



SANYO Semiconductors

DATA SHEET

LA7875N
LA7876N
LA7876NZ

— Monolithic Linear IC

Vertical Deflection Output Circuit

Overview

The LA7875N, LA7876N, 7876NZ are designed for use in internet TVs and high-resolution CRT monitors that require a narrow vertical return period. These ICs succeed in achieving a narrow vertical return period by adopting a new 3× pump-up technique in the voltage pump-up circuit. Since this allows the use of a reference voltage lower than that used with the 2× pump-up technique, the LA7875N, LA7876N, 7876NZ achieve a significant reduction in power dissipation. Also, since the bus control system signal processing IC can control these ICs and these ICs can directly drive the deflection yoke for all frequencies down to DC from the sawtooth wave output, shift operation, which is required for wide aspect ratio television, can be controlled from the bus. Since the LA7875N has a maximum deflection output current of 2.2Ap-p, it is appropriate for use in medium-size CRTs. Since the LA7876N, 7876NZ have maximum deflection output current of 3Ap-p, it is appropriate for use in larger CRTs.

Features

- 3× voltage pump-up circuit
- Low power dissipation
- Operational amplifier type vertical output circuit
- Capable of direct DC drive of the deflection yoke
- Excellent crossover characteristics

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LA7875N, 7876N, 7876NZ

Specifications

Maximum Ratings at Ta = 25°C, Note: Values in parentheses apply to the LA7876N, 7876NZ.

Parameter	Symbol	Conditions	Ratings	Unit
First pump-up supply voltage	+B7 max		35	V
Second pump-up supply voltage	+B9 max		72	V
Output block supply voltage	+B4 max		110	V
Allowable power dissipation	Pd max	With an arbitrarily large heat sink	12	W
Deflection output current	I3 max		-1.5 to +1.5 (-1.9 to +1.9)	Ap-o
Thermal resistance	θj-c		4(3)	°C/W
Operating temperature	Topr		-20 to +85	°C
Storage temperature	Tstg		-40 to +150	°C

Operating Conditions at Ta = 25°C, Note: Values in parentheses apply to the LA7876N, 7876NZ.

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	+B7		30	V
Operating supply voltage range	+B7 op		16 to 33	V
Recommended deflection output current	I3 p-p		Up to 2.2(Up to 3)	Ap-p

Operating Characteristics at Ta = 25°C, +B7 = 30V, Note: Values in parentheses apply to the LA7876N, 7876NZ.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Pump-up circuit 1 charge saturation voltage	V(sat)8-2	I8=20mA			1.8	V
Pump-up circuit 1 discharge saturation voltage	V(sat)7-8	I8=-1.1A(-1.5A)			3.2	V
Pump-up circuit 2 charge saturation voltage	V(sat)10-2	I10=20mA			1.8	V
Pump-up circuit 2 discharge saturation voltage	V(sat)9-10	I10=-1.1A(-1.5A)			3.2	V
Deflection output saturation voltage (lower)	V(sat)3-2	I3=1.1A(1.5A)			1.5(1.7)	V
Deflection output saturation voltage (upper)	V(sat)4-3	I3=-1.1A(-1.5A)			3.5(3.9)	V
Idling current	IDL		35		70	mA
Midpoint voltage	V _{MID}		14	15	16	V

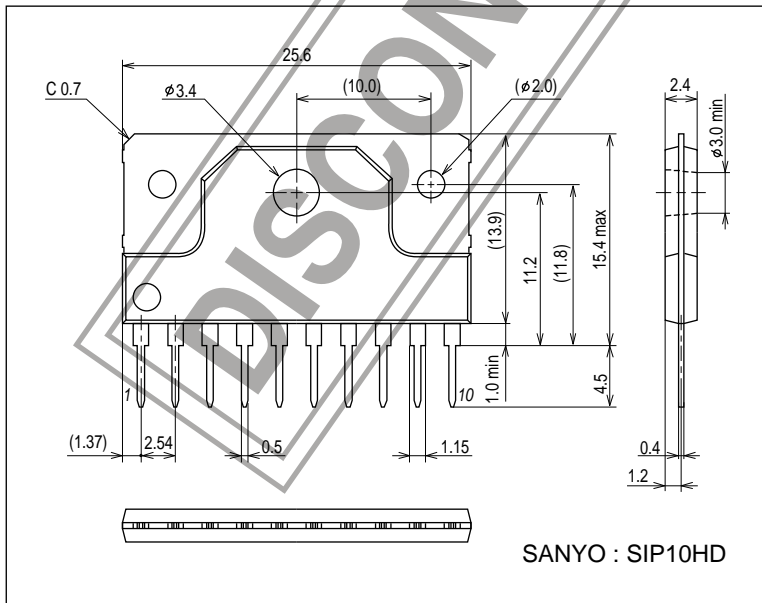
Note: Current flowing into the IC is positive and current flowing out is negative.

Package Dimensions

unit : mm (typ)

3248A

[LA7875N]



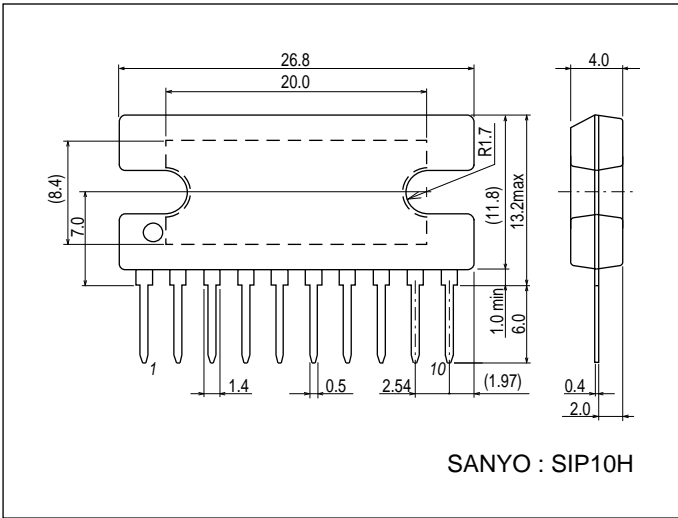
LA7875N, 7876N, 7876NZ

Package Dimensions

unit : mm (typ)

3024B

[LA7876N]

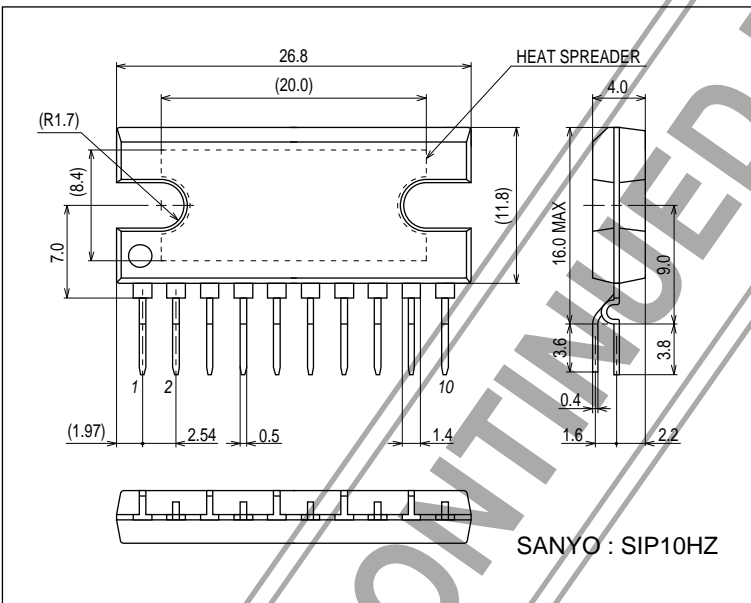


Package Dimensions

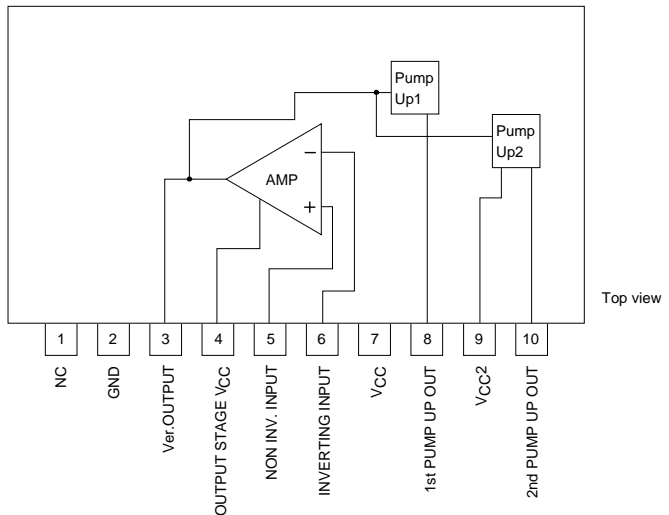
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3354

[LA7876NZ]

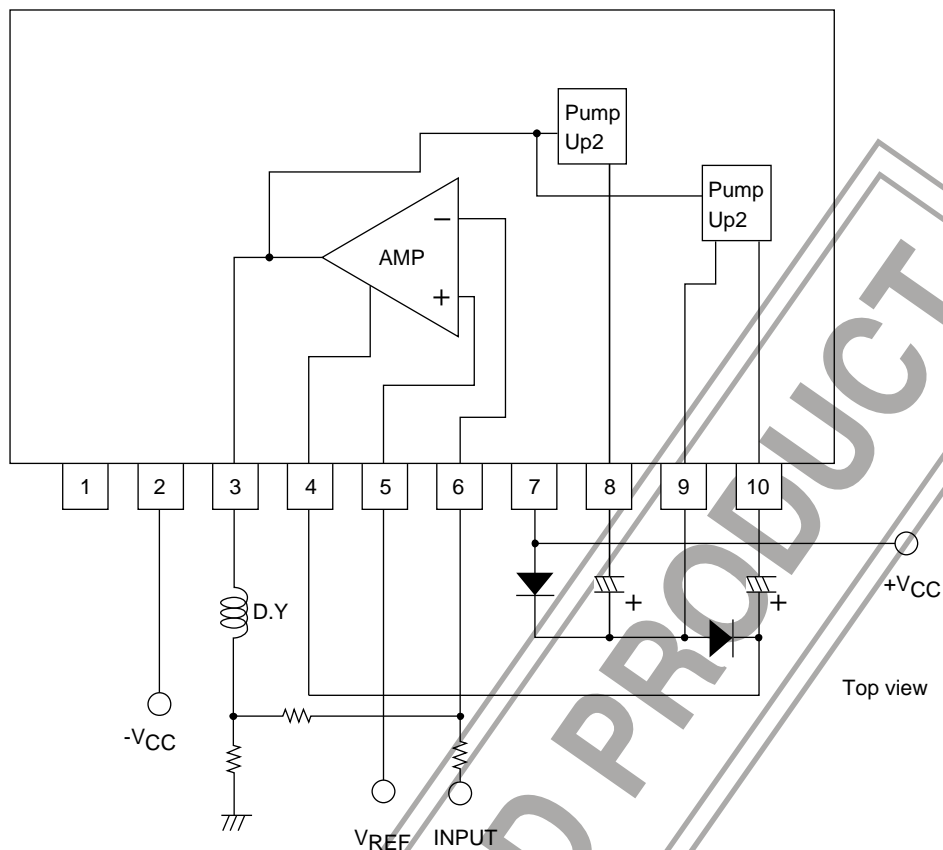


Pin Assignment and Block Diagram



LA7875N, 7876N, 7876NZ

Sample Application Circuit (using both positive and negative power supply voltages)



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