

## N0450H Process Geometry

### Features

- Low Noise: 1.1 nV/√Hz Typical
- Typical Input Capacitance: 20pF
- Typical Breakdown Voltage: -60V
- Small Die: 670um X 670um X 203um
- Bond Pads: 90um X 90um
- Substrate Connected to Gate
- Au Back-Side Finish

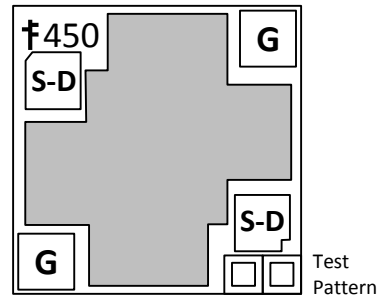
### Applications

- Low Rds(on) Switch
- Low Noise Amplifier
- Audio Amplifiers
- Mid to High-Gain Applications
- Matched Pair Applications
- Custom Part Options

### Description

The InterFET N0450H Geometry is ideal for low noise high gain applications.

Geometry Top View



### Standard Parts

### Product Summary

| Parameters           |                                    | Min  | Typ | Max | Unit |
|----------------------|------------------------------------|------|-----|-----|------|
| BV <sub>GSS</sub>    | Gate to Source Breakdown Voltage   | -45  | -60 |     | V    |
| I <sub>DSS</sub>     | Drain to Source Saturation Current | 5    |     | 500 | mA   |
| V <sub>GS(off)</sub> | Gate to Source Cutoff Voltage      | -0.5 |     | -10 | V    |
| G <sub>FS</sub>      | Forward Transconductance           |      | 80  |     | mS   |

### Maximum Ratings (@ T<sub>A</sub> = 25°C, Unless otherwise specified)

| Parameters       |                                         | Min | Typ | Max | Unit |
|------------------|-----------------------------------------|-----|-----|-----|------|
| V <sub>RGS</sub> | Reverse Gate to Source or Drain Voltage | -45 | -60 |     | V    |
| I <sub>FG</sub>  | Continuous Forward Gate Current         |     |     | 10  | mA   |
| T <sub>J</sub>   | Operating Junction Temperature          | -55 |     | 150 | °C   |
| T <sub>STG</sub> | 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)

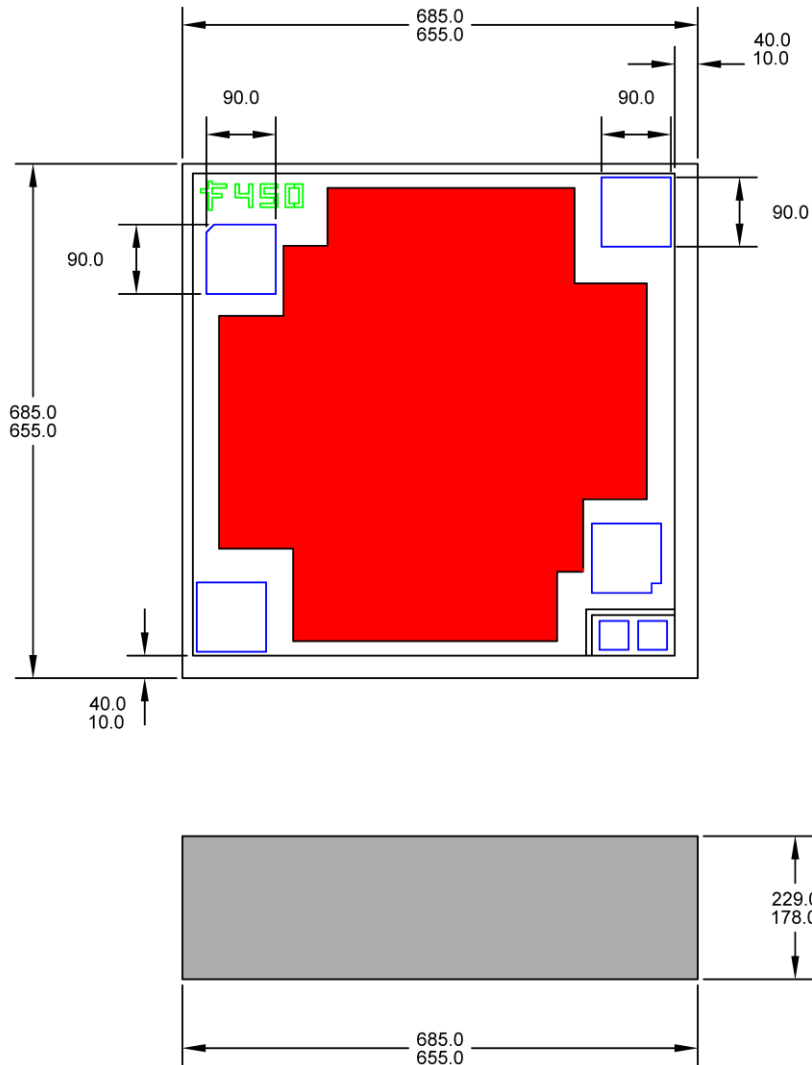
| Parameters           | Conditions                                                        | Min  | Typ | Max  | Unit |
|----------------------|-------------------------------------------------------------------|------|-----|------|------|
| BV <sub>GSS</sub>    | Gate to Source Breakdown Voltage<br>$I_G = -1\mu A, V_{DS} = 0V$  | -45  | -60 |      | V    |
| I <sub>GSS</sub>     | Gate to Source Reverse Current<br>$V_{GS} = -15V, V_{DS} = 0V$    |      | -50 | -100 | pA   |
| V <sub>GS(OFF)</sub> | Gate to Source Cutoff Voltage<br>$V_{DS} = 15V, I_D = 1nA$        | -0.5 |     | -10  | V    |
| I <sub>DSS</sub>     | Drain to Source Saturation Current<br>$V_{DS} = 15V, V_{GS} = 0V$ | 5    |     | 500  | mA   |

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

| Parameters       | Conditions                                                                  | Min | Typ | Max | Unit            |
|------------------|-----------------------------------------------------------------------------|-----|-----|-----|-----------------|
| G <sub>FS</sub>  | Forward Transconductance<br>$V_{DS} = 15V, V_{GS} = 0V,$<br>$f = 1kHz$      |     | 80  |     | mS              |
| C <sub>iss</sub> | Input Capacitance<br>$V_{DS} = 0V, V_{GS} = -10V,$<br>$f = 1MHz$            |     | 20  |     | pF              |
| C <sub>rss</sub> | Reverse Transfer Capacitance<br>$V_{DS} = 0V, V_{GS} = -10V,$<br>$f = 1MHz$ |     | 10  |     | pF              |
| e <sub>n</sub>   | Noise Voltage<br>$V_{DS} = 4V, I_D = 5mA$<br>$f = 1kHz$                     |     | 1.1 |     | nV/ $\sqrt{Hz}$ |

## N0450H Die Geometry Mechanical

### Raw Die Dimensions



1. All linear dimensions are in micrometers.