

DATA SHEET

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| Part No. | AN34001A |
| Package Code No. | HZIP016-P-0665F |

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AN34001A

Nine-Output Linear Voltage Regulator

■ Overview

AN34001A is a nine-output power supply IC, consisting of five linear regulator (one adjustable) and four voltage followers. Seven of the outputs are controlled by three control switches.

■ Features

- Thermal protection circuit.
- Short circuit protection circuit
- Over voltage protection circuit
- Operating supply voltage range: 6.6 V to 18.0 V (13.2 V typical)
- High maximum operating voltage: 26 V

■ Application

Voltage supply for car audio system

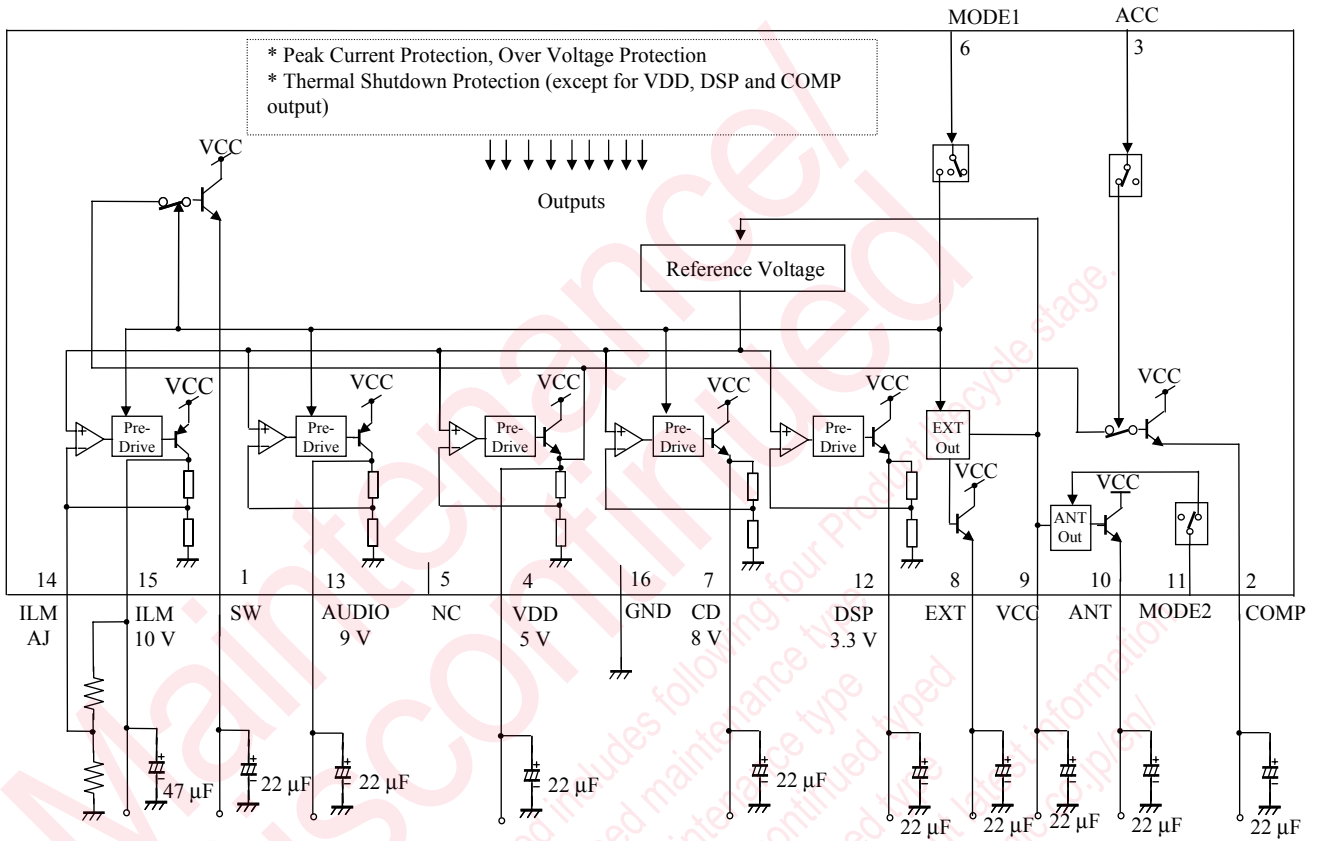
■ Package

16 pin plastic zigzag inline package with heat sink (ZIP type)

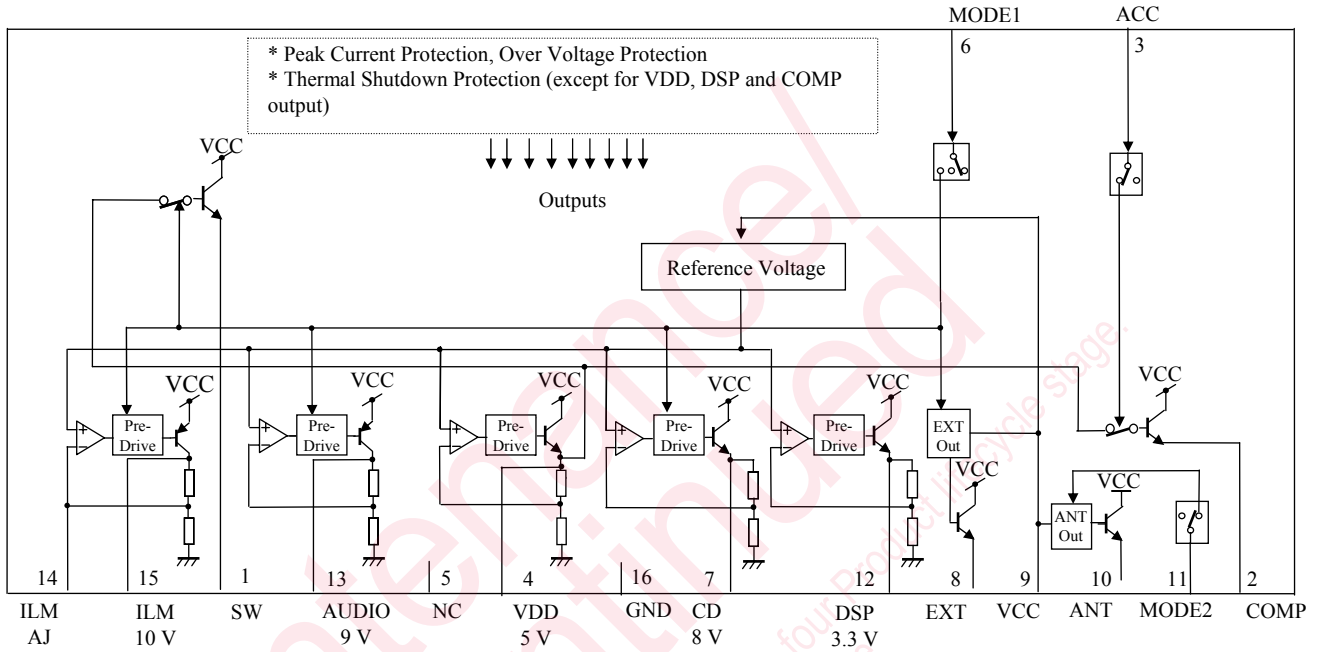
■ Type

Silicon monolithic bipolar IC

■ Application Circuit Example



■ Block Diagram



■ Pin Description

| Pin No. | Pin name | Type | Description |
|---------|----------|--------------|--|
| 1 | SW | Output | When Mode 1 pin is “M” and “H”, SW output is V_{DD} ($I_O = 100 \text{ mA}$) |
| 2 | COMP | Output | When ACC input pin is “H” COMP output is V_{DD} ($I_O = 100 \text{ mA}$) |
| 3 | ACC | Input | “L”: COMP Ouptut OFF and “H”: COMP Output ON |
| 4 | VDD | Output | 5 V output voltage for a microcontroller ($I_O = 100 \text{ mA}$) |
| 5 | N.C. | — | Not connected to the IC die |
| 6 | MODE1 | Input | Three-input “L”, “M”, and “H” control pin |
| 7 | CD | Output | When Mode 1 is “H” CD output is 8 V ($I_O = 1\ 200 \text{ mA}$) |
| 8 | EXT | Output | When Mode 1 pin is “M” and “H”, SW output is $V_{CC} - 1 \text{ V}$ ($I_O = 300 \text{ mA}$) |
| 9 | VCC | Power Supply | Connected to car BACKUP power supply |
| 10 | ANT | Output | When Mode 2 pin is “H” ANT output is $V_{CC} - 1 \text{ V}$ ($I_O = 300 \text{ mA}$) |
| 11 | MODE2 | Input | “L”: ANT Output OFF and “H”: ANT Output ON |
| 12 | DSP | Output | 3.3 V output voltage for DSP IC ($I_O = 150 \text{ mA}$) |
| 13 | AUDIO | Output | When Mode 1 pin is “M” and “H”, AUDIO output is 9 V ($I_O = 500 \text{ mA}$) |
| 14 | ILM AJ | Input | A pin to adjust the ILM (illumination) output. |
| 15 | ILM | Output | When Mode 1 pin is “M” and “H”, ILM output is 10 V ($I_O = 300 \text{ mA}$) |
| 16 | GND | Ground | Connected to the IC substrate |

■ Absolute Maximum Ratings

| A No. | Parameter | Symbol | Rating | Unit | Note |
|-------|-------------------------------|-----------|-------------|------|------|
| 1 | Supply voltage | V_{CC} | 26.0 | V | *1 |
| 2 | Supply current | I_{CC} | 5.2 | A | *2 |
| 3 | Power dissipation | P_D | 16.25 | W | *3 |
| 4 | Operating ambient temperature | T_{opr} | -30 to +85 | °C | *4 |
| 5 | Storage temperature | T_{stg} | -55 to +150 | °C | *4 |

Notes) *1 : The values under the condition not exceeding the above absolute maximum ratings and the power dissipation.

*2 : Over current limiting circuit built-in.

*3 : The power dissipation shown is the value at $T_a = 85^\circ\text{C}$ with $4^\circ\text{C} / \text{Watt}$ heat sink.

When using this IC, refer to the P_D - T_a diagram of the package standard and use under the condition not exceeding the allowable value.

*4 : Except for the power dissipation, operating ambient temperature, and storage temperature, all ratings are for $T_a = 25^\circ\text{C}$.

■ Operating power supply range

| Parameter | Symbol | Range | Unit | Note |
|--------------------------------|----------|-------------|------|----------|
| Operating supply voltage range | V_{CC} | 6.6 to 18.0 | V | *5 *6 |

Note) *5: ILM output is not regulated for V_{CC} below 10.5V

*6: AUDIO and CD output might not be functioning well for V_{CC} below 10V

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