

N0450L Process Geometry

Features

- Low Noise: 0.9 nV/√Hz Typical
- Typical Input Capacitance: 35pF
- Typical Breakdown Voltage: -30V
- High Input Impedance
- Small Die: 670um X 670um X 203um
- Bond Pads: 90um X 90um
- Substrate Connected to Gate
- Au Back-Side Finish

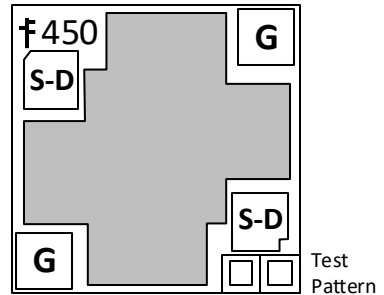
Applications

- Low-Current
- Low Gate Leakage Current
- High Input Impedance
- Low Noise Amplifier
- Audio Amplifiers
- Mid to High-Gain Applications
- Matched Pair Applications
- Custom Part Options

Description

The InterFET N0450L Geometry is ideal for low noise high gain applications.

Geometry Top View



Standard Parts

- 2N6550
- IF4500
- IF4520
- IFN860

Product Summary

Parameters	Min	Typ	Max	Unit
BV _{GSS} Gate to Source Breakdown Voltage	-25	-30		V
I _{DSS} Drain to Source Saturation Current	5		750	mA
V _{GS(off)} Gate to Source Cutoff Voltage	-0.5		-10	V
G _{FS} Forward Transconductance		100		mS

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

Parameters	Min	Typ	Max	Unit
V _{RGS} Reverse Gate to Source or Drain Voltage	-25	-30		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)

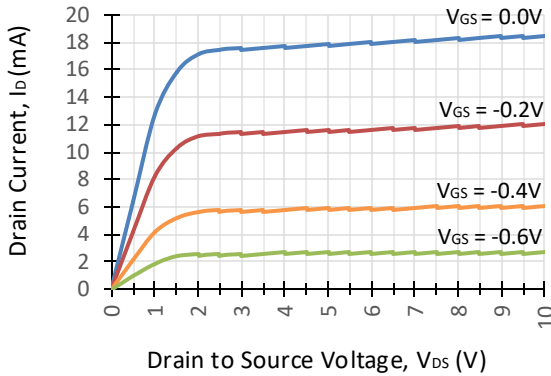
Parameters	Conditions	Min	Typ	Max	Unit
BV _{GSS}	Gate to Source Breakdown Voltage $I_G = -1\mu A, V_{DS} = 0V$	-25	-30		V
I _{GSS}	Gate to Source Reverse Current $V_{GS} = -15V, V_{DS} = 0V$		-50		pA
V _{GS(OFF)}	Gate to Source Cutoff Voltage $V_{DS} = 15V, I_D = 1nA$	-0.5		-10	V
I _{DSS}	Drain to Source Saturation Current $V_{DS} = 15V, V_{GS} = 0V$	5		750	mA

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

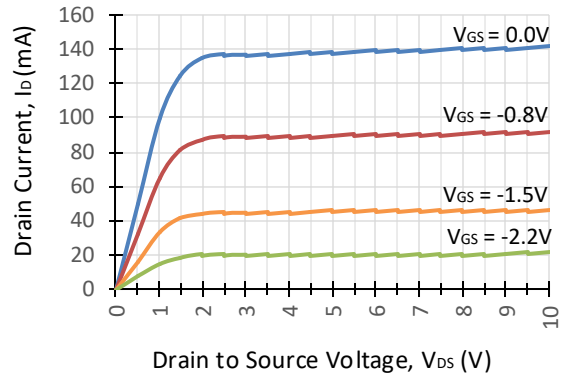
Parameters	Conditions	Min	Typ	Max	Unit
G _{FS}	Forward Transconductance $V_{DS} = 15V, V_{GS} = 0V, f = 1kHz$		100		mS
C _{iss}	Input Capacitance $V_{DS} = 0V, V_{GS} = -10V, f = 1MHz$		35		pF
C _{rss}	Reverse Transfer Capacitance $V_{DS} = 0V, V_{GS} = -10V, f = 1MHz$		12		pF
e _n	Noise Voltage $V_{DS} = 4V, I_D = 5mA, f = 1kHz$		0.9		nV/ $\sqrt{Hz}$

Typical N0450L Characteristics

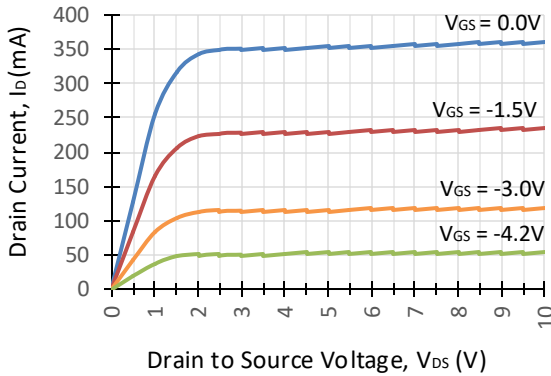
Typical Output @ $V_{GS(OFF)} = -0.8V$



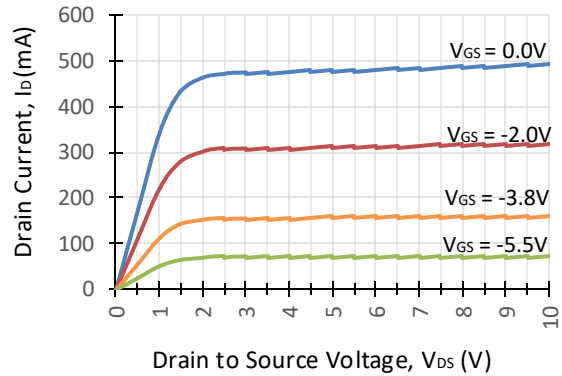
Typical Output @ $V_{GS(OFF)} = -2.5V$



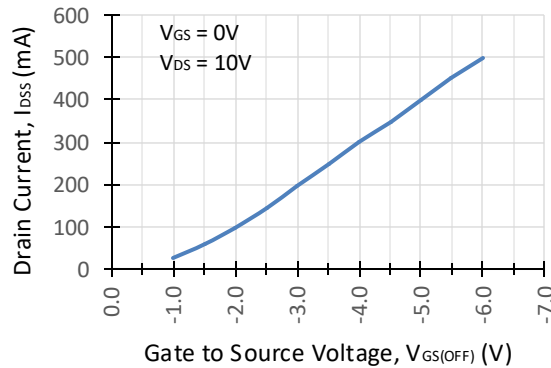
Typical Output @ $V_{GS(OFF)} = -4.5V$



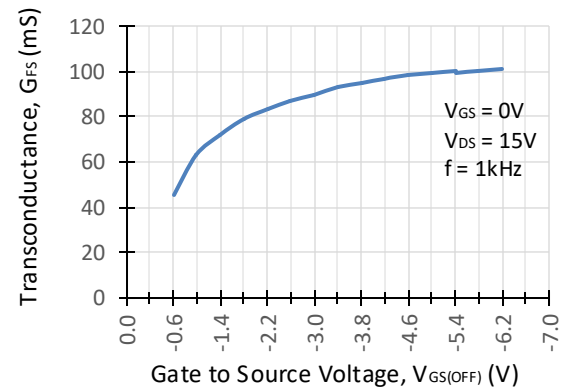
Typical Output @ $V_{GS(OFF)} = -6.0V$



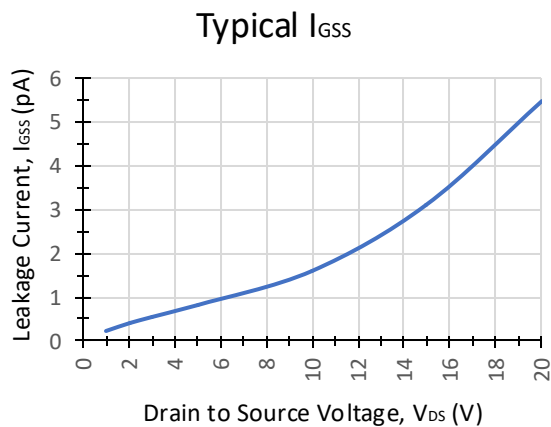
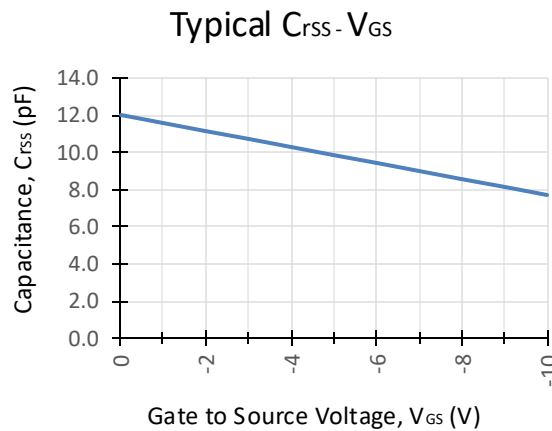
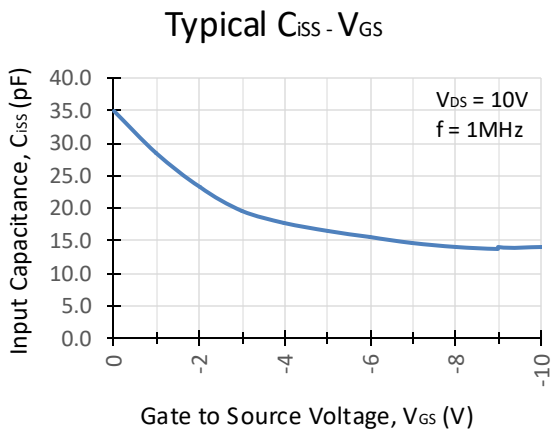
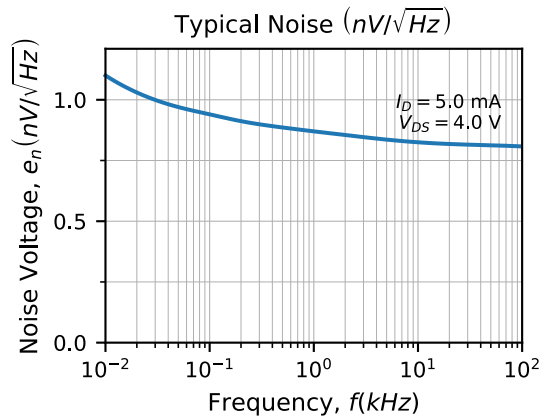
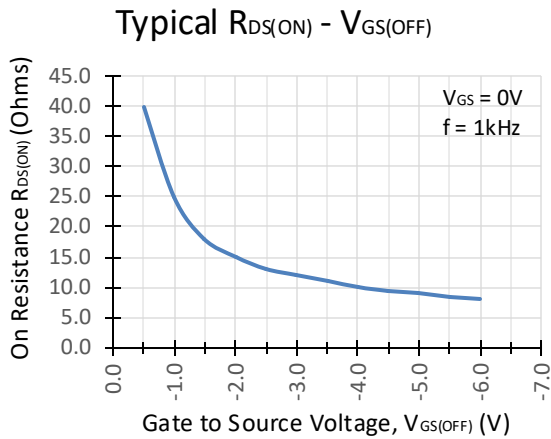
Typical $I_{DSS} - V_{GS(OFF)}$



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

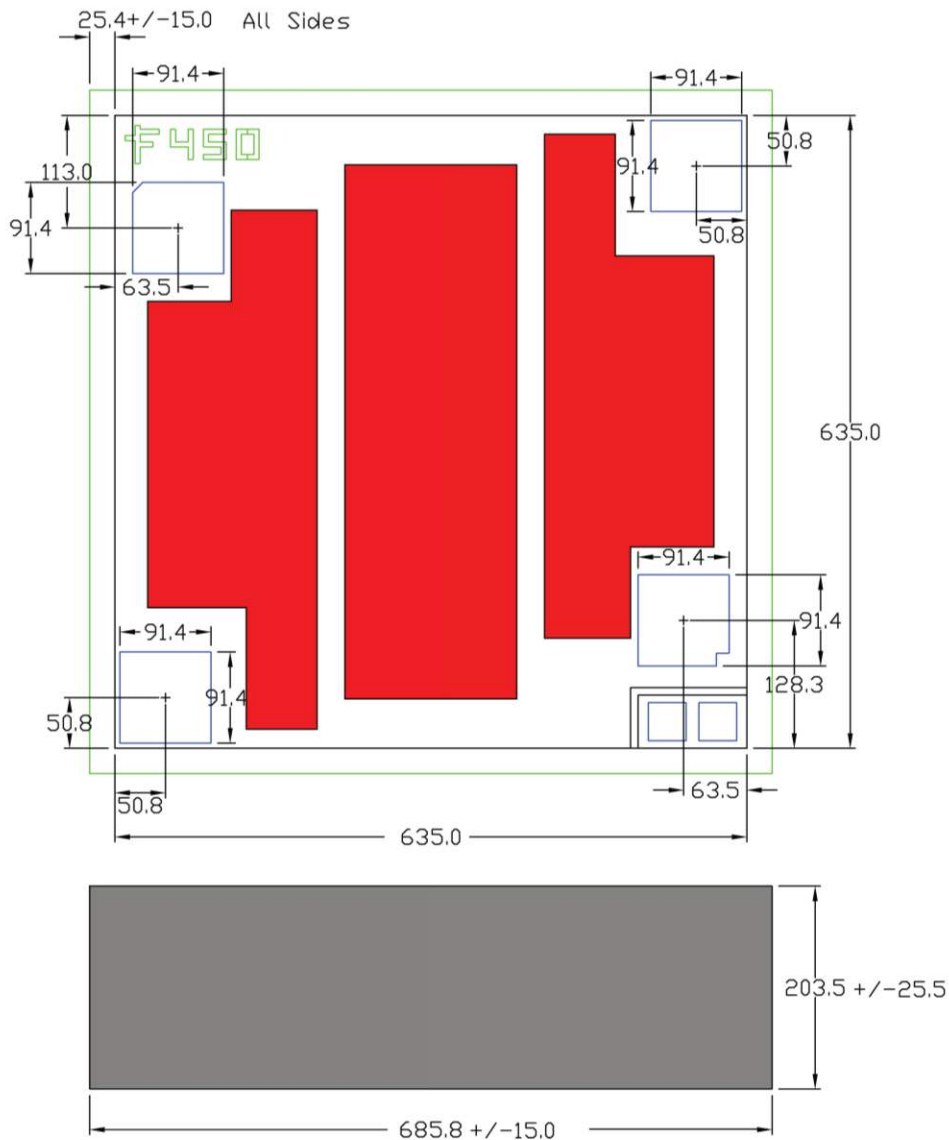


Typical N0450L Characteristics (Continued)



N0450L Die Geometry Mechanical

Raw Die Dimensions



1. All linear dimensions are in micrometers.