

# AN7415/S

## FM Stereo Multiplex Demodulator

### ■ Description

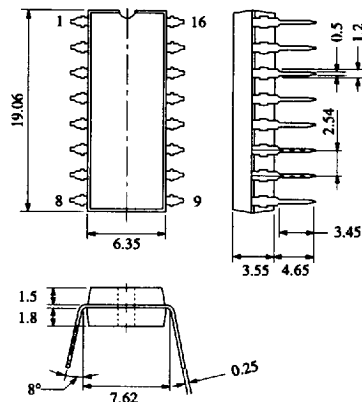
The AN7415/S are the monolithic integrated circuits designed for low voltage operating FM stereo multiplex demodulator (2 dry cells are enough for the power source).

### ■ Features

- Operating voltage:  $V_{CC} = 1.6V \sim 7.0V$
- Low total current:  $I_{tot} = 2.6mA$
- Provided with forced monaural and VCO stop circuits
- High performance (small gain loss, low distortion)

AN7415

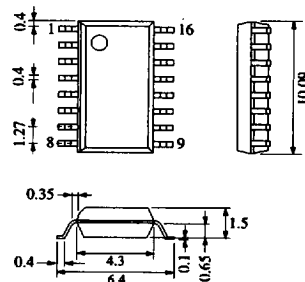
Unit : mm



16-Lead DIL Plastic Package (16-DIP)

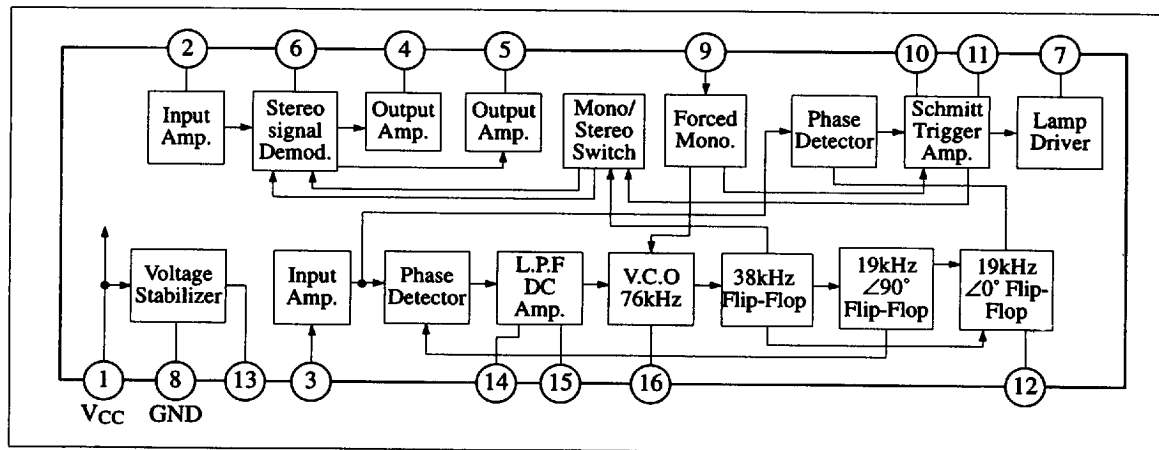
AN7415S

Unit : mm



16-Lead PANAFLAT Plastic Package (SO-16D)

### ■ Block Diagram



## ■ Absolute Maximum Ratings (Ta=25°C)

| Item                          |         | Symbol           | Rating     | Unit |
|-------------------------------|---------|------------------|------------|------|
| Supply Voltage                |         | V <sub>CC</sub>  | 7          | V    |
| Load Current (LED)            |         | I <sub>L</sub>   | 40         | mA   |
| Power Dissipation             |         | P <sub>D</sub>   | 80         | mW   |
| Operating Ambient Temperature |         | T <sub>opr</sub> | -20 ~ +75  | °C   |
| Storage Temperature           | AN7415  | T <sub>stg</sub> | -55 ~ +150 | °C   |
|                               | AN7415S |                  | -55 ~ +125 |      |

Operating Supply Voltage Range: V<sub>CC</sub> = 1.6V ~ 7.0V

## ■ Electrical Characteristics (V<sub>CC</sub>=3V, Ta=25°C)

| Item                      | Symbol             | Condition                                                                  | min. | typ. | max. | Unit |
|---------------------------|--------------------|----------------------------------------------------------------------------|------|------|------|------|
| Total Current             | I <sub>tot</sub>   | Without input signal                                                       | 2.1  | 2.6  | 3.2  | mA   |
| Output Voltage            | V <sub>O</sub>     | V <sub>in</sub> = 100mV, f <sub>m</sub> = 1kHz                             | 85   | 102  | 120  | mV   |
| Channel Balance           | CB                 |                                                                            |      | 0    | 1    | dB   |
| Total Harmonic Distortion | THD                | V <sub>(L+R)</sub> = 90mV, f <sub>m</sub> = 1kHz,<br>V <sub>p</sub> = 10mV |      | 0.05 | 0.3  | %    |
| Separation                | Sep                |                                                                            | 35   | 45   |      | dB   |
| Stereo Lamp ON Level      | V <sub>p(ON)</sub> | Pilot signal 19kHz                                                         | 3.5  | 5    | 7    | mV   |

## ■ Pin

| Pin No | Pin Name               | Pin No | Pin Name                   |
|--------|------------------------|--------|----------------------------|
| 1      | V <sub>CC</sub>        | 9      | Forced Mono, VCO Stop      |
| 2      | Composite Signal Input | 10     | Pilot Det. Low-pass Filter |
| 3      | Pilot Signal Input     | 11     | Pilot Det. Low-pass Filter |
| 4      | L. Ch. Signal Output   | 12     | VCO Frequency Monitor      |
| 5      | R. Ch. Signal Output   | 13     | Stabilized Power Supply    |
| 6      | Separation Adj.        | 14     | PLL Low-pass Filter        |
| 7      | Stereo Indicator       | 15     | PLL Low-pass Filter        |
| 8      | GND                    | 16     | VCO RC Time Const.         |



# ■ Characteristics Curve

