

N0016H Process Geometry

Features

- Low Input Capacitance: 3.5pF Typical
- Low Gate Leakage: 10pA Typical
- High Breakdown Voltage: -60V Typical
- High Input Impedance
- Small Die: 391um X 391um X 203um
- Bond Pads: 90um X 90um
- Substrate Connected to Gate
- Au Back Side Finish

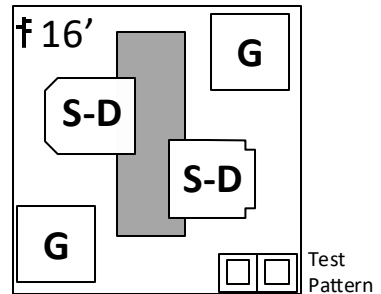
Applications

- Small Signal Amplifiers
- Audio Amplifiers
- VCR's
- Current Limiters and Regulators
- Custom Part Options

Description

The InterFET N0016H Geometry is targeted for general purpose amplifiers, current limiters, regulators, and VCR applications. The low input capacitance makes it ideal for mid-frequency applications.

Geometry Top View



Standard Parts

- 2N3954, 2N3955, 2N3956
- 2N3957, 2N3958
- 2N4220/A, 2N4221/A, 2N4222/A
- 2N4338, 2N4339
- 2N4340, 2N4341
- 2N4867/A, 2N4868/A, 2N4869/A
- 2SK17, 2SK40
- 2SK59, 2SK105
- IFN17, IFN40
- IFN59, IFN105
- J201, J202, J203, J204
- J230, J231, J232
- J500, J501, J502, J503, J504, J505
- J506, J507, J508, J509, J510, J511
- J553, J554, J555, J556, J557
- U553, U554, U555, U556, U557
- VCR4N

Product Summary

Parameters	Min	Typ	Max	Unit
BV _{GSS} Gate to Source Breakdown Voltage	-50	-60		V
I _{DSS} Drain to Source Saturation Current	0.2		9	mA
V _{GS(off)} Gate to Source Cutoff Voltage	-0.8		-5.5	V
G _{FS} Forward Transconductance		2200		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	-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



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)

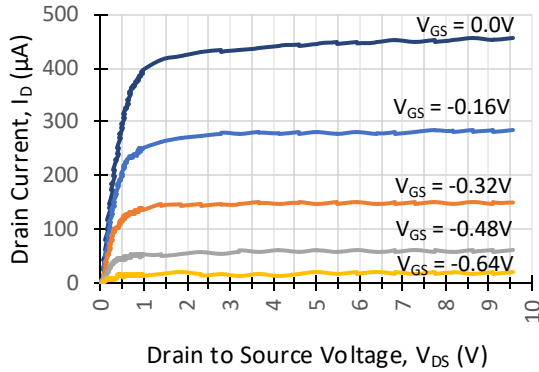
Parameters	Conditions	Min	Typ	Max	Unit
BV _{GSS} Gate to Source Breakdown Voltage	I _G = -1μA, V _{DS} = 0V	-50	-60		V
I _{GSS} Gate to Source Reverse Current	V _{GS} = -30V, V _{DS} = 0V		-10	-100	pA
V _{GS(OFF)} Gate to Source Cutoff Voltage	V _{DS} = 15V, I _D = 1nA	-0.8		-5.5	V
I _{DSS} Drain to Source Saturation Current	V _{DS} = 15V, V _{GS} = 0V	0.2		9	mA

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

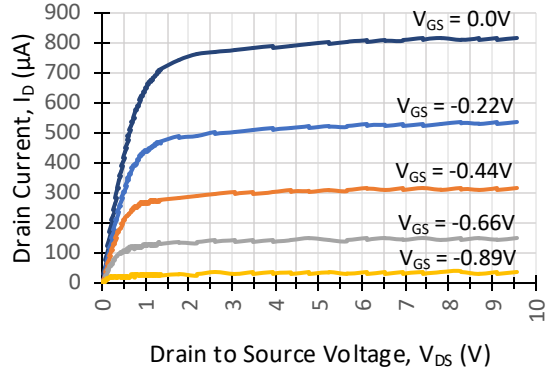
Parameters	Conditions	Min	Typ	Max	Unit
G _{FS} Forward Transconductance	V _{DS} = 15V, V _{GS} = 0V, f = 1kHz		2200		μS
C _{iss} Input Capacitance	V _{DS} = 15V, V _{GS} = 0V, f = 1MHz		3.5		pF
C _{rss} Reverse Transfer Capacitance	V _{DS} = 15V, V _{GS} = 0V, f = 1MHz		1.2		pF
e _n Noise Voltage	V _{DS} = 10V, I _D = 0.2mA, f = 1kHz		4.2		nV/√Hz

Typical N0016H Characteristics

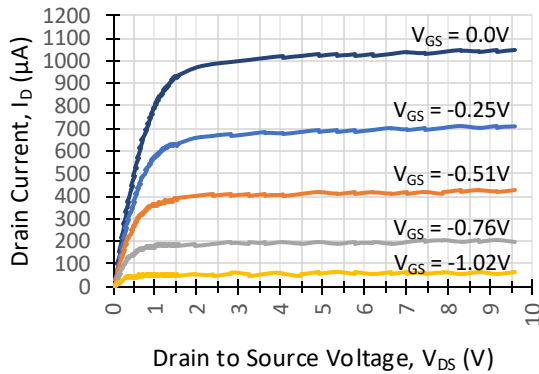
Typical Output @ $V_{GS(OFF)} = -0.96$



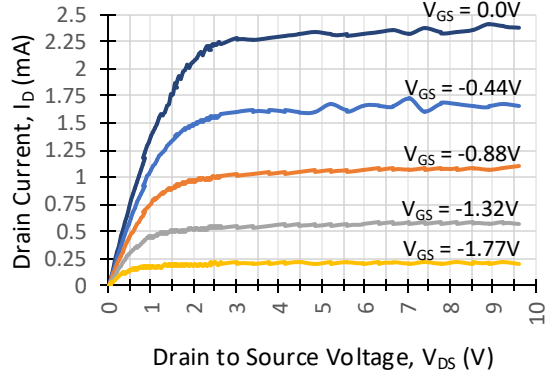
Typical Output @ $V_{GS(OFF)} = -1.35$



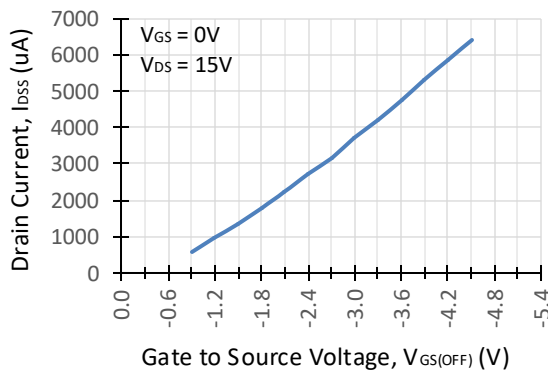
Typical Output @ $V_{GS(OFF)} = -1.5$



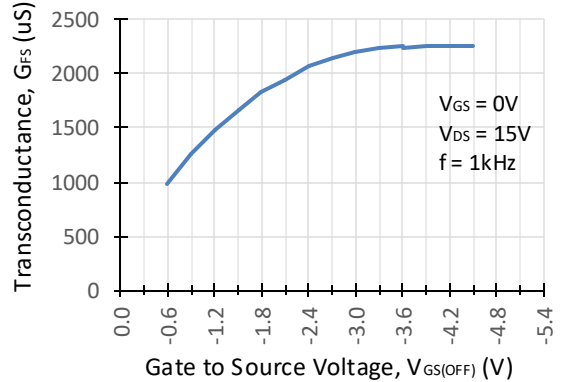
Typical Output @ $V_{GS(OFF)} = -2.65$



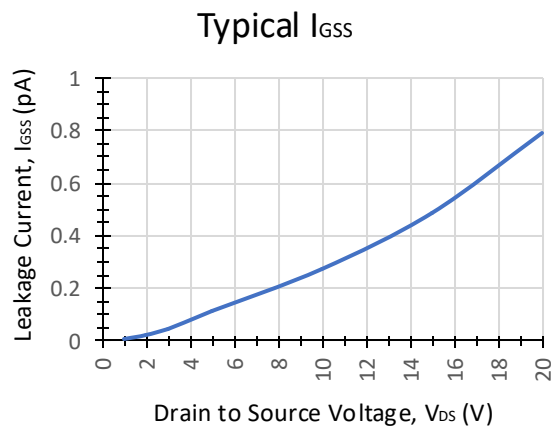
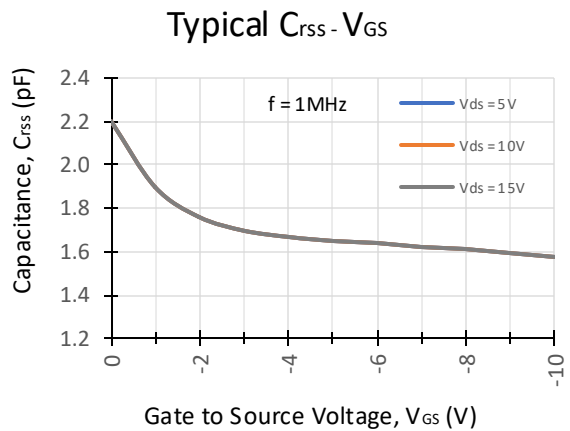
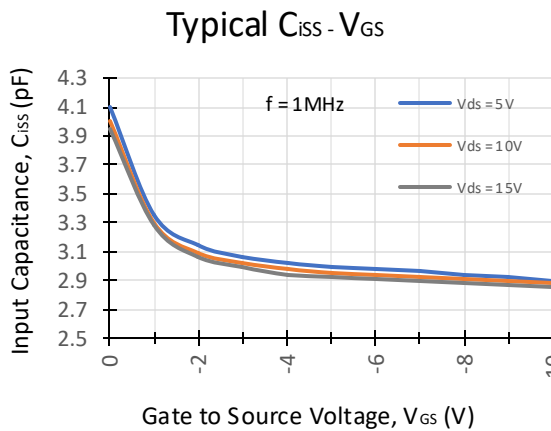
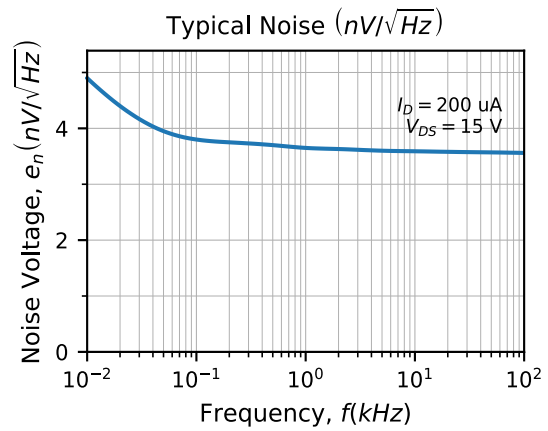
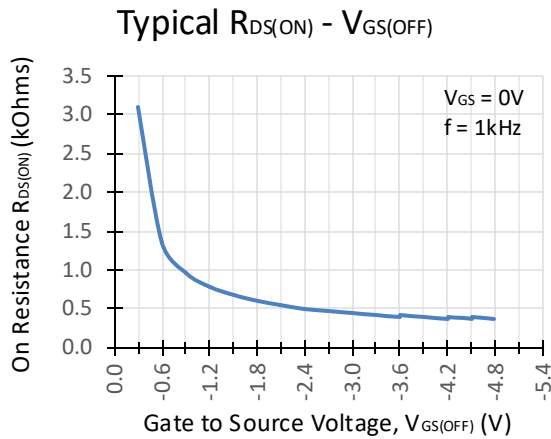
Typical $I_{DSS} - V_{GS(OFF)}$



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

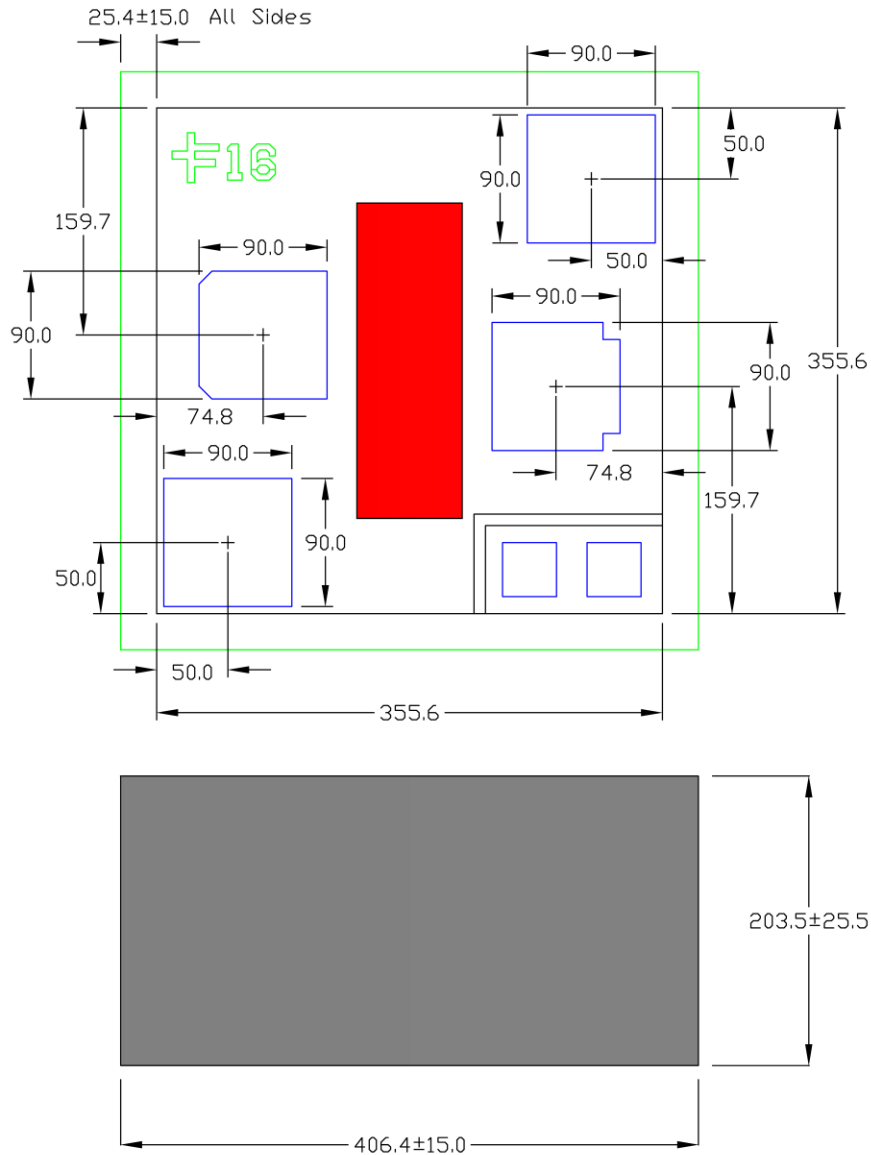


Typical N0016H Characteristics (Continued)



N0016H Die Geometry Mechanical

Raw Die Dimensions



1. All linear dimensions are in micrometers.