N0042Y Process Geometry

Features

- Typical Input Capacitance: 6pF
- High Breakdown Voltage: -400V Typical
- Small Die: 746um X 746um X 203um
- Bond Pads: 95um Diameter
- Substrate Connected to Gate
- Au Back-Side Finish

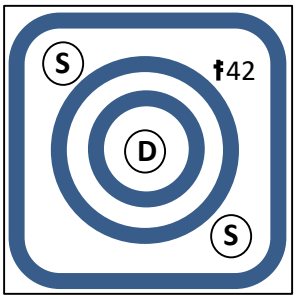
Applications

- General Purpose Amplifier
- High Breakdown Voltage
- Custom Part Options

Description

The InterFET N0042Y Geometry is targeted for high voltage applications. The low input capacitance makes it ideal for higher frequency applications.

Geometry Top View



Standard Parts

- IFN6449, IFN6450

Product Summary

Parameters		Min	Typ	Max	Unit
BV_{GSS}	Gate to Source Breakdown Voltage	-300	-400		V
I_{DSS}	Drain to Source Saturation Current	2		10	mA
$V_{GS(off)}$	Gate to Source Cutoff Voltage	-2		-12	V
G_{FS}	Forward Transconductance		0.8		mS

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

Parameters		Min	Typ	Max	Unit
V_{RGS}	Reverse Gate to Source or Drain Voltage	-300	-400		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

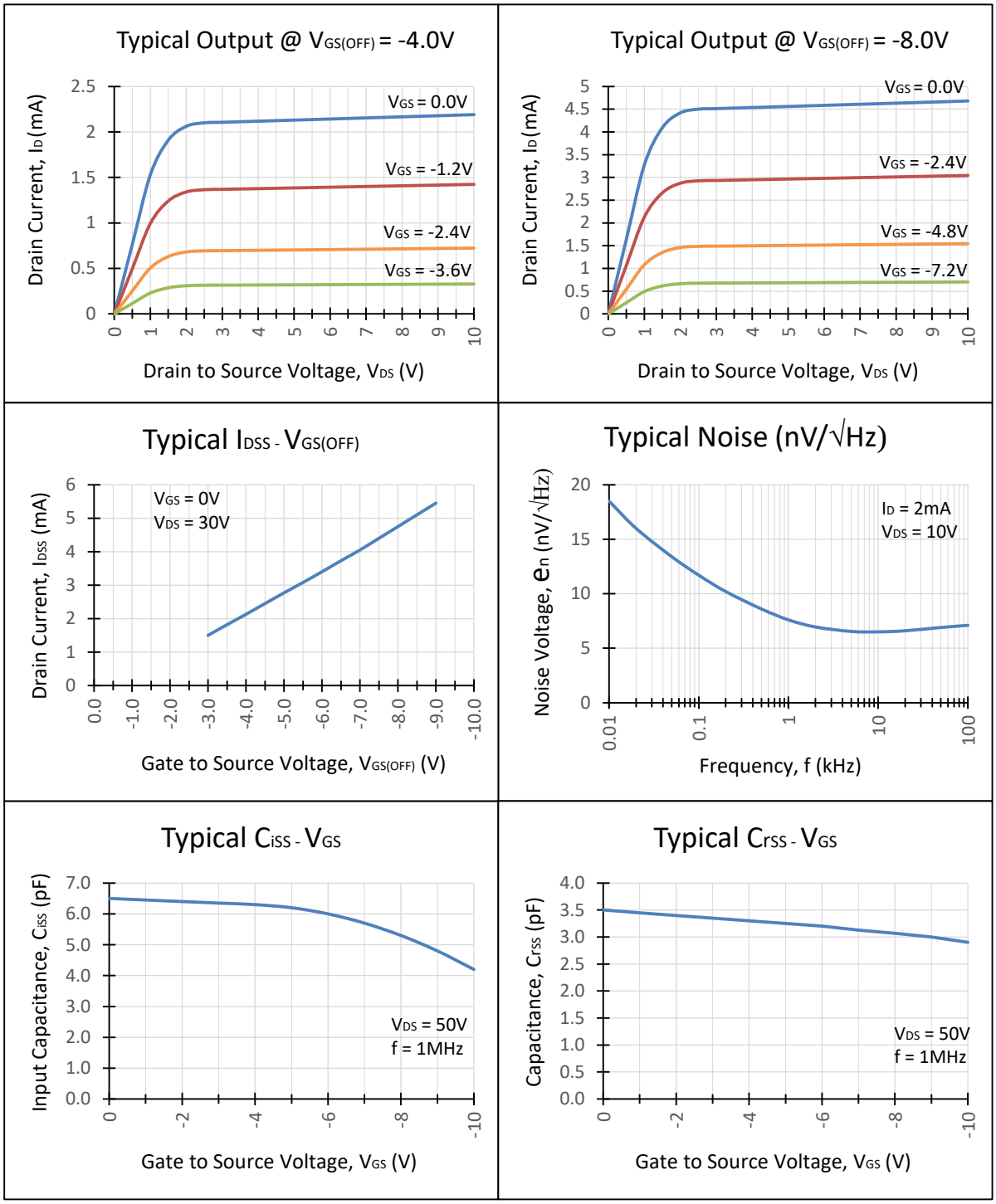
Static Characteristics (@ TA = 25°C, Unless otherwise specified)

Parameters		Conditions	Min	Typ	Max	Unit
BV_{GSS}	Gate to Source Breakdown Voltage	I_G = 1µA, V_{DS} = 0V	-300	-400		V
I_{GSS}	Gate to Source Reverse Current	V_{GS} = -150V, V_{DS} = 0V		-1	-10	nA
$V_{GS(OFF)}$	Gate to Source Cutoff Voltage	V_{DS} = 30V, I_D = 1nA	-2		-12	V
I_{DSS}	Drain to Source Saturation Current	V_{DS} = 30V, V_{GS} = 0V	2		10	mA

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

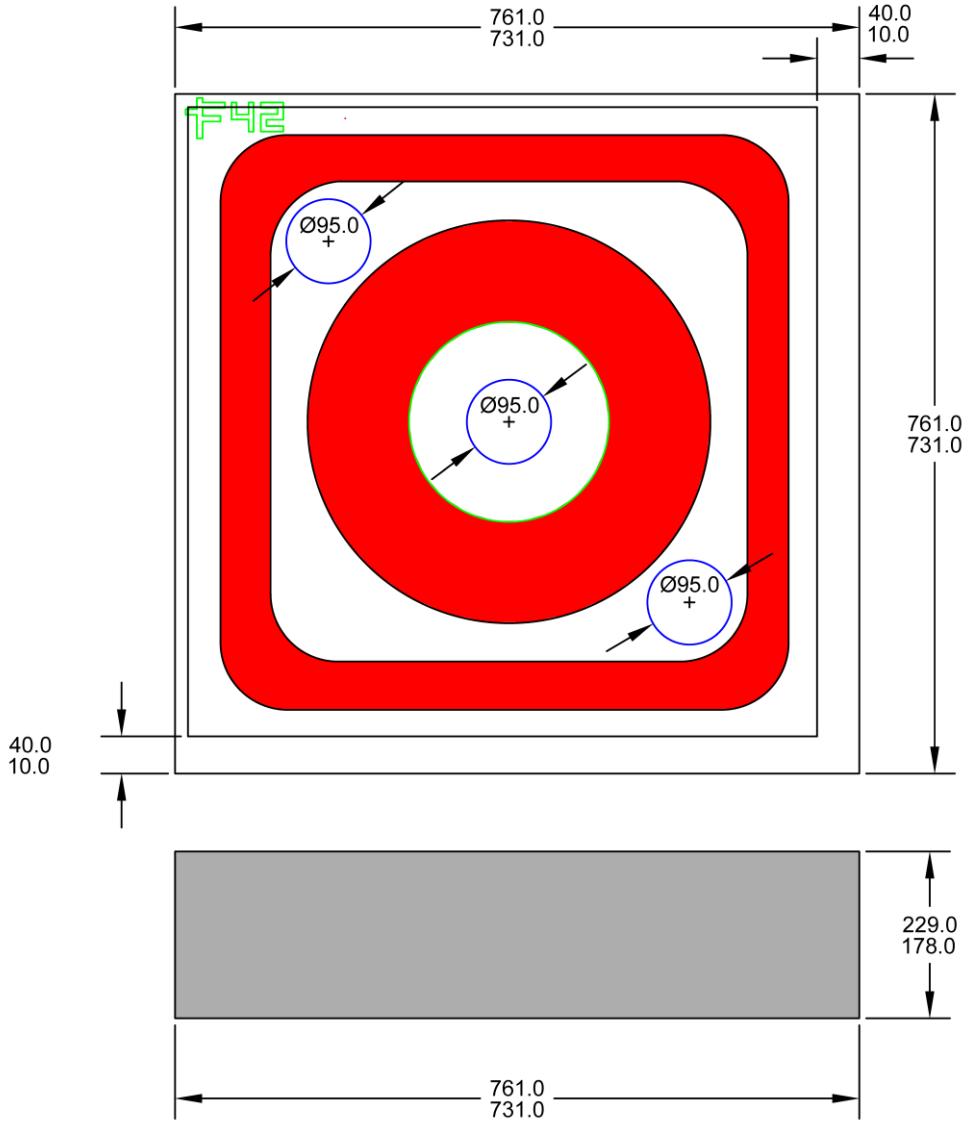
Parameters		Conditions	Min	Typ	Max	Unit
G_{FS}	Forward Transconductance	V_{DS} = 30V, V_{GS} = 0V, f = 1kHz		0.8		mS
C_{iss}	Input Capacitance	V_{DS} = 30V, V_{GS} = 0V, f = 1MHz		6	10	pF
C_{rss}	Reverse Transfer Capacitance	V_{DS} = 30V, V_{GS} = 0V, f = 1MHz		2	5	pF
e_n	Noise Voltage	V_{DS} = 30V, I_D = 2mA, f = 1kHz		7.5		nV/√Hz

Typical N0042Y Characteristics



N0042Y Die Geometry Mechanical

Raw Die Dimensions



1. All linear dimensions are in micrometers.