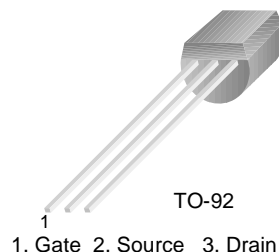


## 2N5246

2N5246

### N-Channel RF Amplifier

- This device is designed for HF/VHF mixer/amplifier and applications where process 50 is not adequate. Sufficient gain and low noise for sensitive receivers.
- Sourced from process 90.



### Absolute Maximum Ratings\* $T_a=25^\circ\text{C}$ unless otherwise noted

| Symbol         | Parameter  | Ratings   | Units            |
|----------------|--|-----------|------------------|
| $V_{DG}$       | Drain-Gate Voltage                               | 30        | V                |
| $V_{GS}$       | Gate-Source Voltage                              | -30       | V                |
| $I_{GF}$       | Forward Gate Current                             | 10        | mA               |
| $T_J, T_{STG}$ | Operating and Storage Junction Temperature Range | -55 ~ 150 | $^\circ\text{C}$ |

\* This ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

#### NOTES:

- These rating are based on a maximum junction temperature of 150 degrees C.
- These are steady limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

### Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

| Symbol                              | Parameter                         | Test Condition   | Min. | Max. | Units            |
|-------------------------------------|-----------------------------------|--|------|------|------------------|
| <b>Off Characteristics</b>          |                                   |  |      |      |                  |
| $V_{(BR)GSS}$                       | Gate-Source Breakdown Voltage     | $I_G = 1.0\mu\text{A}, V_{DS} = 0$                           | -30  |      | V                |
| $I_{GSS}$                           | Gate Reverse Current              | $V_{GS} = 25\text{V}, V_{DS} = 0$                            |      | -1.0 | nA               |
| $V_{GS(off)}$                       | Gate-Source Cutoff Voltage        | $V_{DS} = 15\text{V}, I_D = 1.0\text{nA}$                    | -0.5 | -4.0 | V                |
| <b>On Characteristics</b>           |                                   |  |      |      |                  |
| $I_{DSS}$                           | Zero-Gate Voltage Drain Current * | $V_{DS} = 15\text{V}, V_{GS} = 0$                            | 1.5  | 7.0  | mA               |
| <b>Small Signal Characteristics</b> |                                   |  |      |      |                  |
| gfs                                 | Forward Transferconductance       | $V_{GS} = 0\text{V}, V_{DS} = 15\text{V}, f = 1.0\text{kHz}$ | 3000 | 9500 | $\mu\text{mhos}$ |
| goss                                | Common- Source Output Conductance | $V_{GS} = 0\text{V}, V_{DS} = 15\text{V}, f = 1.0\text{kHz}$ |      | 50   | $\mu\text{mhos}$ |

\* Pulse Test: Pulse  $\leq 300\mu\text{s}$

### Thermal Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

| Symbol          | Parameter                               | Max. | Units                     |
|-----------------|---|------|---------------------------|
| $P_D$           | Total Device Dissipation                | 350  | mW                        |
|                 | Derate above $25^\circ\text{C}$         | 2.8  | mW/ $^\circ\text{C}$      |
| $R_{\theta JC}$ | Thermal Resistance, Junction to Case    | 125  | $^\circ\text{C}/\text{W}$ |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 357  | $^\circ\text{C}/\text{W}$ |

# Package Dimensions

## TO-92



Dimensions in Millimeters

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