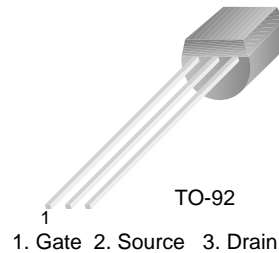


# BF247A

## N-Channel Amplifier

- This device is designed primarily for electronic switching applications such as low on resistance analog switching.
- Sourced from process 51.



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

| Symbol         | Parameter  | Value      | Units            |
|----------------|--|------------|------------------|
| $V_{DG}$       | Drain-Gate Voltage                               | 25         | V                |
| $V_{GS}$       | Gate-Source Voltage                              | -25        | 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:**

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

### 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  | $^\circ\text{C}/\text{W}$ |

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

| Symbol | Parameter | Test Condition | Min. | Max. | Units |
|--------|-----------|----------------|------|------|-------|
|--------|-----------|----------------|------|------|-------|

#### Off Characteristics

|               |                               |   |      |       |    |
|---------------|-------------------------------|---|------|-------|----|
| $V_{(BR)GSS}$ | Gate-Source Breakdown Voltage | $I_G = 1.0\mu\text{A}, V_{DS} = 0$        | -25  |       | V  |
| $I_{GSS}$     | Gate Reverse Current          | $V_{GS} = 15\text{V}, V_{DS} = 0$         |      | -5.0  | nA |
| $V_{GS(off)}$ | Gate-Source Cut-off Voltage   | $V_{DS} = 15\text{V}, I_D = 100\text{nA}$ | -0.6 | -14.5 | V  |
| $V_{GS}$      | Gate-Source Forward Voltage   | $V_{DS} = 15\text{V}, I_D = 0.2\text{mA}$ | -1.5 | -4.0  | V  |

#### On Characteristics

|             |                                   |                                   |    |    |    |
|-------------|-----------------------------------|-----------------------------------|----|----|----|
| * $I_{DSS}$ | Zero-Gate Voltage Drain Current * | $V_{DS} = 15\text{V}, V_{GS} = 0$ | 30 | 80 | mA |
|-------------|-----------------------------------|-----------------------------------|----|----|----|

#### Small Signal Characteristics



|          |                             |   |   |  |           |
|----------|-----------------------------|---|---|--|-----------|
| $g_{fs}$ | Forward Transferconductance | $V_{DS} = 15\text{V}, V_{GS} = 0\text{V}$ | 8 |  | $/\Omega$ |
|----------|-----------------------------|---|---|--|-----------|

\* Pulse Test: Pulse Width  $\leq 300\mu\text{s}$ , Duty Cycle = 2%



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