

N0072S Process Geometry

Features

- Low Noise: 2.0 nV/√Hz Typical
- Typical Input Capacitance: 6.5pF
- Typical Breakdown Voltage: -45V
- Small Die: 467μm X 467μm X 203μm
- Bond Pads: 90μm X 90μm
- Substrate Connected to Gate
- Au Back-Side Finish

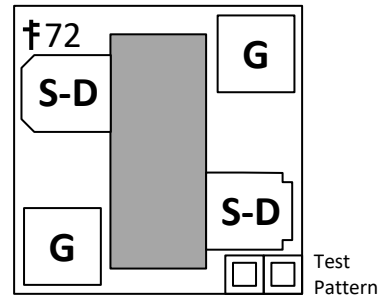
Applications

- Low Noise Amplifier
- Audio Amplifiers
- Matched Pair Applications
- Custom Part Options

Description

The InterFET N0072S Geometry is ideal for low noise audio and matched pair applications. Similar features to the N0072L Geometry with higher breakdown voltage.

Geometry Top View



Standard Parts

- IFN5564, IFN5565, IFN5566
- J308, J309, J310
- U308, U309
- VCR2N

Product Summary

Parameters	Min	Typ	Max	Unit
BV _{GSS} Gate to Source Breakdown Voltage	-30	-45		V
I _{DSS} Drain to Source Saturation Current	5		90	mA
V _{GS(off)} Gate to Source Cutoff Voltage	-1		-5.5	V
G _{FS} Forward Transconductance		14		mS

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

Parameters	Min	Typ	Max	Unit
V _{RGS} Reverse Gate to Source or Drain Voltage	-30	-45		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)

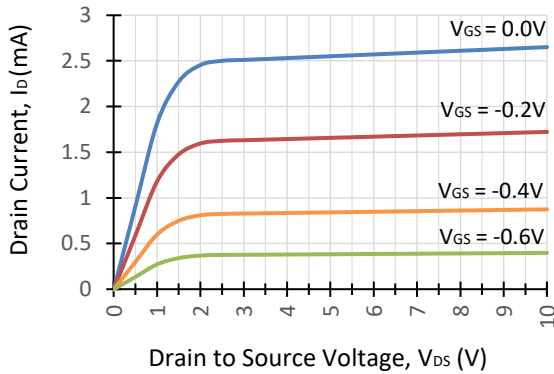
Parameters	Conditions	Min	Typ	Max	Unit
BV _{GSS}	Gate to Source Breakdown Voltage	I _G = -1μA, V _{DS} = 0V	-30	-45	V
I _{GSS}	Gate to Source Reverse Current	V _{GS} = -15V, V _{DS} = 0V	-10	-100	pA
V _{GS(OFF)}	Gate to Source Cutoff Voltage	V _{DS} = 15V, I _D = 1nA	-1	-5.5	V
I _{DSS}	Drain to Source Saturation Current	V _{DS} = 15V, V _{GS} = 0V	5	90	mA

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

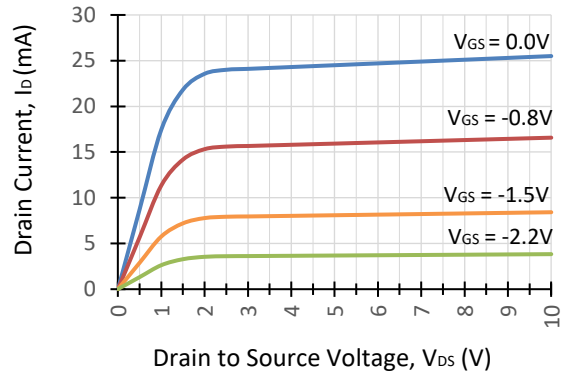
Parameters	Conditions	Min	Typ	Max	Unit
G _{FS}	Forward Transconductance	V _{DS} = 15V, V _{GS} = 0V, f = 1kHz	14		mS
R _{DS(ON)}	Drain to Source ON Resistance	V _{GS} = 0V, I _D = 1mA	60		Ω
C _{iss}	Input Capacitance	V _{DS} = 0V, V _{GS} = -10V, f = 1MHz	7		pF
C _{rss}	Reverse Transfer Capacitance	V _{DS} = 0V, V _{GS} = -10V, f = 1MHz	2.5		pF
e _n	Noise Voltage	V _{DS} = 15V, I _D = 5mA, f = 1kHz	2.0		nV/√Hz

Typical N0072S Characteristics

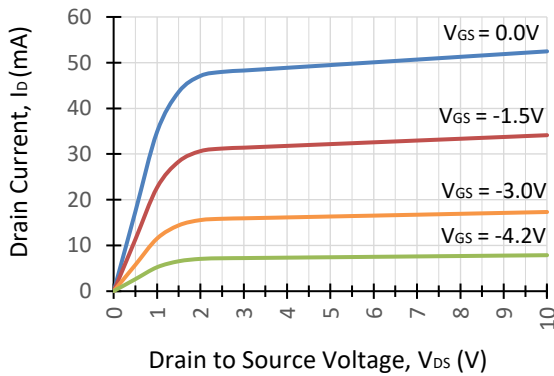
Typical Output @ $V_{GS(OFF)} = -0.8V$



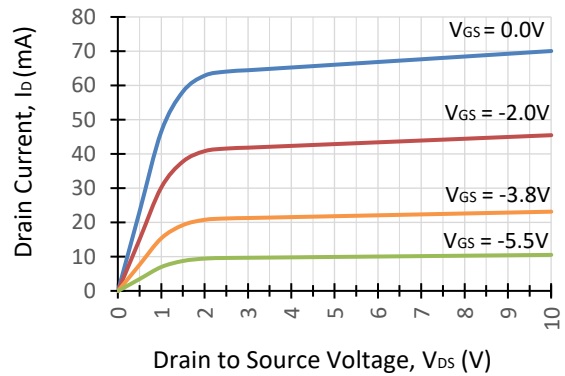
Typical Output @ $V_{GS(OFF)} = -2.5V$



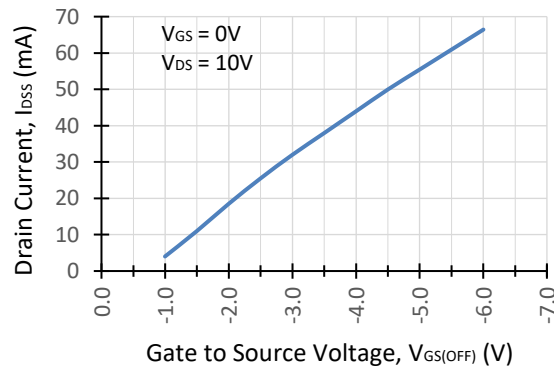
Typical Output @ $V_{GS(OFF)} = -4.5V$



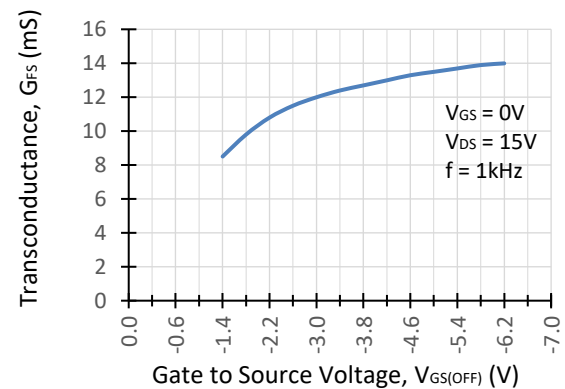
Typical Output @ $V_{GS(OFF)} = -6.0V$



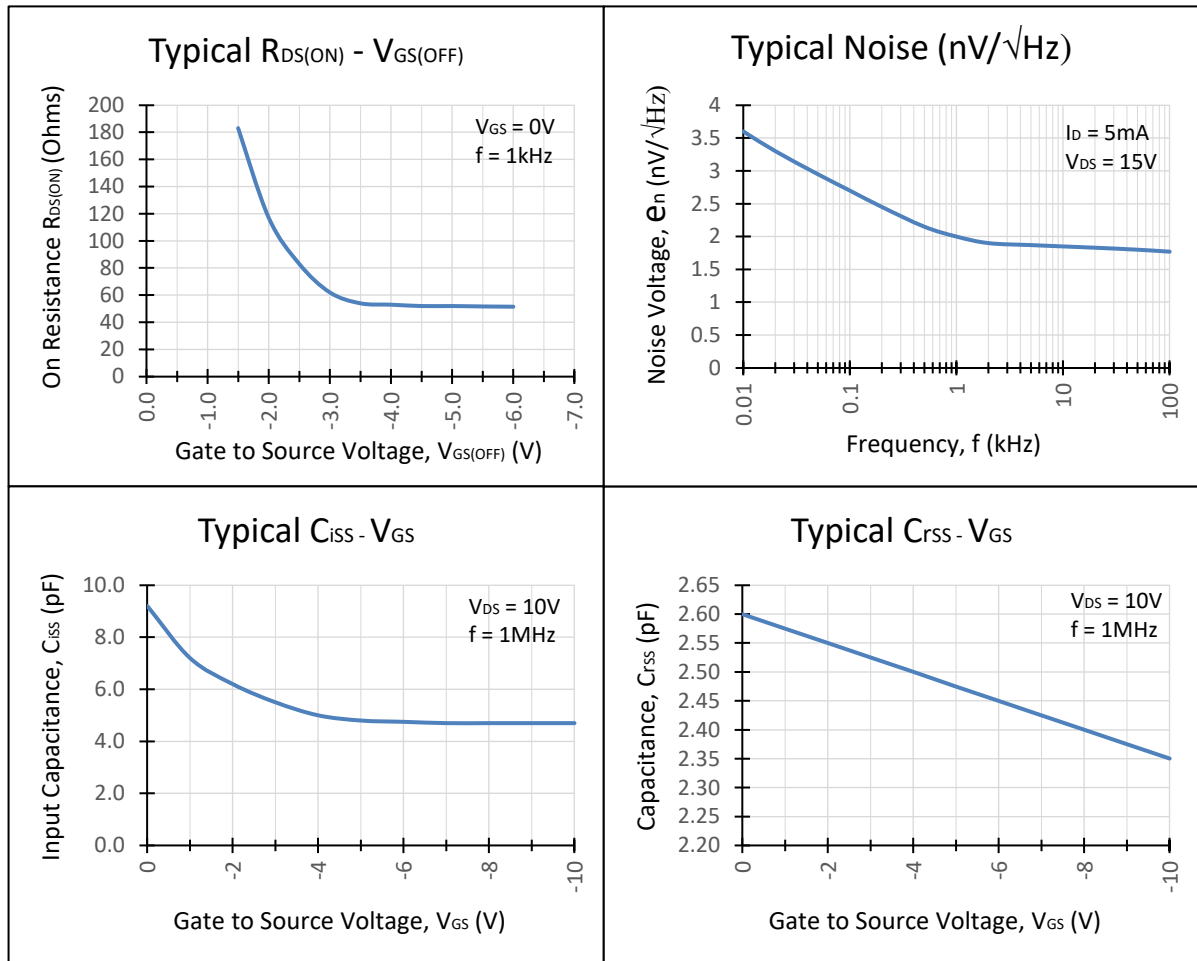
Typical $I_{DSS} - V_{GS(OFF)}$



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

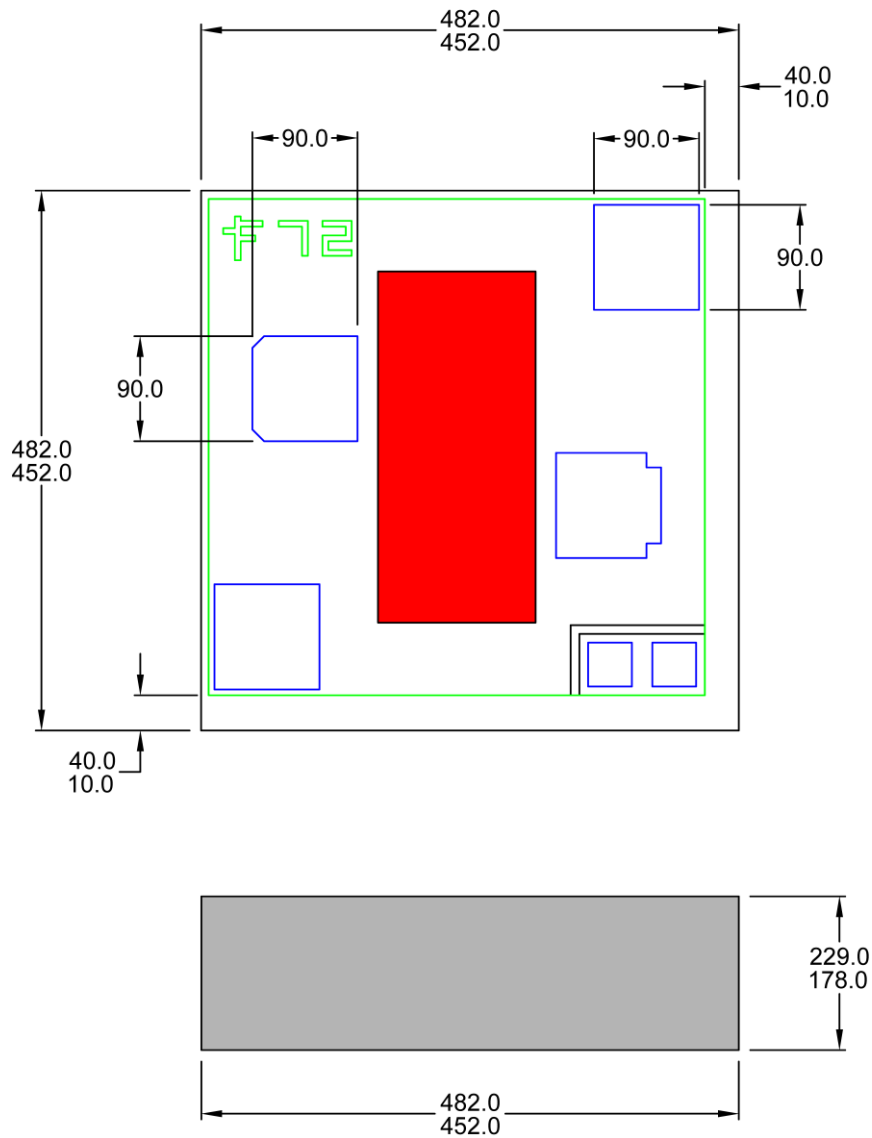


Typical N0072S Characteristics (Continued)



N0072S Die Geometry Mechanical

Raw Die Dimensions



1. All linear dimensions are in micrometers.