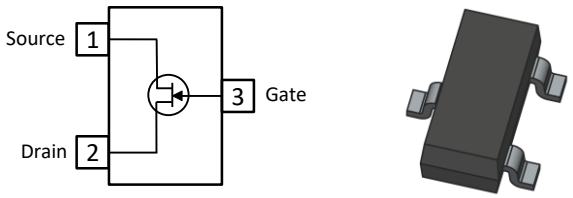
# 2N5484, 2N5485, 2N5486 N-Channel JFET

## Features

- InterFET N0026S Geometry
- Low Noise: 4 nV/√Hz Typical
- Low Ciss: 4.3pF Typical
- Low Leakage: 10pA Typical
- RoHS Compliant
- SMT, TH, and Bare Die Package options.

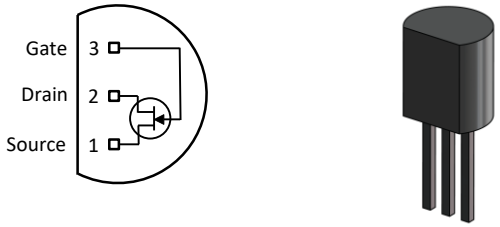
**SOT23 Top View**




## Applications

- VHF/UHF Amplifiers

**TO-92 Bottom View**




## Description

The -25V InterFET 2N5484, 2N5485, and 2N5486 are targeted for low noise low leakage VHF/UHF amplifier designs. Gate leakages are typically less than 10pA at room temperatures.

## Product Summary

| Parameters | | 2N5484 Min | 2N5485 Min | 2N5486 Min | Unit |
|---|---|---|---|---|---|
| $BV_{GSS}$ | Gate to Source Breakdown Voltage | -25 | -25 | -25 | V |
| $I_{DSS}$ | Drain to Source Saturation Current | 1 | 4 | 8 | mA |
| $V_{GS(off)}$ | Gate to Source Cutoff Voltage | -0.3 | -0.5 | -2 | V |
| $G_{FS}$ | Forward Transconductance | 2500 | 3000 | 3500 | µS |

## Ordering Information Custom Part and Binning Options Available

| Part Number | Description | Case | Packaging |
|---|---|---|---|
| 2N5484; 2N5485; 2N5486 | Through-Hole | TO-92 | Bulk |
| SMP5484; SMP5485; SMP5486 | Surface Mount | SOT23 | Bulk |
| SMP5484TR; SMP5485TR; SMP5486TR | 7" Tape and Reel: Max 3,000 Pieces<br>13" Tape and Reel: Max 9,000 Pieces | SOT23 | Minimum 1,000 Pieces<br>Tape and Reel |
| 2N5484COT; 2N5485COT; 2N5486COT | Chip Orientated Tray<br>(COT Waffle Pack) | COT | 400/Waffle Pack |
| 2N5484CFT; 2N5485CFT; 2N5486CFT | Chip Face-up Tray<br>(CFT Waffle Pack) | CFT | 400/Waffle Pack |

# Electrical Characteristics

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

| Parameters | | Value | Unit |
|---|---|---|---|
| $V_{RGS}$ | Reverse Gate Source and Gate Drain Voltage | -25 | V |
| $I_{FG}$ | Continuous Forward Gate Current | -25 | mA |
| $P_D$ | Continuous Device Power Dissipation | 360 | mW |
| P | Power Derating | 3.27 | mW/°C |
| $T_J$ | Operating Junction Temperature | -55 to 125 | °C |
| $T_{STG}$ | Storage Temperature | -65 to 200 | °C |

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

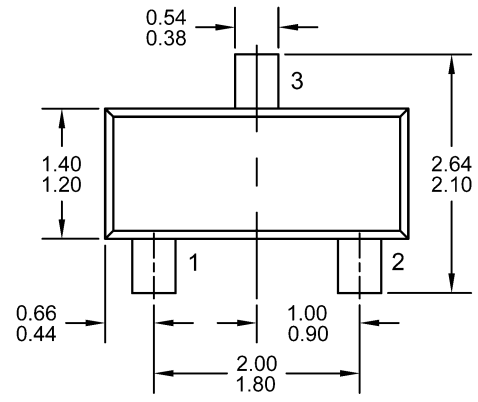
| Parameters | | Conditions | 2N5484 | | 2N5485 | | 2N5486 | | Unit |
|---|---|---|---|---|---|---|---|---|---|
| | | | Min | Max | Min | Max | Min | Max | |
| $V_{(BR)GSS}$ | Gate to Source Breakdown Voltage | $V_{DS}$ = 0V, $I_G$ = 1µA | -25 | | -25 | | -25 | | V |
| $I_{GSS}$ | Gate to Source Reverse Current | $V_{GS}$ = -20V, $V_{DS}$ = 0V, $T_A$ = 25°C | | -1 | | -1 | | -1 | nA |
| | | $V_{GS}$ = -20V, $V_{DS}$ = 0V, $T_A$ = 100°C | | -0.2 | | -0.2 | | -0.2 | µA |
| $V_{GS(OFF)}$ | Gate to Source Cutoff Voltage | $V_{DS}$ = 15V, $I_D$ = 10nA | -0.3 | -3 | -0.5 | -4 | -2 | -6 | V |
| $I_{DSS}$ | Drain to Source Saturation Current | $V_{DS}$ = 15V, $V_{GS}$ = 0V (Pulsed) | 1 | 5 | 4 | 10 | 8 | 20 | mA |

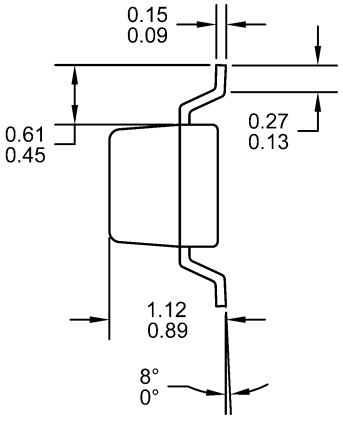
## Dynamic Characteristics (@ TA = 25°C, Unless otherwise specified)

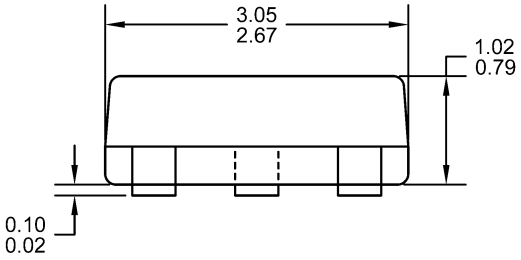
| Parameters | | Conditions | 2N5484 | | 2N5485 | | 2N5486 | | Unit |
|---|---|---|---|---|---|---|---|---|---|
| | | | Min | Max | Min | Max | Min | Max | |
| $G_{FS}$ | Forward Transconductance | $V_{DS}$ = 15V, $V_{GS}$ = 0V, f = 100MHz | 2500 | | | | | | µS |
| | | $V_{DS}$ = 15V, $V_{GS}$ = 0V, f = 400MHz | | | 3000 | | 3500 | | |
| $G_{OS}$ | Output Conductance | $V_{DS}$ = 15V, $V_{GS}$ = 0V, f = 100MHz | | 75 | | | | | µS |
| | | $V_{DS}$ = 15V, $V_{GS}$ = 0V, f = 400MHz | | | | 100 | | 100 | |
| $C_{iss}$ | Input Capacitance | $V_{DS}$ = 15V, $V_{GS}$ = 0V, f = 1MHz | | 5 | | 5 | | 5 | pF |
| $C_{rss}$ | Reverse Transfer Capacitance | $V_{DS}$ = 15V, $V_{GS}$ = 0V, f = 1MHz | | 1 | | 1 | | 1 | pF |
| $C_{oss}$ | Output Capacitance | $V_{DS}$ = 15V, $V_{GS}$ = 0V, f = 1MHz | | 2 | | 2 | | 2 | pF |

# SOT23 (TO-236AB) Mechanical and Layout Data

## Package Outline Data

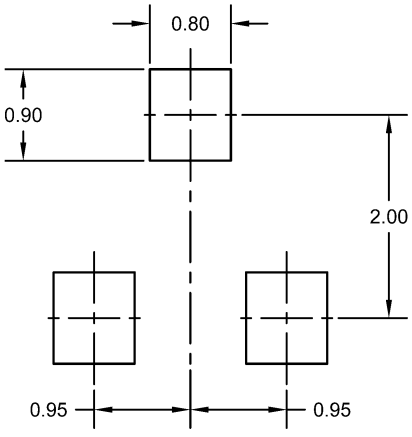



1. All linear dimensions are in millimeters.
2. Package weight approximately 0.12 grams
3. Molded plastic case UL 94V-0 rated
4. For Tape and Reel specifications refer to InterFET CTC-021 Tape and Reel Specification, Document number: IF39002
5. Bulk product is shipped in standard ESD shipping material
6. Refer to JEDEC standards for additional information.

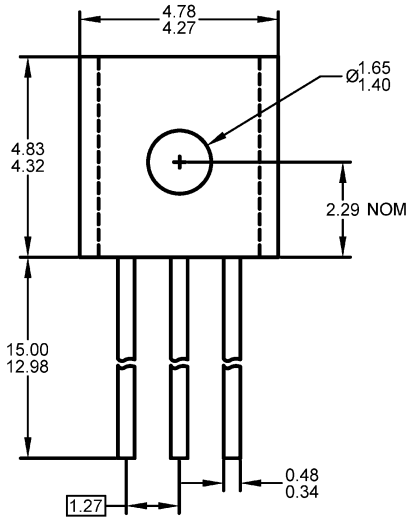
## Suggested Pad Layout

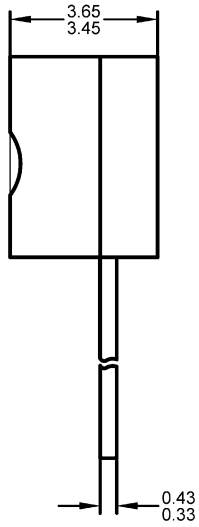


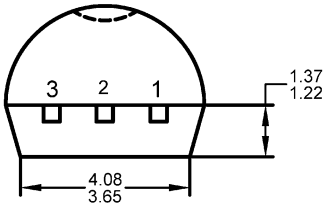

1. All linear dimensions are in millimeters.
2. The suggested land pattern dimensions have been provided for reference only. A more robust pattern may be desired for wave soldering.

# TO-92 Mechanical and Layout Data

## Package Outline Data

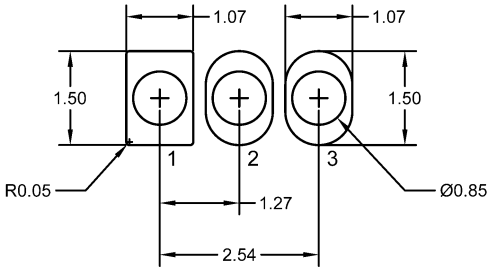



1. All linear dimensions are in millimeters.
2. Package weight approximately 0.19 grams
3. Molded plastic case UL 94V-0 rated
4. Bulk product is shipped in standard ESD shipping material
5. Refer to JEDEC standards for additional information.

## Suggested Through-Hole Layout




1. All linear dimensions are in millimeters.
2. The suggested land pattern dimensions have been provided as a straight lead reference only. A more robust pattern may be desired for wave soldering and/or bent lead configurations.

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