

IFN112

N-Channel Silicon Junction Field-Effect Transistor

- Low-Noise, High Gain
- Equivalent to Japanese 2SK112

Absolute maximum ratings at $T_A = 25^\circ\text{C}$

| | |
|--|---|
| Reverse Gate Source & Reverse Gate Drain Voltage | - 50 V |
| Continuous Forward Gate Current | 10 mA |
| Continuous Device Power Dissipation | 360 mW |
| Power Derating | 2.88 mW/ $^\circ\text{C}$ |
| Storage Temperature Range | - 65 $^\circ\text{C}$ to 200 $^\circ\text{C}$ |

At 25 $^\circ\text{C}$ free air temperature:

Static Electrical Characteristics

| | | IFN112 | | Process NJ132H | | |
|-----------------------------------|---------------|--------|-------|----------------|--|--|
| | | Min | Max | Unit | Test Conditions | |
| Gate Source Breakdown Voltage | $V_{(BR)GSS}$ | - 50 | | V | $I_G = - 1 \mu\text{A}$, $V_{DS} = \emptyset\text{V}$ | |
| Gate Reverse Current | I_{GSS} | | - 0.1 | nA | $V_{DS} = \emptyset\text{V}$, $V_{GS} = - 30\text{V}$ | |
| Gate Source Cutoff Voltage | $V_{GS(OFF)}$ | - 0.25 | - 1.2 | V | $V_{DS} = 15\text{V}$, $I_D = 100 \text{ nA}$ | |
| Drain Saturation Current (Pulsed) | I_{DSS} | 1.2 | 9.0 | mA | $V_{DS} = 15\text{V}$, $V_{GS} = \emptyset\text{V}$ | |

Dynamic Electrical Characteristics

| | | | | | | |
|--|----------|---|----|----|--|---------------------|
| Common Source Forward Transconductance | g_{fs} | 7 | 34 | mS | $V_{DS} = 15\text{V}$, $V_{GS} = \emptyset\text{V}$ | $f = 1 \text{ kHz}$ |
|--|----------|---|----|----|--|---------------------|

Typ

| | | | | | | |
|--|-------------|-----|--|------------------------|--|---------------------|
| Common Source Input Capacitance | C_{iss} | 12 | | pF | $V_{DS} = 15\text{V}$, $V_{GS} = \emptyset\text{V}$ | $f = 1 \text{ MHz}$ |
| Common Source Reverse Transfer Capacitance | C_{rss} | 3 | | pF | $V_{DS} = 15\text{V}$, $V_{GS} = \emptyset\text{V}$ | $f = 1 \text{ MHz}$ |
| Equivalent Short Circuit Input Noise Voltage | \bar{e}_N | 2.5 | | nV/ $\sqrt{\text{Hz}}$ | $V_{DS} = 10\text{V}$, $I_D = 5.0 \text{ mA}$ | $f = 1 \text{ kHz}$ |

TO-18 Package

Dimensions in Inches (mm)

Pin Configuration

1 Source, 2 Drain, 3 Gate & Case



1000 N. Shiloh Road, Garland, TX 75042
(972) 487-1287 FAX (972) 276-3375

www.interfet.com