

**SANYO****LA7846N****Vertical Deflection Output Circuit****Overview**

The LA7846N is a vertical deflection output IC for TVs and CRT displays with excellent image quality that use a BUS control system signal processing IC. This IC can drive the direct (even including a DC component) deflection yoke with the sawtooth wave output from the BUS control system signal processing IC. When used in conjunction with Sanyo's LA7615 series of BUS control system signal processing ICs for TVs, this IC can process all color television signal system functions through the BUS system. Because the maximum deflection current is 3.0 Ap-p, the LA7846N is suited for large screen sets, being capable of driving screens ranging from 33 inches to 37 inches.

**Features**

- Low power dissipation due to built-in pump-up circuit
- Vertical output circuit
- Thermal protection circuit built in
- Excellent crossover characteristics
- DC coupling possible

**Specifications****Maximum Ratings at Ta = 25 °C**

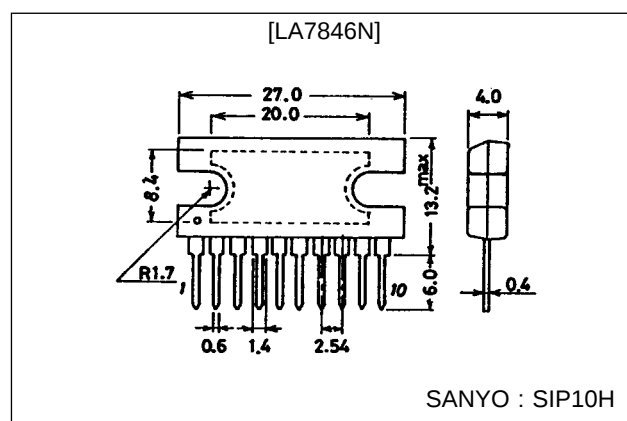
| Parameter                   | Symbol         | Conditions                            | Ratings      | Unit |
|-----------------------------|----------------|---------------------------------------|--------------|------|
| Maximum supply voltage      | $V_{CC7}$ max  |                                       | 40           | V    |
| Output block supply voltage | $V_{CC4}$ max  |                                       | 85           | V    |
| Deflection output current   | $I_3$ max      |                                       | -1.9 to +1.9 | Ap-o |
| Thermal resistance          | $\theta_{j-c}$ |                                       | 3.0          | °C/W |
| Allowable power dissipation | $P_d$ max      | With arbitrarily large heat sink fins | 20           | W    |
| Operating temperature       | $T_{opr}$      |                                       | -20 to +85   | °C   |
| Storage temperature         | $T_{stg}$      |                                       | -40 to +150  | °C   |

**Operating Conditions at Ta = 25 °C**

| Parameter                             | Symbol       | Conditions | Ratings  | Unit |
|---------------------------------------|--------------|------------|----------|------|
| Recommended supply voltage            | $V_{CC7}$    |            | 24       | V    |
| Operating supply voltage range        | $V_{CC7}$ op |            | 16 to 38 | V    |
| Recommended deflection output current | $I_3$ p-p    |            | to 3.0   | Ap-p |

**Package Dimensions**

unit : mm

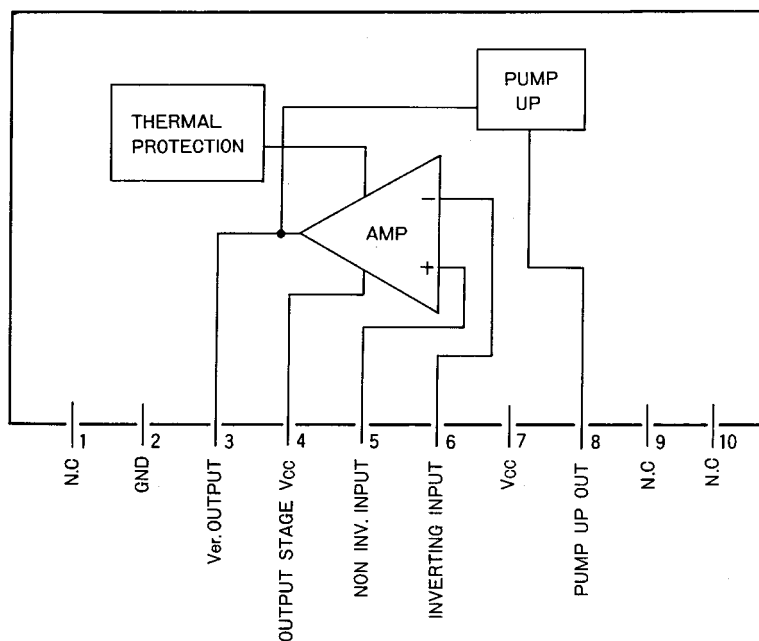
**3024A-SIP10H**

## LA7846N

Operating Characteristics at  $T_a = 25\text{ }^{\circ}\text{C}$ ,  $V_{CC7} = 24\text{ V}$

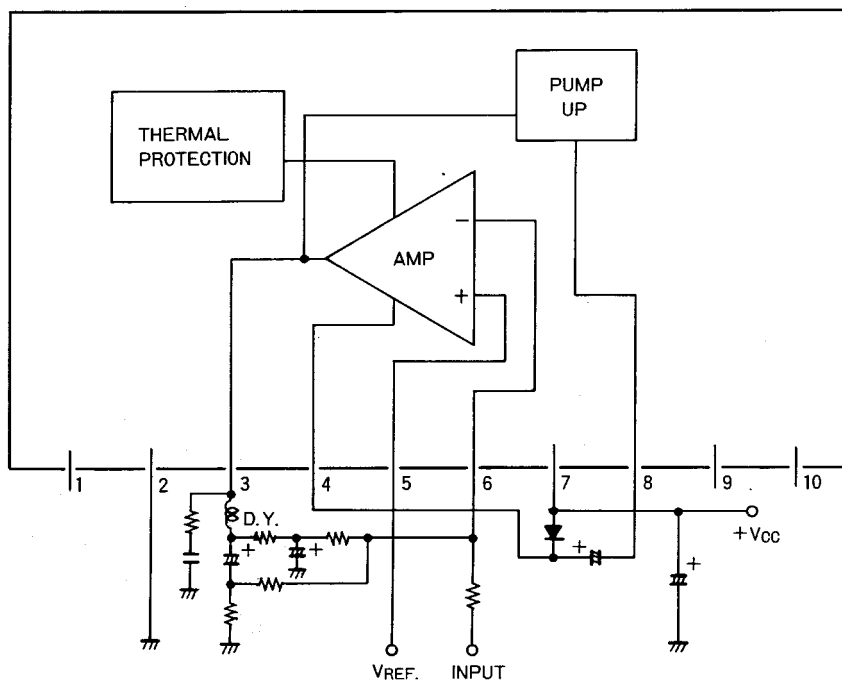
| Parameter                                    | Symbol     | Conditions            | min  | typ  | max  | Unit |
|----------------------------------------------|------------|-----------------------|------|------|------|------|
| Pump-up charge saturation voltage            | $V_{S8-2}$ | $I_8 = 20\text{ mA}$  |      |      | 1.8  | V    |
| Pump-up discharge saturation voltage         | $V_{S7-8}$ | $I_8 = -1.5\text{ A}$ |      |      | 3.7  | V    |
| Deflection output saturation voltage (lower) | $V_{S3-2}$ | $I_3 = 1.5\text{ A}$  |      |      | 1.7  | V    |
| Deflection output saturation voltage (upper) | $V_{S4-3}$ | $I_3 = -1.5\text{ A}$ |      |      | 3.9  | V    |
| Idling current                               | $I_{DL}$   |                       | 35   |      | 70   | mA   |
| Midpoint voltage                             | $V_{MID}$  |                       | 11.0 | 12.0 | 13.0 | V    |

### Block Diagram



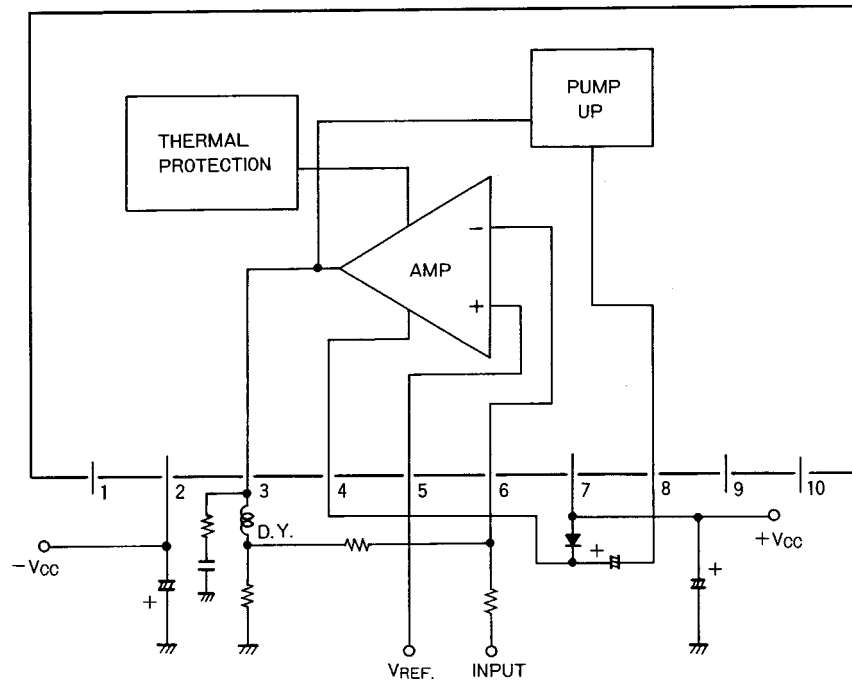
### Sample Application Circuit

(Single power supply)

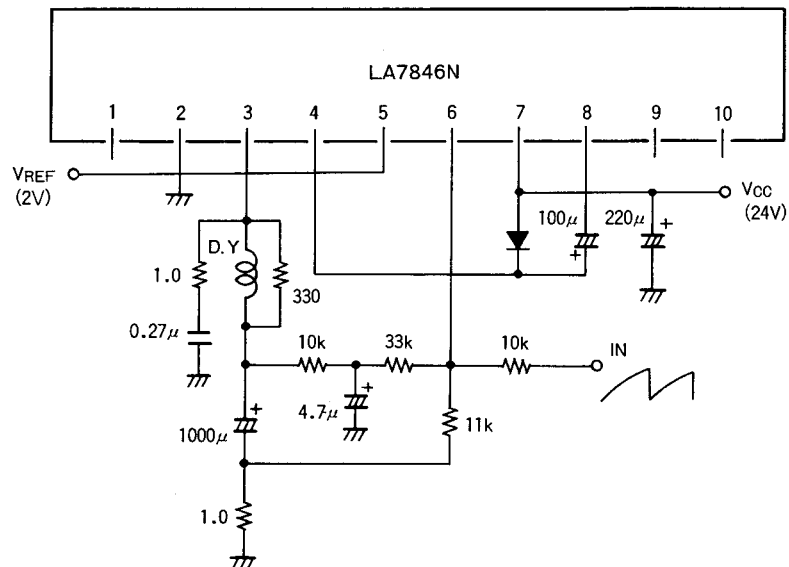


## Sample Application Circuit

(Double power supply)



## Sample Application Circuit



Unit (resistance:  $\Omega$ , capacitance: F)

- No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.
- Anyone purchasing any products described or contained herein for an above-mentioned use shall:
  - ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use:
  - ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.
- Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.

This catalog provides information as of December, 1996. Specifications and information herein are subject to change without notice.