

## DUAL OPERATIONAL AMPLIFIER—YD4556

### DESCRIPTION

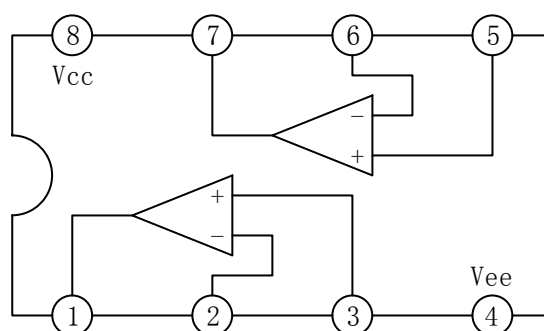
The YD4556 integrated circuit is a high-gain, high output current dual operational amplifier capable of driving  $\pm 70\text{mA}$  into  $150\ \Omega$  loads ( $\pm 10.5\text{V}$  output voltage), and operating low supply voltage ( $V_{cc}/V_{ee}=\pm 2\text{V}$ ).

The YD4556 combines many of the features of the popular YD4558 as well as having the capability of driving  $150\ \Omega$  loads. In addition, the wide band-width, low noise, high slew rate and low distortion of the YD4556 make it ideal for many audio, telecommunications and instrumentation application.

### FEATURES

- \*Operating Voltage ( $\pm 2\text{V}\sim\pm 18\text{V}$ )
- \*High Output Current ( $I_o=70\text{mA}$ )
- \*Slew Rate ( $3\text{V}/\mu\text{s}$  typ.)
- \*Gain Band Width Product ( $8\text{MHz}$  typ.)
- \*Package Outline: DIP8, SOP8
- \*Bipolar Technology

### BLOCK DIAGRAM



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**ABSOLUTE MAXIMUM RATINGS** (Tamb=25°C)

| PARAMETER                  |      | SYMBOL               | VALUE    | UNIT |
|----------------------------|------|----------------------|----------|------|
| Supply Voltage             |      | V <sub>CC</sub>      | ± 18     | V    |
| Differential Input Voltage |      | V <sub>I(DIFF)</sub> | ± 30     | V    |
| Power Dissipation          | DIP8 | P <sub>D</sub>       | 700      | mW   |
|                            | SOP8 |                      | 250      |      |
| D terminal Output Voltage  |      | V <sub>I</sub>       | ± 15     | V    |
| Operating Temperature      |      | Topr                 | -20~+75  | °C   |
| Storage Temperature        |      | Tstg                 | -40~+150 | °C   |

**ELECTRICAL CHARACTERISTICS**

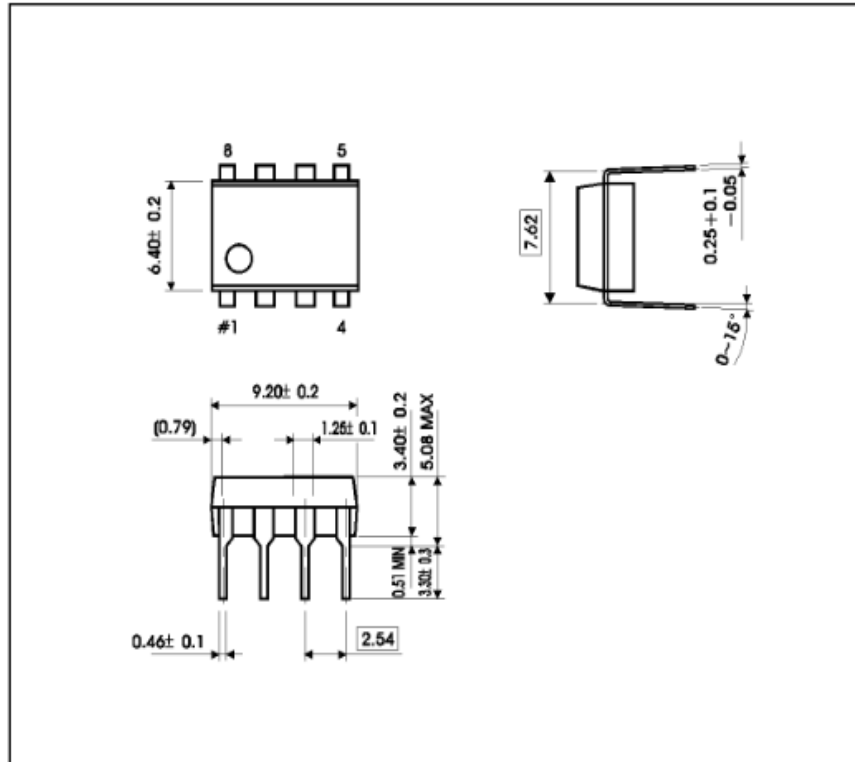
(V<sub>CC</sub>=15V, V<sub>EE</sub>=-15V, Tamb=25°C, Unless otherwise specified)

| PARAMETER                       | SYMBOL            | TEST CONDITION                                | MIN    | TYP    | MAX  | UNIT  |
|---------------------------------|-------------------|---|--------|--------|------|-------|
| Operating Current               | I <sub>CC</sub>   |   |        | 9.0    | 12.0 | mA    |
| Input Offset Voltage            | V <sub>IO</sub>   | R <sub>S</sub> ≤ 10k Ω                        |        | 0.5    | 6.0  | mV    |
| Input Offset Current            | I <sub>IO</sub>   |   |        | 5      | 60   | nA    |
| Input Bias Current              | I <sub>BIAS</sub> |   |        | 50     | 500  | nA    |
| Input Resistance                | R <sub>IN</sub>   |   | 0.3    | 5      |      | M Ω   |
| Large Signal Voltage Gain       | A <sub>VO</sub>   | V <sub>O</sub> = ± 10V, R <sub>L</sub> ≥ 2k Ω | 86     | 100    |      | dB    |
| Common Mode Input Voltage Range | V <sub>ICM</sub>  |   | ± 13.5 | ± 14   |      | V     |
| Common Mode Rejection Ratio     | K <sub>CMR</sub>  | R <sub>S</sub> ≤ 10k Ω                        | 70     | 90     |      | dB    |
| Supply Voltage Rejection Ratio  | K <sub>SVR</sub>  | R <sub>S</sub> ≤ 10k Ω                        | 76.5   | 90     |      | dB    |
| Maximum Output Voltage Swing 1  | V <sub>OM1</sub>  | R <sub>L</sub> ≥ 2k Ω                         | ± 12   | ± 13.5 |      | V     |
| Maximum Output Voltage Swing 2  | V <sub>OM2</sub>  | R <sub>L</sub> ≥ 150 Ω                        | ± 10.5 | ± 11   |      | V     |
| Slew Rate                       | SR                | A <sub>V</sub> =1, R <sub>L</sub> =2k Ω       |        | 3      |      | V/μ s |
| Gain Bandwidth Product          | GB                |   |        | 8      |      | MHz   |

OUTLINE DRAWING

DIP-8

unit:mm



SOP-8

unit:mm

