

# DATA SHEET

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

Maintenance/Discontinued

Maintenance/Discontinued includes following four Product lifecycle stage.  
(planned maintenance type, maintenance type, planned discontinued type, discontinued type)

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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

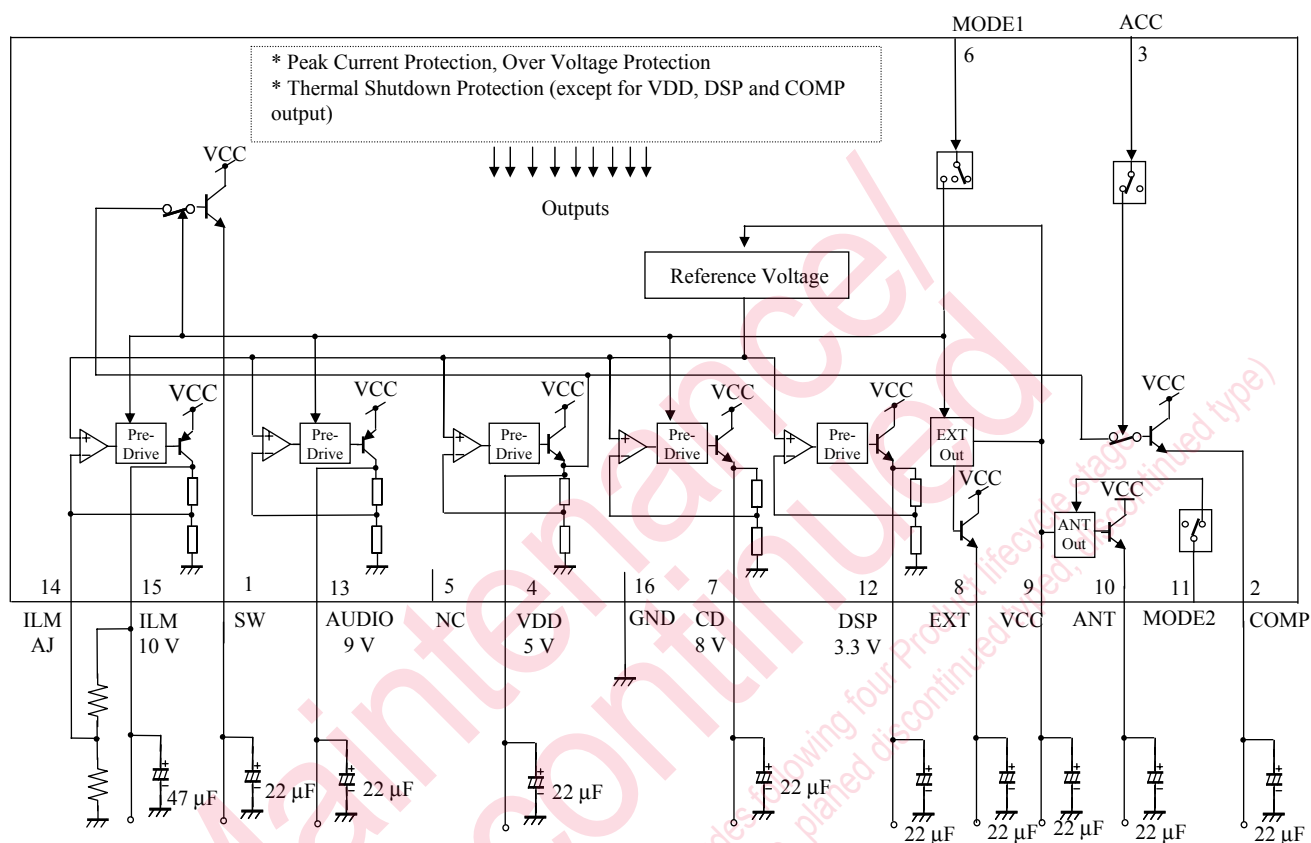
Voltage supply for car audio system

### ■ Package

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

### ■ Type

Silicon monolithic bipolar IC



\* Peak Current Protection, Over Voltage Protection  
 \* Thermal Shutdown Protection (except for VDD, DSP and COMP output)

Outputs

Reference Voltage

14 ILM AJ  
 15 ILM 10 V  
 1 SW  
 13 AUDIO 9 V  
 5 NC  
 4 VDD 5 V  
 16 GND  
 7 CD 8 V  
 12 DSP 3.3 V  
 8 EXT  
 9 VCC  
 10 ANT  
 11 MODE2  
 2 COMP

MODE1  
 ACC  
 MODE2  
 COMP

| Pin No. | Pin name | Type         | Description                                                                   |
|---------|----------|--------------|-------------------------------------------------------------------------------|
| 1       | SW       | Output       | When Mode 1 pin is “M” and “H”, SW output is $V_{DD}$ ( $I_O = 100$ mA)       |
| 2       | COMP     | Output       | When ACC input pin is “H” COMP output is $V_{DD}$ ( $I_O = 100$ mA)           |
| 3       | ACC      | Input        | “L”: COMP Ouptut OFF and “H”: COMP Output ON                                  |
| 4       | VDD      | Output       | 5 V output voltage for a microcontroller ( $I_O = 100$ 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 ( $I_O = 1\ 200$ mA)                      |
| 8       | EXT      | Output       | When Mode 1 pin is “M” and “H”, SW output is $V_{CC} - 1$ V ( $I_O = 300$ mA) |
| 9       | VCC      | Power Supply | Connected to car BACKUP power supply                                          |
| 10      | ANT      | Output       | When Mode 2 pin is “H” ANT output is $V_{CC} - 1$ V ( $I_O = 300$ mA)         |
| 11      | MODE2    | Input        | “L”: ANT Output OFF and “H”: ANT Output ON                                    |
| 12      | DSP      | Output       | 3.3 V output voltage for DSP IC ( $I_O = 150$ mA)                             |
| 13      | AUDIO    | Output       | When Mode 1 pin is “M” and “H”, AUDIO output is 9 V ( $I_O = 500$ 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 ( $I_O = 300$ 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<br>*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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