

# LF347

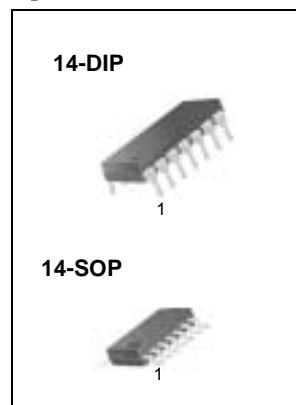
## Quad Operational Amplifier (JFET)

### Features

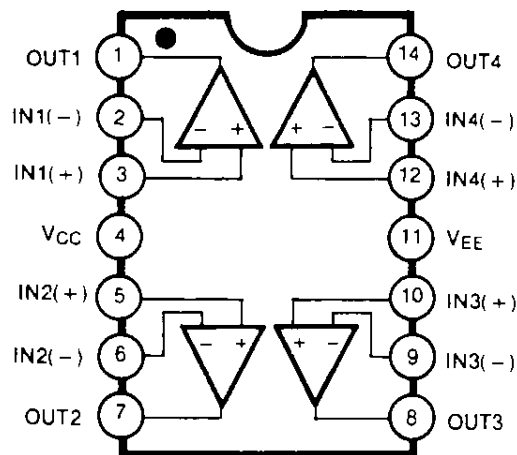
- Low input bias current
- High input impedance
- Wide gain bandwidth: 4 MHz Typ.
- High slew rate: 13 V/μs Typ.

### Description

The LF347 is a high speed quad JFET input operational amplifier. This feature high input impedance, wide bandwidth, high slew rate, and low input offset voltage and bias current. LF347 may be used in circuits requiring high input impedance. High slew rate and wide bandwidth, low input bias current.

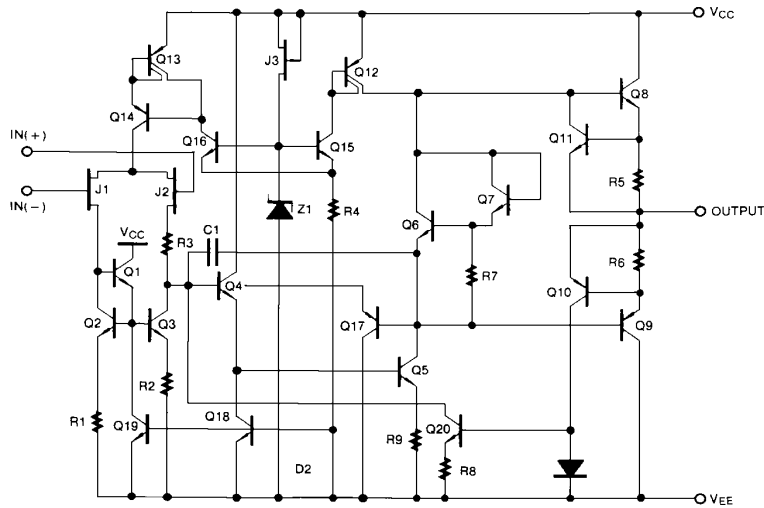


### Internal Block Diagram



## Schematic Diagram

(One Section Only)



## Absolute Maximum Ratings

| Parameter                     | Symbol               | Value       | Unit |
|-------------------------------|----------------------|-------------|------|
| Supply Voltage                | V <sub>CC</sub>      | ±18         | V    |
| Differential Input Voltage    | V <sub>I(DIFF)</sub> | 30          | V    |
| Input Voltage Range           | V <sub>I</sub>       | ±15         | V    |
| Output Short Circuit Duration | -                    | Continuous  | -    |
| Power Dissipation             | P <sub>D</sub>       | 570         | mW   |
| Operating Temperature Range   | T <sub>OPR</sub>     | 0 ~ + 70    | °C   |
| Storage Temperature Range     | T <sub>STG</sub>     | -65 ~ + 150 | °C   |

## Electrical Characteristics

(VCC= +15V, VEE= -15V, TA=25 °C, unless otherwise specified)

| Parameter                         | Symbol               | Conditions   | LF347 |                  |      | Unit       |
|-----------------------------------|----------------------|--|-------|------------------|------|------------|
|                                   |                      |  | Min.  | Typ.             | Max. |            |
| Input Offset Voltage              | V <sub>IO</sub>      | R <sub>S</sub> = 10KΩ<br>Note 1                              | -     | 5                | 10   | mV         |
|                                   |                      |  | -     | -                | 13   |            |
| Input Offset Voltage Drift(Note2) | ΔV <sub>IO</sub> /ΔT | R <sub>S</sub> = 10KΩ  | -     | 10               | -    | μV/°C      |
| Input Offset Current              | I <sub>IO</sub>      | Note 1   | -     | 25               | 100  | pA         |
|                                   |                      |  | -     | -                | 4    | nA         |
| Input Bias Current                | I <sub>BIAS</sub>    | Note 1   | -     | 50               | 200  | pA         |
|                                   |                      |  | -     | -                | 8    | nA         |
| Large Signal Voltage Gain         | G <sub>V</sub>       | R <sub>L</sub> = 2KΩ<br>V <sub>O(P-P)</sub> = ±10V<br>Note 1 | 25    | 100              | -    | V/mV       |
|                                   |                      |  | 15    | -                | -    |            |
| Output Voltage Swing              | V <sub>O(PP)</sub>   | R <sub>L</sub> = 10KΩ  | ±12   | ±13.5            | -    | V          |
| Input Voltage Range               | V <sub>I(R)</sub>    | -  | ±11   | +15<br>-12       | -    | V          |
| Common-Mode Rejection Ratio       | CMRR                 | R <sub>S</sub> ≤ 10KΩ  | 80    | 100              | -    | dB         |
| Power Supply Rejection Ratio      | PSRR                 | R <sub>S</sub> ≤ 10KΩ  | 80    | 100              | -    | dB         |
| Input Resistance                  | R <sub>I</sub>       | -  | -     | 10 <sup>12</sup> | -    | Ω          |
| Supply Current                    | I <sub>CC</sub>      | -  | -     | 7.2              | 11   | mA         |
| Slew Rate                         | SR                   | -  | -     | 13               | -    | V/μS       |
| Gain Bandwidth Product(Note2)     | GBW                  | -  | -     | 4                | -    | MHz        |
| Channel Separation                | CS                   | f = 1Hz ~ 20KHz<br>(input referenced)                        | -     | 120              | -    | dB         |
| Equivalent Input Noise Voltage    | e <sub>N</sub>       | R <sub>S</sub> = 100Ω<br>f = 1KHz                            | -     | 20               | -    | nV/<br>√Hz |
| Equivalent Input Noise Current    | I <sub>N</sub>       | f = 1KHz   | -     | 0.01             | -    | pA/√Hz     |

### Note :

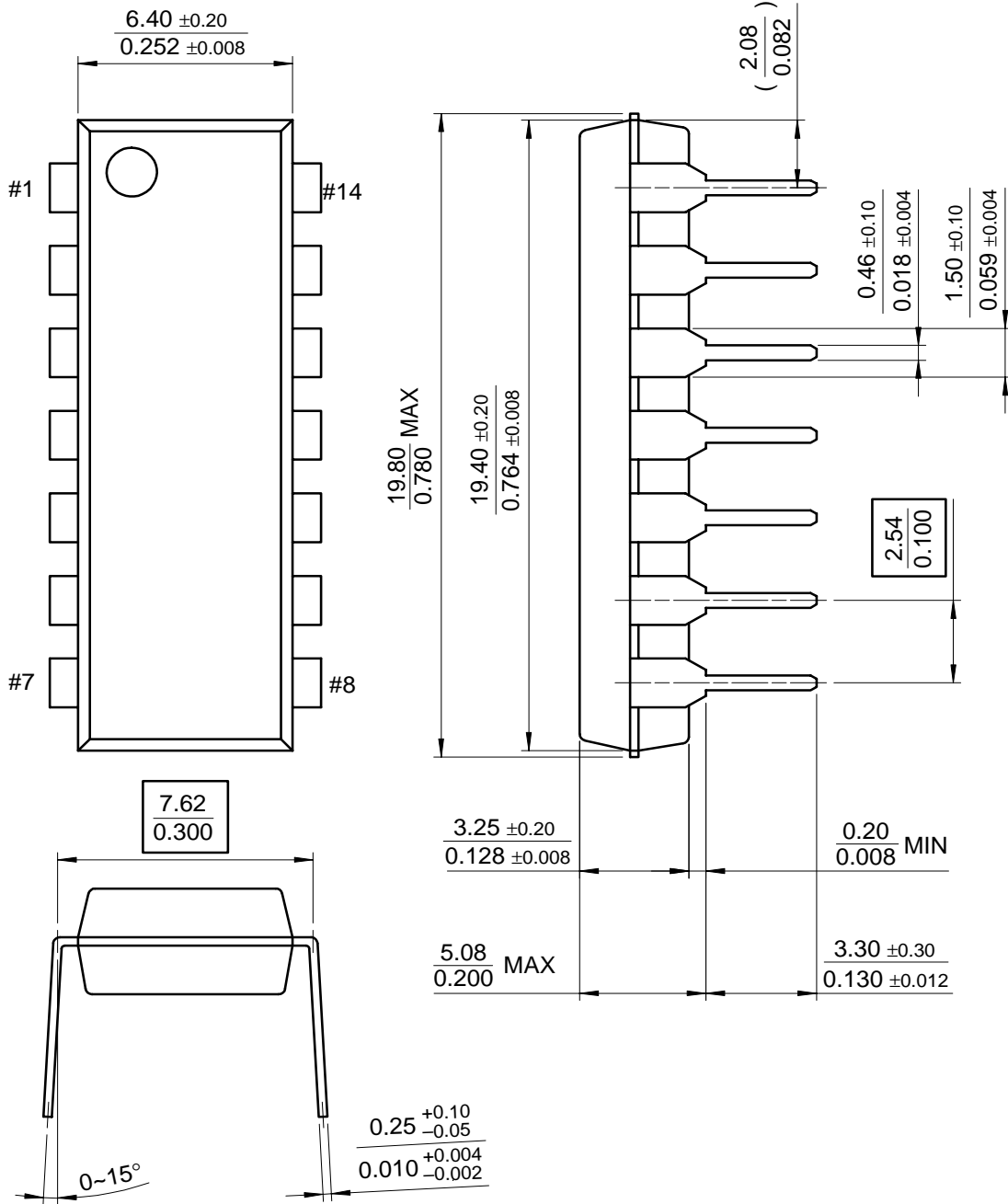
1. LF347 : 0 ≤ T<sub>A</sub> ≤ +70 °C
2. Guaranteed by design

# Mechanical Dimensions

## Package

Dimensions in millimeters

### 14-DIP





## Ordering Information

| Product Number | Package | Operating Temperature |
|----------------|---------|-----------------------|
| LF347N         | 14-DIP  | 0 ~ + 70°C            |
| LF347M         | 14-SOP  |                       |

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