



SANYO Semiconductors

DATA SHEET

LA78040N — Monolithic Linear IC TV and CRT Display Vertical Output IC with Bus Control Support

Overview

The LA78040N is a vertical deflection output IC for high image quality TV and CRT displays that supports the use of a bus control system signal-processing IC. The sawtooth waveform from the bus control system signal-processing IC can directly drive the deflection yoke (including the DC component). Color TV vertical deflection system adjustment functions can be controlled over a bus system by connecting the LA78040N to a Sanyo LA768X series or LA769XX series bus control system signal-processing IC.

Since the LA78040N provides a maximum deflection current of 1.7Ap-p, it is optimal for small and medium size CRTs.

Functions

- Built-in pump-up circuit for low power dissipation.
- Vertical output circuit.
- Thermal protection circuit.

Specifications

Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Pump-up block supply voltage	+B2 max		34	V
Output block supply voltage	+B6 max		70	V
Allowable power dissipation	Pd max	Mounted on an arbitrarily large heat sink.	9	W
Deflection output current	I5 max		-1.4 to +1.4	Ap-o
Thermal resistance	θ_{j-c}		3	$^\circ\text{C/W}$
Operating temperature	Topr		-20 to +85	$^\circ\text{C}$
Storage temperature	Tstg		-40 to +150	$^\circ\text{C}$

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LA78040N

Operating Conditions at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	+B2		24	V
Operating supply voltage range	+B2op		16 to 33	V
Deflection output current	I _{5p-p}		To 1.8	Ap-p

Operating Characteristics at $T_a = 25^\circ\text{C}$, +B2 = 24V

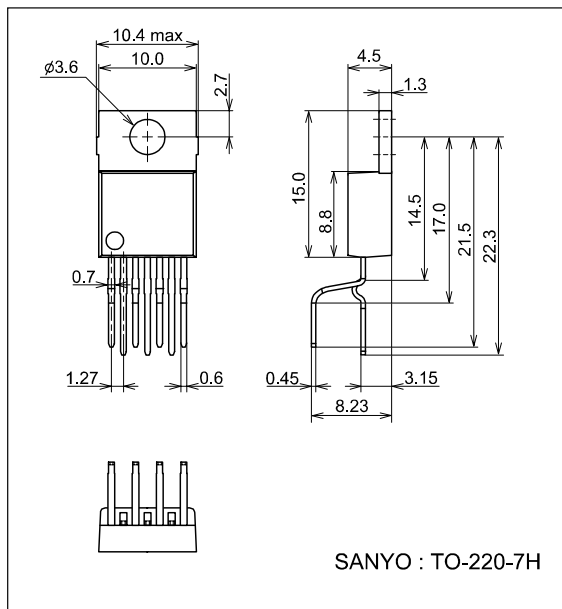
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Deflection output saturation voltage (lower)	V _{sat5-4}	I ₅ = 0.9A			1.3	V
Deflection output saturation voltage (upper)	V _{sat6-5}	I ₅ = -0.9A			3.2	V
Pump-up charge saturation voltage	V _{sat3-4}	I ₃ = 20mA			1.8	V
Pump-up discharge saturation voltage	V _{sat2-3}	I ₃ = 0.9A			3.0	V
Idling current	I _{dl}		20		50	mA
Midpoint voltage	V _{mid}		11.0	12.0	13.0	V

Note: Current flowing into the IC is positive (+) and current flowing out is negative (-).

Package Dimensions

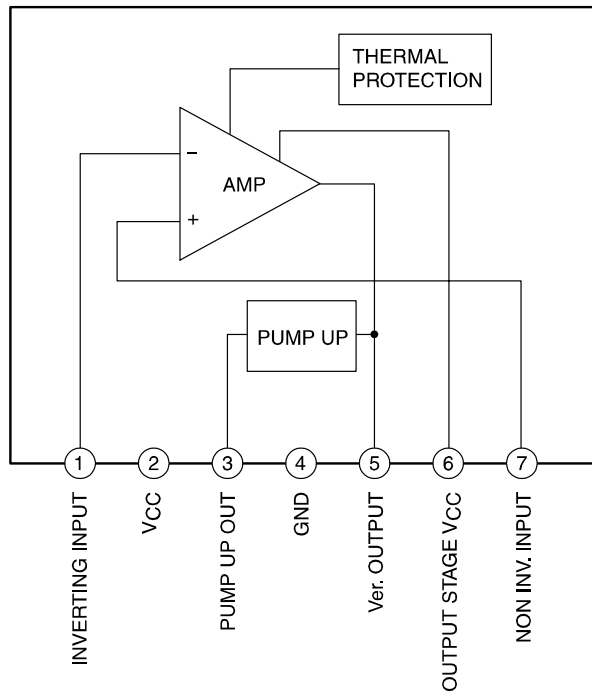
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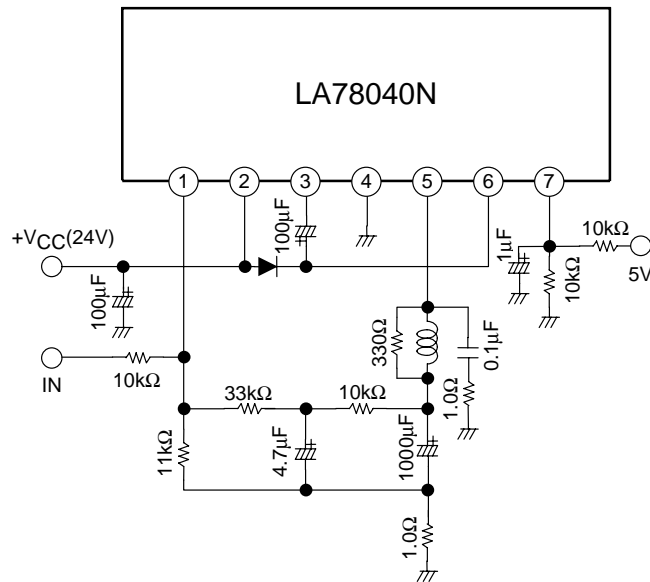
LA78040N

Block Diagram

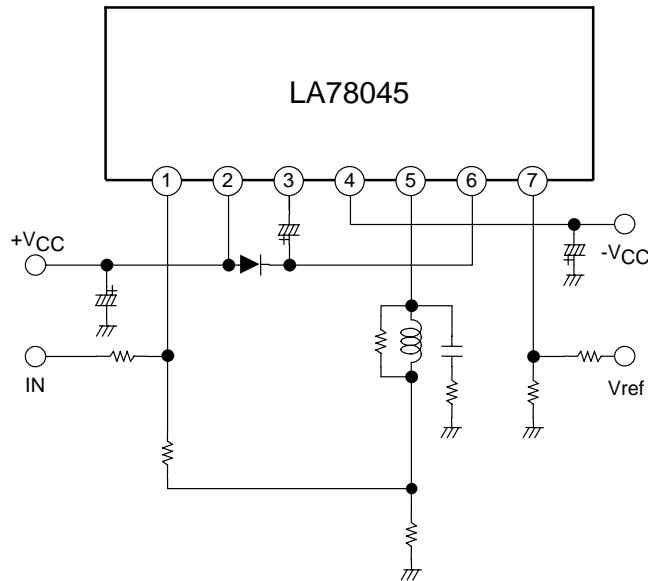


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Application Circuit Example 1 (Single power supply)



Application Circuit Example 2 (Dual power supply)



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