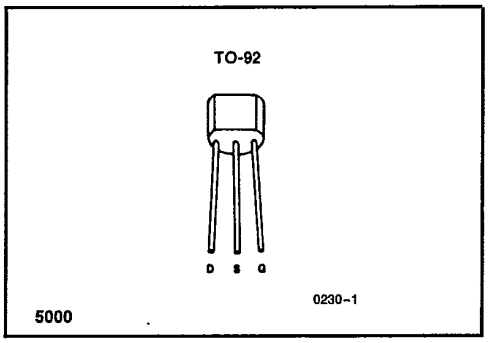
T-31-25



# 2N5484-2N5486
## N-Channel JFET
## High Frequency Amplifier

### FEATURES
- Up to 400MHz Operation
- Economy Packaging
- $C_{rss} < 1.0pF$

### PIN CONFIGURATION




### ABSOLUTE MAXIMUM RATINGS
($T_A = 25°C$ unless otherwise specified)

| | |
|---|---|
| Drain-Gate Voltage | 25V |
| Source Gate Voltage | 25V |
| Drain Current | 30mA |
| Forward Gate Current | 10mA |
| Storage Temperature Range | −65°C to +150°C |
| Operating Temperature Range | −55°C to +135°C |
| Lead Temperature (Soldering, 10sec) | +300°C |
| Power Dissipation | 310mW |
| Derate above 25°C | 2.82mW/°C |

**NOTE:** *Stresses above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions above those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.*

### ORDERING INFORMATION

| TO-92 |
|---|
| 2N5484 |
| 2N5485 |
| 2N5486 |

### ELECTRICAL CHARACTERISTICS ($T_A$ = 25°C unless otherwise specified)

| Symbol | Parameter | Test Conditions | | 2N5484 | | 2N5485 | | 2N5486 | | Units |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Min | Max | Min | Max | Min | Max | |
| $I_{GSS}$ | Gate Reverse Current | $V_{GS} = -20V$, $V_{DS} = 0$ | | | −1.0 | | −1.0 | | −1.0 | nA |
| | | | $T_A = 100°C$ | | −200 | | −200 | | −200 | |
| $BV_{GSS}$ | Gate-Source Breakdown Voltage | $I_G = -1\mu A$, $V_{DS} = 0$ | | −25 | | −25 | | −25 | | V |
| $V_{GS(off)}$ | Gate-Source Cutoff Voltage | $V_{DS} = 15V$, $I_D = 10nA$ | | −0.3 | −3.0 | −0.5 | −4.0 | −2.0 | −6.0 | |
| $I_{DSS}$ | Saturation Drain Current | $V_{DS} = 15V$, $V_{GS} = 0$ (Note 1) | | 1.0 | 5.0 | 4.0 | 10 | 8.0 | 20 | mA |
| $g_{fs}$ | Common-Source Forward Transconductance | $V_{DS} = 15V$, $V_{GS} = 0$ | f = 1kHz | 3000 | 6000 | 3500 | 7000 | 4000 | 8000 | μs |
| $g_{os}$ | Common-Source Output Conductance | | | | 50 | | 60 | | 75 | |
| $Re_{(yfs)}$ | Common-Source Forward Transconductance (Note 2) | | f = 100MHz | 2500 | | | | | | |
| | | | f = 400MHz | | | 3000 | | 3500 | | |
| $Re_{(yos)}$ | Common-Source Output Conductance (Note 2) | | f = 100MHz | | 75 | | | | | |
| | | | f = 400MHz | | | | 100 | | 100 | |
| $Re_{(yis)}$ | Common-Source Input Conductance (Note 2) | | f = 100MHz | | 100 | | | | | |
| | | | f = 400MHz | | | | 1000 | | 1000 | |
| $C_{iss}$ | Common-Source Input Capacitance (Note 2) | | f = 1MHz | | 5.0 | | 5.0 | | 5.0 | pF |
| $C_{rss}$ | Common-Source Reverse Transfer Capacitance (Note 2) | | | | 1.0 | | 1.0 | | 1.0 | |
| $C_{oss}$ | Common-Source Output Capacitance (Note 2) | | | | 2.0 | | 2.0 | | 2.0 | |



*NOTE: All typical values have been characterized but are not tested.*

# 2N5484-2N5486

INTERSIL

T-31-25



## ELECTRICAL CHARACTERISTICS ($T_A$ = 25°C unless otherwise specified) (Continued)

| Symbol | Parameter | Test Conditions | | 2N5484 | | 2N5485 | | 2N5486 | | Units |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Min | Max | Min | Max | Min | Max | |
| NF | Noise Figure (Note 2) | $V_{DS}$=15V, $V_{GS}$=0, $R_G$=1MΩ | f=1kHz | | 2.5 | | 2.5 | | 2.5 | dB |
| | | $V_{DS}$=15V, $V_D$=1mA, $R_G$=1kΩ | f=100MHz | | 3.0 | | | | | |
| | | $V_{DS}$=15V, $I_D$=4mA, $R_G$=1kΩ | | | | | 2.0 | | 2.0 | |
| | | | f=400MHz | | | | 4.0 | | 4.0 | |
| $G_{ps}$ | Common-Source Power Gain (Note 2) | $V_{DS}$=15V, $I_D$=1mA | f=100MHz | 16 | 25 | | | | | |
| | | $V_{DS}$=15V, $I_D$=4mA | | | | 18 | 30 | 18 | 30 | |
| | | | f=400MHz | | | 10 | 20 | 10 | 20 | |

**NOTES:** 1. Pulse test required. Pulse width = 300μs, duty cycle ≤ 3%.
2. For design reference only, not 100% tested.

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*NOTE: All typical values have been characterized but are not tested.*