AN8072N

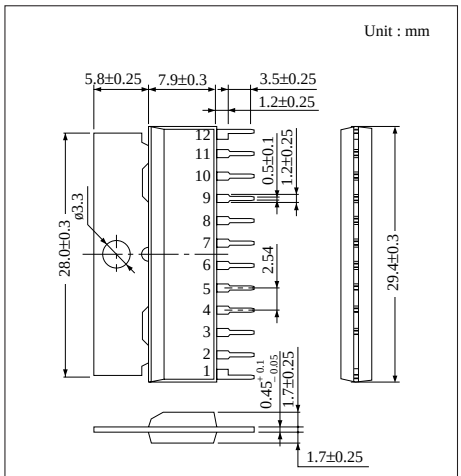
Multi Output Power Supply Regulator

■ 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 ~ 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

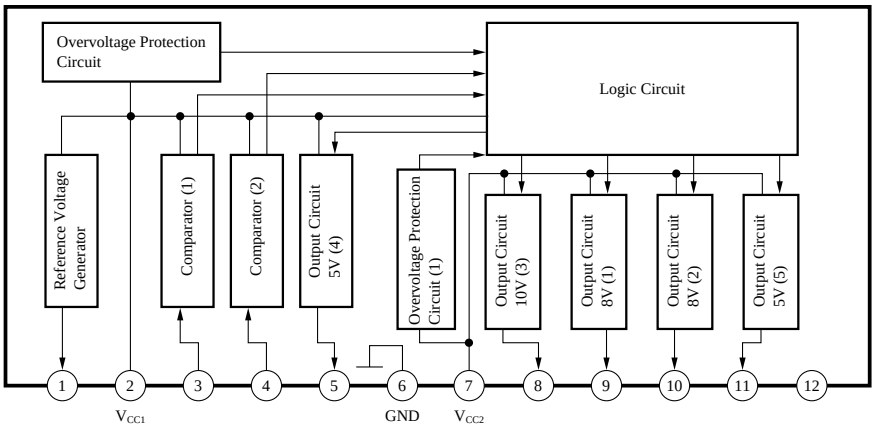


12-Lead SIP Package with Fin (HSIP012-P-0000)

■ 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)

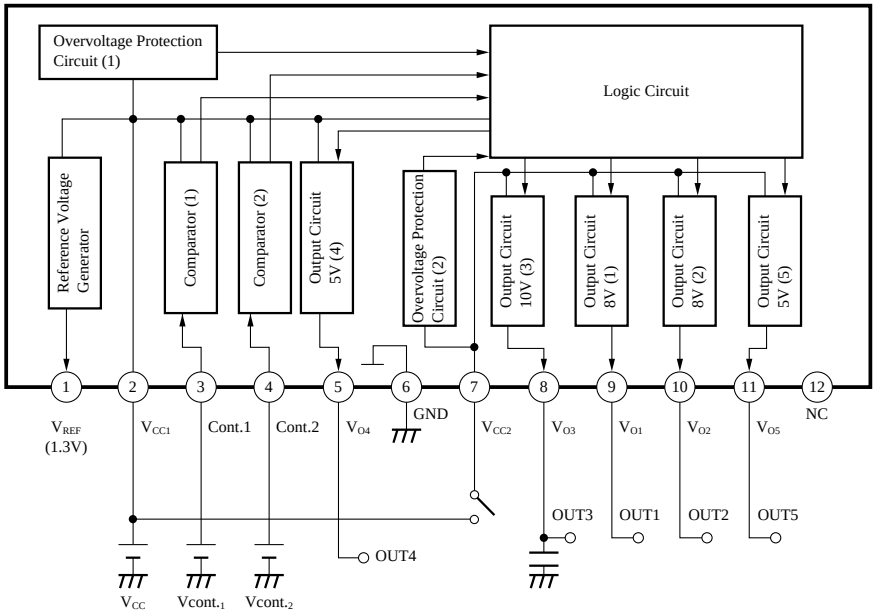
Parameter	Symbol	Range
Operating Supply Voltage Range	V_{CC1}	10.5V ~ 16V

■ 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