

# DIO2112H

## 2-Vrms Audio Driver with Adjustable Gain

### Features

- Voltage Output at 10kΩ Load  
2 Vrms With 3.3V Supply Voltage
- Ultra Low Distortion  
SNR>100dB  
Typical  $V_n < 10\mu\text{Vrms}$   
THD+N<0.001% at 2Vrms
- No Pop/Clicks Noise when Power ON/OFF
- No Need for Output DC-Blocking Capacitors
- Optimized Frequency Response between  
20Hz–20kHz
- Accepting Differential Input
- Featuring external under voltage mute
- Available in TSSOP-14 and DQFN-16  
Package

### Applications

- Set-Top Boxes
- High Definition DVD Players
- Car Entertainment System
- Medical

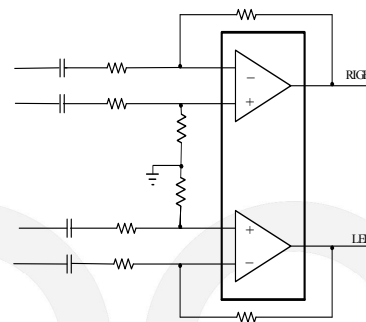
### Descriptions

The DIO2112H is an integrated solution for Set-top box and high definition player, and designed to optimize the audio driver circuit performance while reducing the BOM cost by eliminating the peripheral discrete components for noise reduction. DIO2112H features a 2Vrms stereo audio driver that designed to allow for the removal of output AC-coupling capacitors.

Featuring differential input mode, gain range of  $\pm 1 \text{ V/V}$  to  $\pm 10 \text{ V/V}$  can be achieved via external gain resistor setting. The DIO2112H is able to offer 2Vrms output with 10kΩ load and 3.3V supply.

Meanwhile, the DIO2112H offers built-in shut-down control circuitry for optimal pop-free performance. Under the under-voltage condition, DIO2112H is able to detect it and mutes the output.

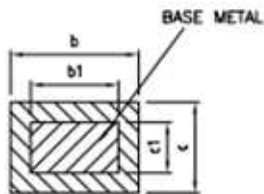
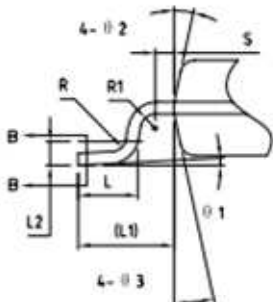
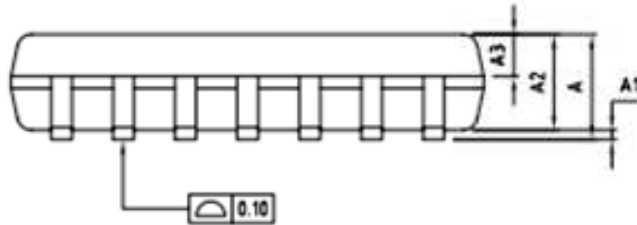
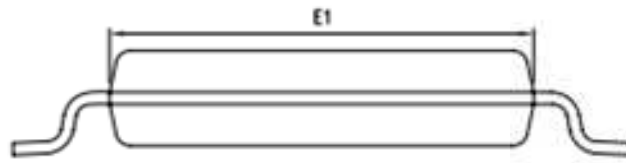
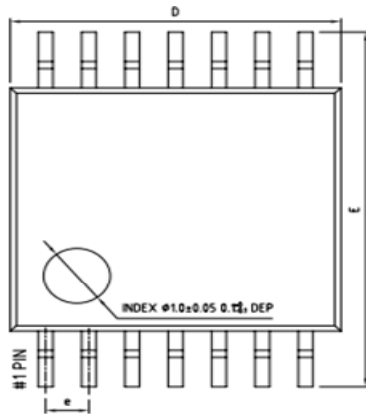
### Block Diagram



### Ordering Information

| Order Part Number | Top Marking |            | T <sub>A</sub> | Package  |                   |
|-------------------|-------------|------------|----------------|----------|-------------------|
| DIO2112HTP14      | DIO2112H    | Green/RoHS | -40 to +85°C   | TSSOP-14 | Tape & Reel, 2500 |
| DIO2112HLN16      | D21         | Green      | -40 to +85°C   | DQFN-16  | Tape & Reel, 3000 |

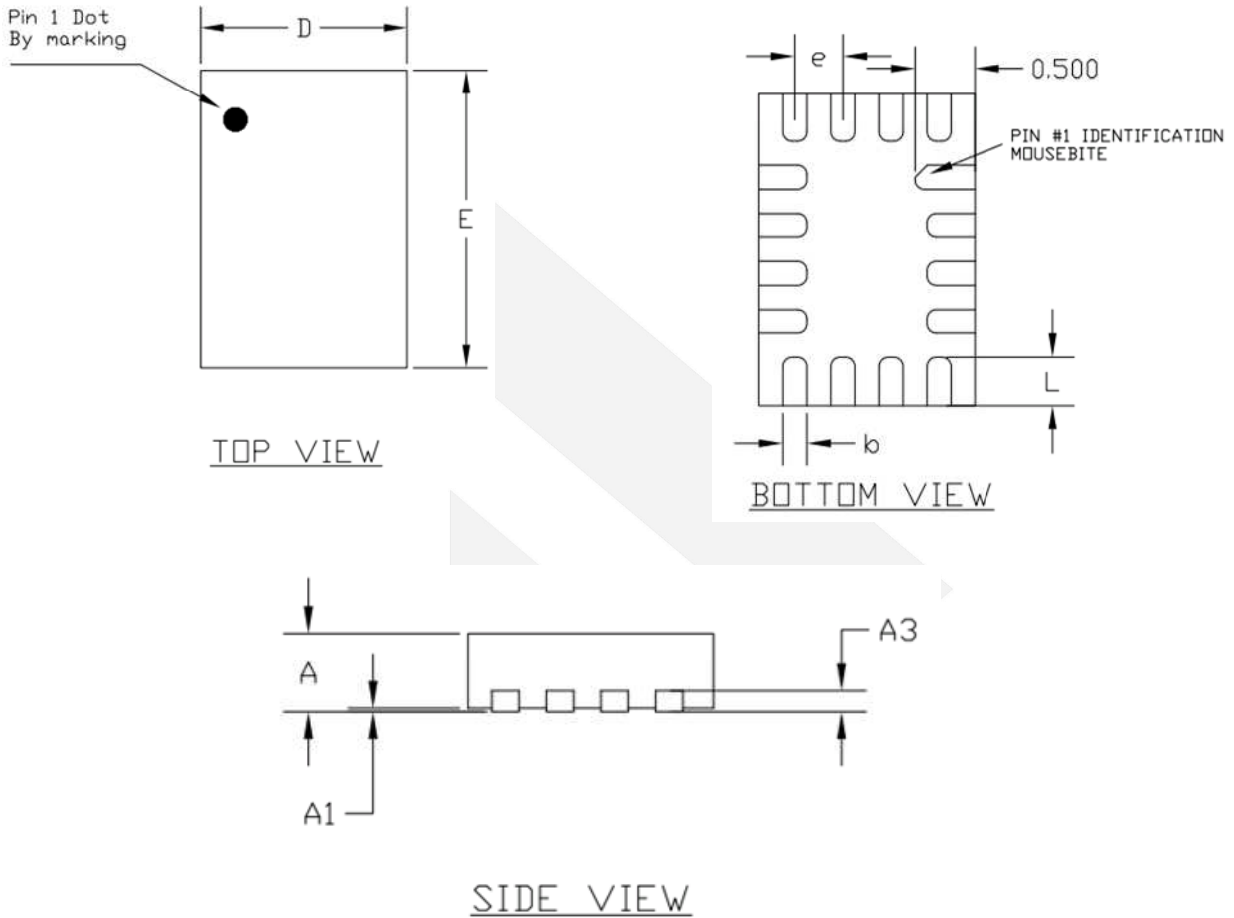
## Physical Dimensions: TSSOP-14



SECTION B-B

| Symbol     | Dimensions In Millimeters |      |      |
|------------|---------------------------|------|------|
|            | Min                       | Nom  | Max  |
| A          | -                         | -    | 1.20 |
| A1         | 0.05                      | -    | 0.15 |
| A2         | 0.90                      | 1.00 | 1.05 |
| A3         | 0.34                      | 0.44 | 0.54 |
| b          | 0.20                      | -    | 0.28 |
| b1         | 0.20                      | 0.22 | 0.24 |
| c          | 0.10                      | -    | 0.19 |
| c1         | 0.10                      | 0.13 | 0.15 |
| D          | 4.86                      | 4.96 | 5.06 |
| E          | 6.20                      | 6.40 | 6.60 |
| E1         | 4.30                      | 4.40 | 4.50 |
| e          | 0.65BSC                   |      |      |
| L          | 0.45                      | 0.60 | 0.75 |
| L1         | 1.00REF                   |      |      |
| L2         | 0.25BSC                   |      |      |
| R          | 0.09                      | -    | -    |
| R1         | 0.09                      | -    | -    |
| S          | 0.20                      | -    | -    |
| $\theta 1$ | 0°                        | -    | 8°   |
| $\theta 2$ | 10°                       | 12°  | 14°  |
| $\theta 3$ | 10°                       | 12°  | 14°  |

## Physical Dimensions: DQFN-16



|      |  | COMMON DIMENSIONS(MM) |      |      |
|------|--|-----------------------|------|------|
| PKG. |  | UT: ULTRA THIN        |      |      |
| REF. |  | MIN.                  | NOM  | MAX  |
| A    |  | >0.50                 | 0.55 | 0.60 |
| A1   |  | 0.00                  | -    | 0.05 |
| A3   |  | 0.15 REF.             |      |      |
| D    |  | 1.75                  | 1.80 | 1.85 |
| E    |  | 2.55                  | 2.60 | 2.65 |
| L    |  | 0.35                  | 0.40 | 0.45 |
| b    |  | 0.15                  | 0.20 | 0.25 |
| e    |  | 0.40 BSC              |      |      |