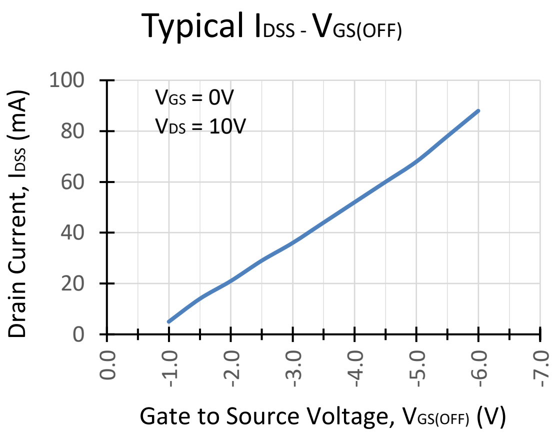
Typical N0132H Characteristics

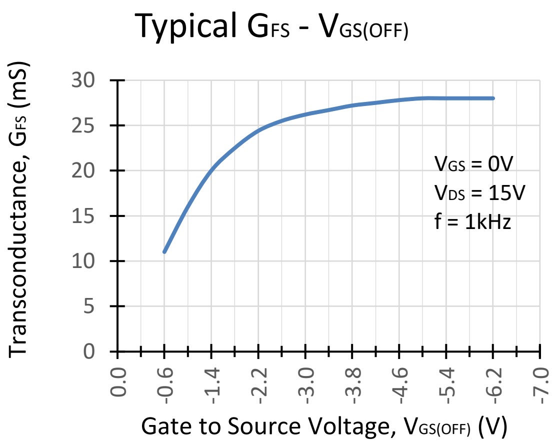

Typical Output @ $V_{GS(OFF)}$ = -0.8V


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

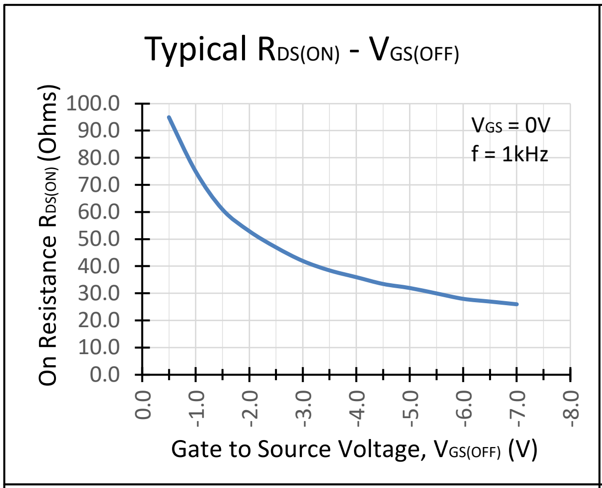

Typical Output @ $V_{GS(OFF)}$ = -4.5V

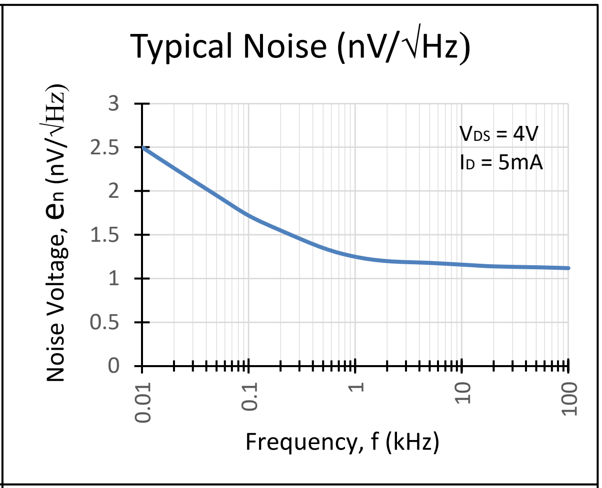

Typical Output @ $V_{GS(OFF)}$ = -6.0V

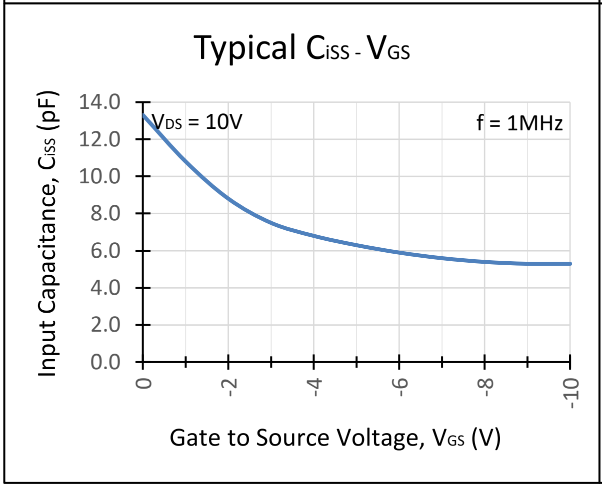

Typical I_{DSS} - $V_{GS(OFF)}$

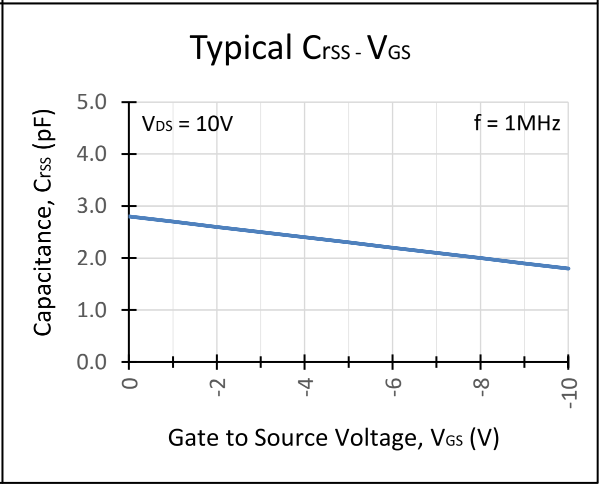

Typical G_{FS} - $V_{GS(OFF)}$

Typical N0132H Characteristics (Continued)



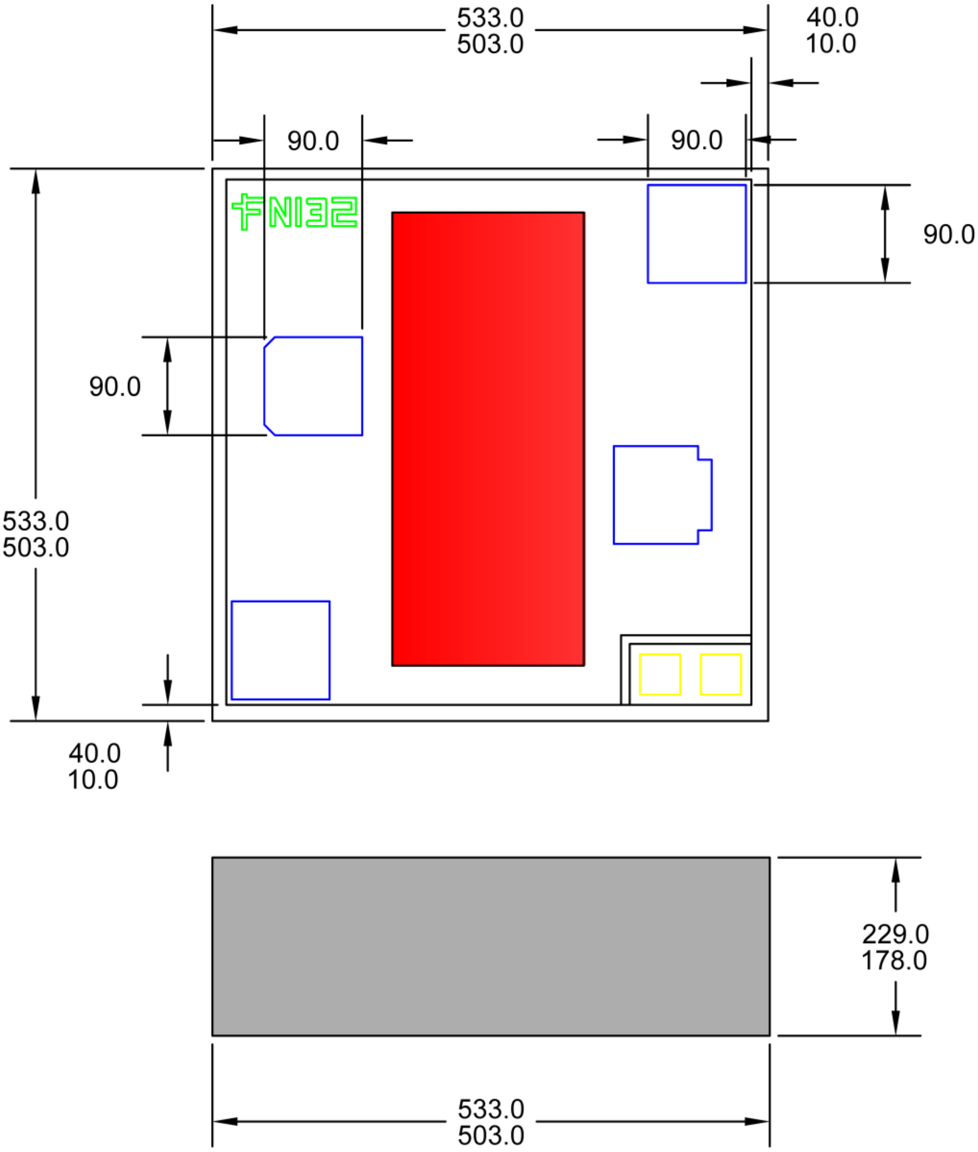






N0132H Die Geometry Mechanical

Raw Die Dimensions



1. All linear dimensions are in micrometers.