

AN8072N

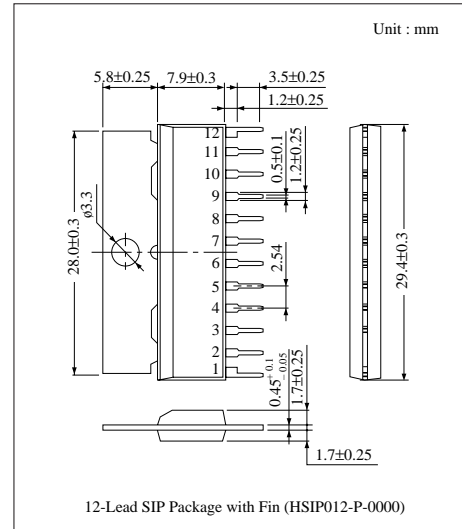
Multi Output Power Supply Regulator

■ Overview

The AN8072N is a multi-output IC designed for power supply regulator incorporating 5-ch positive output power supply which is 2-ch 8V output, 2-ch 10V output and 1-ch 10V output. It is most suitable for equipments which need multi supply voltage supply.

■ Features

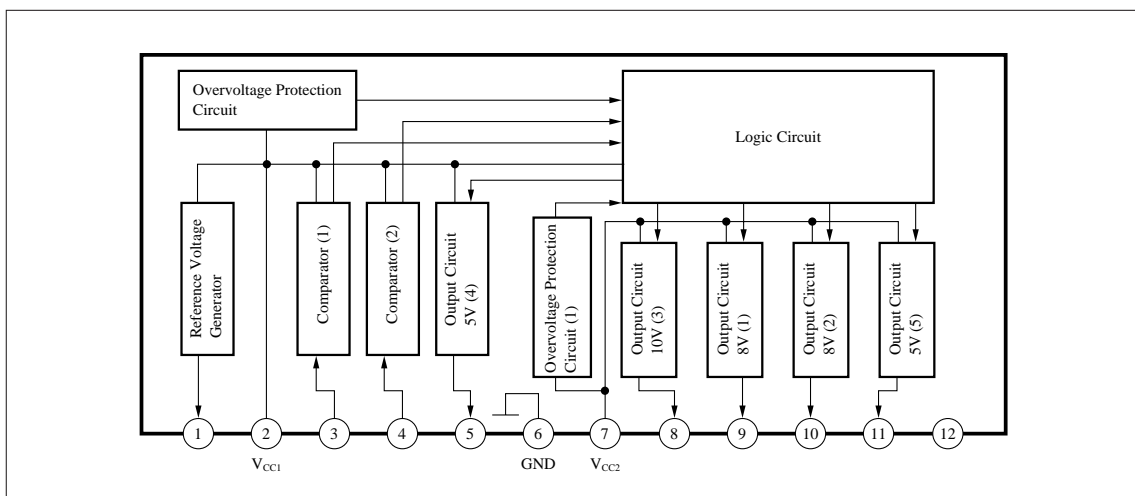
- Operating supply voltage range : $V_{CC (opr.)} = 10.5V \sim 16V$ (Battery Voltage)
- Low power consumption : $I_{CC} = 1.6mA$ typ.
- Overvoltage, output short protection built-in
- 5-ch constant voltage output ON/OFF by battery input, ACC input and control input



■ Main Characteristics

| | Output Voltage | Max. Load Current | Input Stability (max.) | Load Stability (max.) | Protection Circuit | | Output ON/OFF Function |
|----------|----------------|-------------------|------------------------|-----------------------|--------------------|-------------|------------------------|
| | | | | | Output Short | Overvoltage | |
| Output 1 | 8V | 200mA | 200mV | 200mV | Built-in | Built-in | Built-in |
| Output 2 | 8V | 100mA | 150mV | 150mV | Built-in | Built-in | Built-in |
| Output 3 | 10V | 12mA | 200mV | 200mV | — | — | — |
| Output 4 | 5V | 60mA | 100mV | 100mV | Built-in | Built-in | — |
| Output 5 | 5V | 60mA | 100mV | 50mV | Built-in | Built-in | — |

■ Block Diagram



■ Absolute Maximum Ratings (Ta = 25°C)

| Parameter | Symbol | Rating | Unit |
|-------------------------------|------------------|-------------|------|
| Supply Voltage | V _{CC} | 20 | V |
| Supply Current | I _{CC} | 340 * | mA |
| Power Dissipation (Ta = 75°C) | P _D | 1200 | mW |
| Operating Ambient Temperature | T _{opr} | - 30 ~ + 75 | °C |
| Storage Temperature | T _{stg} | - 55 ~ +150 | °C |

* Incorporates a load current 330mA.

■ Recommended Operating Range (Ta = 25°C)

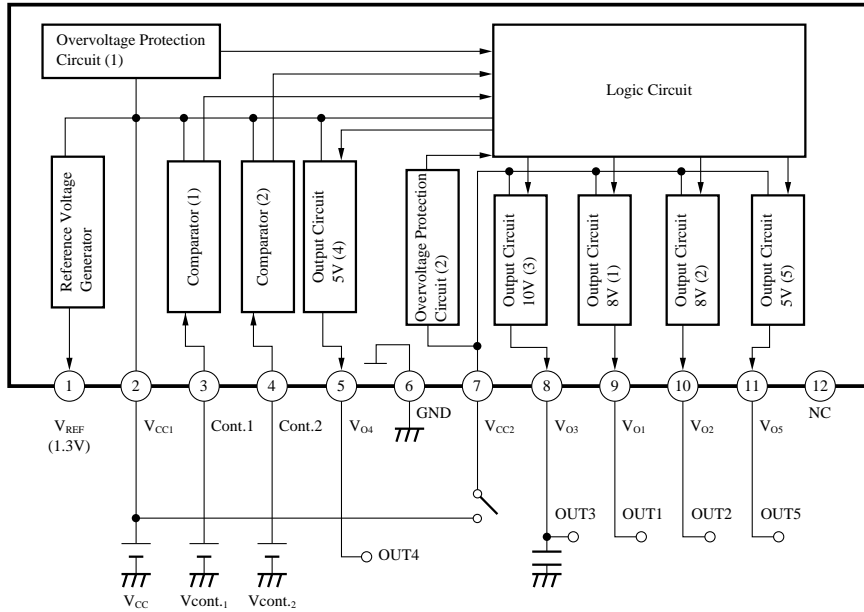
| Parameter | Symbol | Range |
|--------------------------------|------------------|-------------|
| Operating Supply Voltage Range | V _{CC1} | 10.5V ~ 16V |

■ Electrical Characteristics (Ta = 25°C)

(Each output is obtained by setting control pin for H/L according to timing chart in P.701.)

| Parameter | Symbol | Condition | min. | typ. | max. | Unit |
|------------------------------------|--------------------|---|------|------|------|------|
| Output 1 | | | | | | |
| Output Voltage (FM) | V ₉₋₆ | V ₂ = 13.2V, I ₉ = 120mA | 7.6 | 8 | 8.32 | V |
| Input Stability | ΔV ₉₋₆ | V ₂ = 10.5V~16V, I ₉ = 120mA | — | 100 | 200 | mV |
| Load Stability | ΔV ₉₋₆ | V ₂ = 13.2V, I ₉ = 10mA ~ 200mA | — | 80 | 200 | mV |
| Min. I/O Voltage Difference | V ₂₋₉ | I ₉ = 200mA | — | 2.1 | — | V |
| Output 2 | | | | | | |
| Output Voltage (AM) | V ₁₀₋₆ | V ₂ = 13.2V, I ₁₀ = 50mA | 7.6 | 8 | 8.32 | V |
| Input Stability | ΔV ₁₀₋₆ | V ₂ = 10.5V~16V, I ₁₀ = 50mA | — | 60 | 150 | mV |
| Load Stability | ΔV ₁₀₋₆ | V ₂ = 13.2V, I ₁₀ = 5mA~100mA | — | 65 | 150 | mV |
| Min. I/O Voltage Difference | V ₂₋₁₀ | I ₁₀ = 100mA | — | 1.9 | — | V |
| Output 3 | | | | | | |
| Output Voltage (V _{VAR}) | V ₈₋₆ | V ₂ = 13.2V, I ₈ = 10mA | 9.5 | 9.9 | 10.3 | V |
| Input Stability | ΔV ₈₋₆ | V ₂ = 10.5V~16V, I ₈ = 10mA | — | 60 | 200 | mV |
| Load Stability | ΔV ₈₋₆ | V ₂ = 13.2V, I ₈ = 1mA~12mA | — | 75 | 200 | mV |
| Min. I/O Voltage Difference | V ₇₋₈ | I ₈ = 10mA | — | 0.1 | — | V |
| Output 4 | | | | | | |
| Output Voltage (V _{DD}) | V ₅₋₆ | V ₂ = 13.2V, I ₅ = 30mA | 4.7 | 5 | 5.2 | V |
| Input Stability | ΔV ₅₋₆ | V ₂ = 10.5V~16V, I ₅ = 30mA | — | 25 | 100 | mV |
| Load Stability | ΔV ₅₋₆ | V ₂ = 13.2V, I ₅ = 1mA ~ 60mA | — | 40 | 100 | mV |
| Min. I/O Voltage Difference | V ₂₋₅ | I ₅ = 60mA | — | 1.8 | — | V |
| Output 5 | | | | | | |
| Output Voltage (CE) | V ₁₁₋₆ | V ₂ = 13.2V, I ₁₁ = 30mA | 4.7 | 5 | 5.2 | V |
| Input Stability | ΔV ₁₁₋₆ | V ₂ = 10.5V~16V, I ₁₁ = 30mA | — | 40 | 100 | mV |
| Load Stability | ΔV ₁₁₋₆ | V ₂ = 13.2V, I ₁₁ = 1mA ~ 60mA | — | 5 | 50 | mV |

■ Application Circuit



■ Pin Descriptions

| Pin No. | Pin Name | Typ. Waveform | Pin Description | Equivalent Circuit |
|---------|------------------------------|---------------|--|--------------------|
| 1 | Reference Voltage Output Pin | DC 1.3V | IC internal reference voltage for making 5 output. For monitor | _____ |
| 2 | Supply Pin (1) | DC 13.2V | V _{CC} (1) | _____ |
| 3 | Control Input Pin | | For FM AM output switching | |
| 4 | Control Input Pin | | For FM AM output switching | |
| 5 | V _{DD} Output Pin | DC 5V | 5V output | |
| 6 | GND | DC 0V | GND | _____ |
| 7 | Supply Pin (2) | DC 13.2V | V _{CC} (2) | _____ |
| 8 | V _{VAR} Output Pin | DC 10V | 10V output | |
| 9 | FM Output Pin | DC 8V | 8V output | |
| 10 | AM Output Pin | DC 8V | 8V output | |
| 11 | CE Output Pin | DC 5V | 5V output | |
| 12 | NC | — | NC | _____ |

- Supplementary Explanation
- I/O Timing Chart

