



SANYO Semiconductors

DATA SHEET

LV1017 — Bi-CMOS IC Passive Decoder for Dolby Surround Systems

Overview

The LV1017 is a passive decoder for Dolby surround systems.

Features

- Original A/D, D/A converter
- Wide dynamic range
- Virtual surround function
- Rear stereo, pseudo-multi-tap function
- Surround trim (Ls, Rs) external input
- Built-in Lch, Rch, Lsch, Rsch output switching function
- Reduced external component count

Specifications

Maximum Ratings at Ta = 25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|---------------------|------------|-------------|------|
| Maximum power supply voltage | V _{CC} max | | 12 | V |
| Allowable power dissipation | Pd max | Ta ≤ 70°C | 450 | mW |
| Operating temperature | Topr | | -20 to +70 | °C |
| Storage temperature | Tstg | | -40 to +125 | °C |

Operating Conditions at Ta = 25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|-------------------------------------|------------------------|-------------------------------------|------------|-------|
| Recommended operating voltage | V _{CC} | | 9 | V |
| Allowable operating voltage range 1 | V _{CC} range1 | When Dolby surround is ON | 8 to 10 | V |
| Allowable operating voltage range 2 | V _{CC} range2 | When Dolby Pro Logic surround is ON | 8.5 to 10 | V |
| Dolby level | V _O Dolby | | 300 | mVrms |
| Input "H" level voltage | V _{IH} | | 3.5 to 5.5 | V |
| Input "L" level voltage | V _{IL} | | 0 to 1.0 | V |

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SANYO Electric Co.,Ltd. Semiconductor Company

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

LV1017

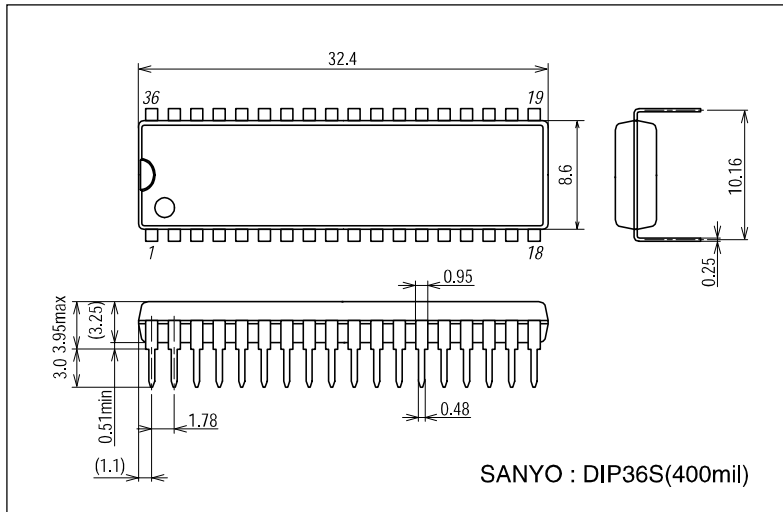
Electrical Characteristics at $T_a = 25^\circ\text{C}$, $V_{CC} = 9\text{V}$, $V_{IN} = 300\text{mV} = 0\text{dB}$, $h = 1\text{kHz}$, Dolby passive mode

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|-----------------------------|-----------|--|---------|-------|-------|------|
| | | | min | typ | max | |
| Current consumption | I_{CCO} | No signal | 15 | 24 | 36 | mA |
| [LS, RSch] | | | | | | |
| Signal handling | SH1S | $V_{CC} = 8.5\text{V}$, DIST < 3%, S-IN | 15 | | | dB |
| | SH2S | $V_{CC} = 8\text{V}$, DIST < 3%, L-R-IN | 10 | | | dB |
| S/N | SNS | CCIR/ARM, $R_g = 10\text{k}$ | 65 | 75 | | dB |
| Output level variation | VOS | | -3 | 0 | +3 | dB |
| Distortion factor | THDS | | | 0.1 | 0.7 | % |
| [Lch] | | | | | | |
| Signal handling | SH1L | $V_{CC} = 8.5\text{V}$, DIST < 3% | 15 | | | dB |
| S/N | SNL | CCIR/ARM, $R_g = 10\text{k}$ | 80 | 90 | | dB |
| Output level variation | VOL | | -2 | 0 | +2 | dB |
| Distortion factor | THDL | | | 0.01 | 0.05 | % |
| [Rch] | | | | | | |
| Signal handling | SH1R | $V_{CC} = 8.5\text{V}$, DIST < 3% | 15 | | | dB |
| S/N | SNR | CCIR/ARM, $R_g = 10\text{k}$ | 80 | 90 | | dB |
| Output level variation | VOR | | -2 | 0 | +2 | dB |
| Distortion factor | THDR | | | 0.01 | 0.05 | % |
| When s trim is -15dB | STRIM1 | When setting -15dB | -16 | -15 | -14 | dB |
| When s trim is -31dB | STRIM2 | When setting -31dB | -33 | -31 | -29 | dB |
| NR frequency characteristic | Dec1 | 0dB, 1kHz | -1.5 | 0 | +1.5 | dB |
| | Dec2 | -20dB, 1kHz | -24 | -22.5 | +21 | dB |
| | Dec3 | 0dB, 5kHz | -1.5 | 0 | +1.5 | dB |
| | Dec4 | -20dB, 5kHz | -23.3 | -21.8 | +20.3 | dB |
| | Dec5 | -40dB, 5kHz | -46.8 | -45.3 | +43.8 | dB |

Package Dimensions

unit : mm

3107A



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