



SANYO Semiconductors

DATA SHEET

LA7848 — Monolithic Linear IC TV Vertical Output + E/W Driver with Bus Control Support

Overview

The LA7848 is a vertical deflection plus EW driver 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). The LA7848 also provides a parabolic waveform output that can similarly be used to drive the diode modulator block.

Functions

- Built-in pump-up circuit for low power dissipation.
- Vertical output circuit.
- Excellent crossover characteristics.

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	+B6 max		45	V
Output block supply voltage	+B3 max		92	V
Allowable power dissipation	P_d max	Mounted on an arbitrarily large heat sink.	9	W
Deflection output current	I_2 max		-1.5 to +1.5	Ap-o
EW drive current *1	I_{10} max	$V_{10} = 1.5\text{V}$	+0.5	Ap-o
EW drive voltage *2	V_{10} max	$I_{10} = 10\mu\text{A}$	45	V
Thermal resistance	θ_{j-c}		4	$^\circ\text{C/W}$
Operating temperature	T_{opr}		-20 to +85	$^\circ\text{C}$
Storage temperature	T_{stg}		-40 to +150	$^\circ\text{C}$

Note: The EW driver is used within the range that connects the two points *1 and *2.

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

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	+B6		30	V
Operating supply voltage range	+B6op		16 to 43	V
Deflection output current	I_{2p-p}		To 2.2	Ap-p
EW drive current	I_{10}		To 0.4	Ap-o

Operating Characteristics at $T_a = 25^\circ\text{C}$, +B = 30V

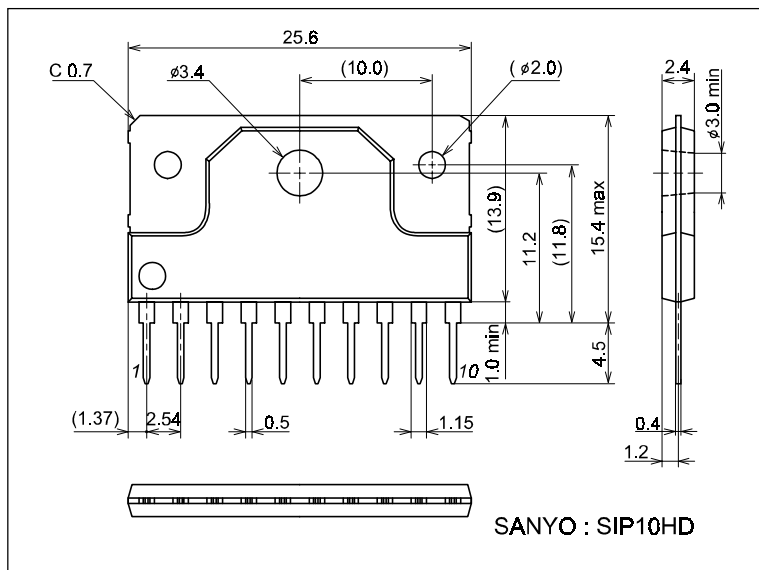
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Deflection output saturation voltage (lower)	Vsat2-1	$I_2 = 1.1\text{A}$			1.5	V
Deflection output saturation voltage (upper)	Vsat3-2	$I_2 = -1.1\text{A}$			3.2	V
Pump-up charge saturation voltage	Vsat7-1	$I_7 = 20\text{mA}$			1.8	V
Pump-up discharge saturation voltage	Vsat6-7	$I_7 = -1.1\text{A}$			3.2	V
Idling current	I_{dl}		15		50	mA
Midpoint voltage	V_{mid}		14.0	15.0	16.0	V
EW drive saturation voltage	Vsat10-1	$I_{10} = 500\text{mA}$			1.5	V

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

Package Dimensions

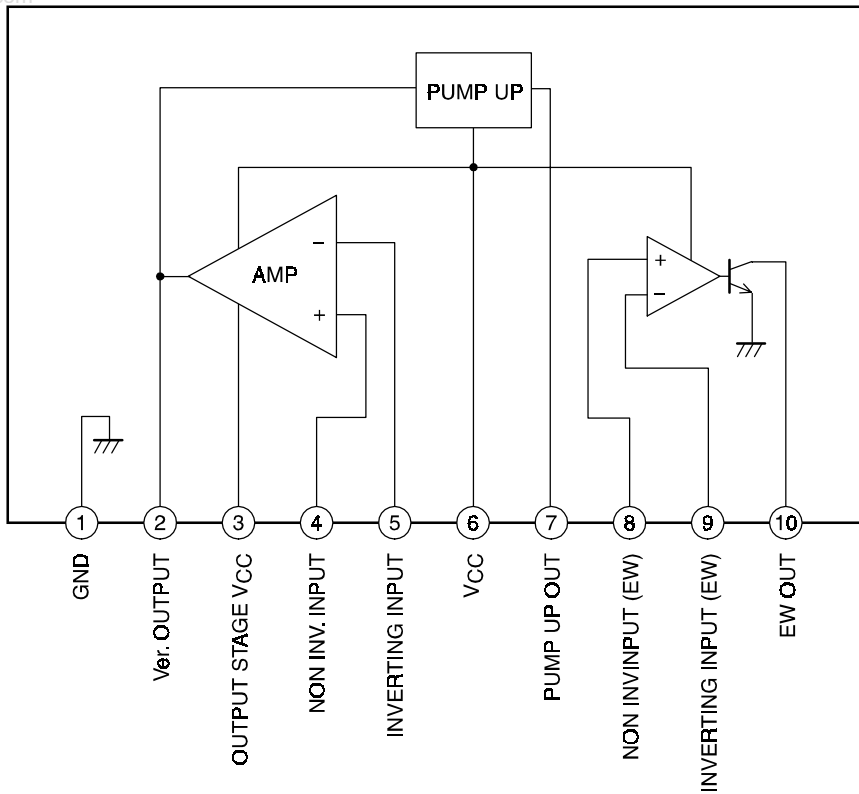
unit : mm

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Block Diagram

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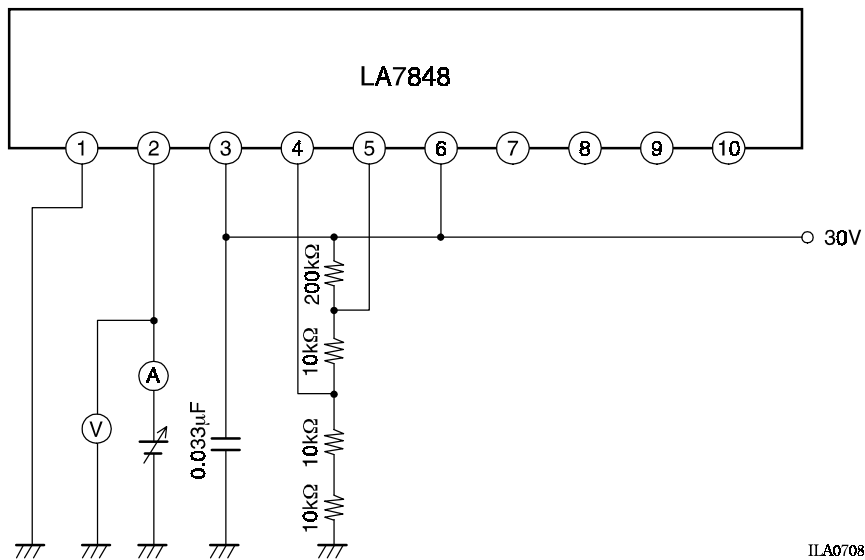


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Test Circuit Diagrams

1. Output saturation voltage (lower) Vsat2-1

Figure 1



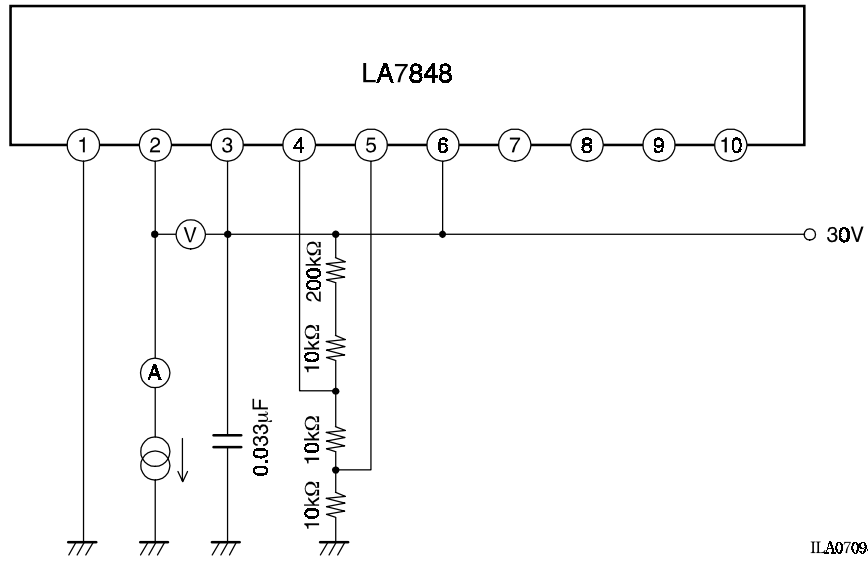
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In the circuit in figure 1, read the value shown by the voltage meter (V) when the current meter (A) reads 1.1A.

2. Output saturation voltage (upper) V_{sat3-2}

Figure 2

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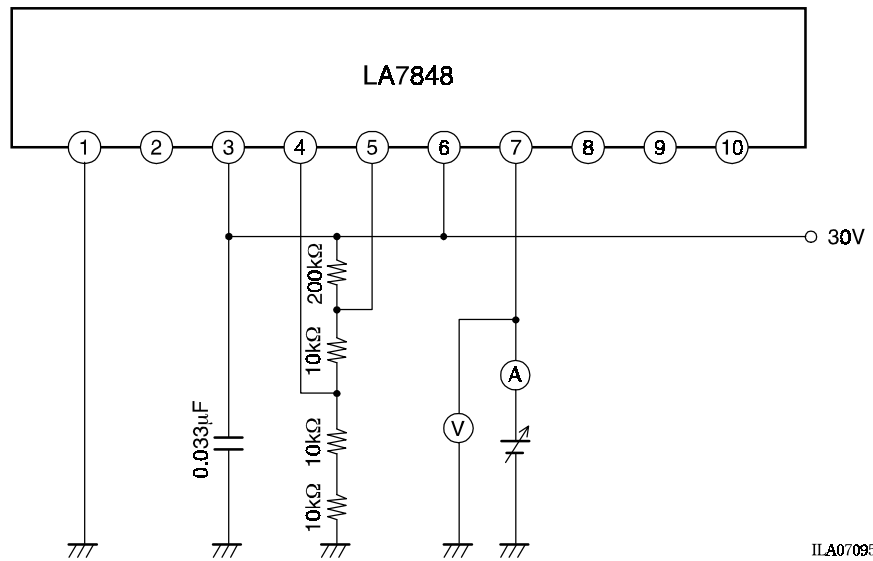


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In the circuit in figure 2 with the output from pin 2 absorbed by an electronic load and read the value shown by the voltage meter (V) when the current meter (A) reads 1.1A.

3. Charge pump charge saturation voltage V_{sat7-1}

Figure 3



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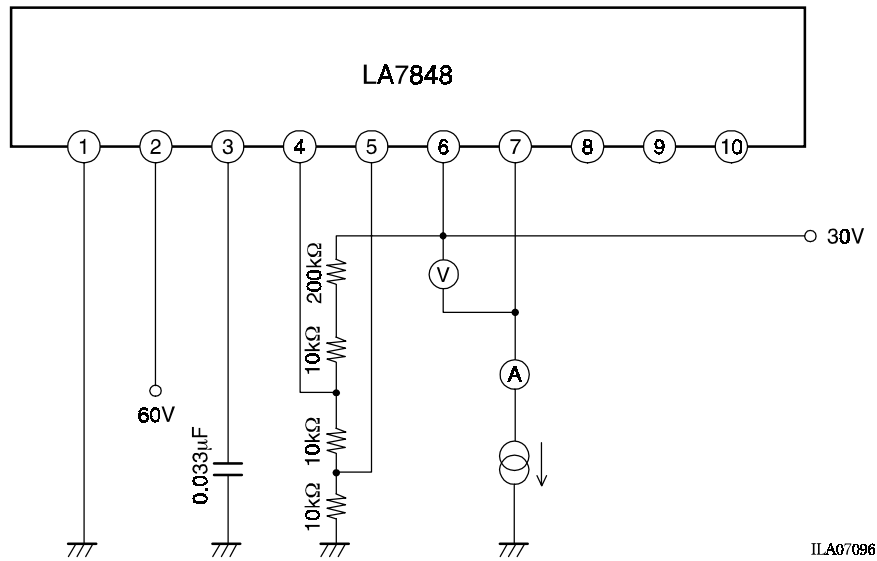
In the circuit in figure 3, read the value shown by the voltage meter (V) when the current meter (A) reads 20mA.

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4. Charge pump discharge saturation voltage V_{sat6-7}

Figure 4

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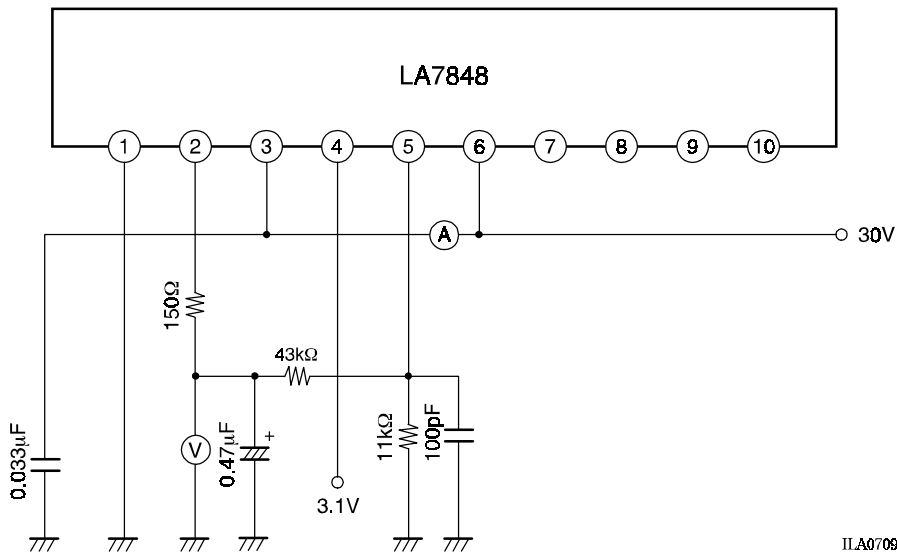
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In the circuit in figure 4 with the output from pin 7 absorbed by an electronic load, read the value shown by the voltage meter (V) when the current meter (A) reads 1.1A.

7. Idling current I_{dl}

8. Midpoint voltage V_{mid}

Figure 5



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In the circuit in figure 5, read the value shown by the current meter (A).

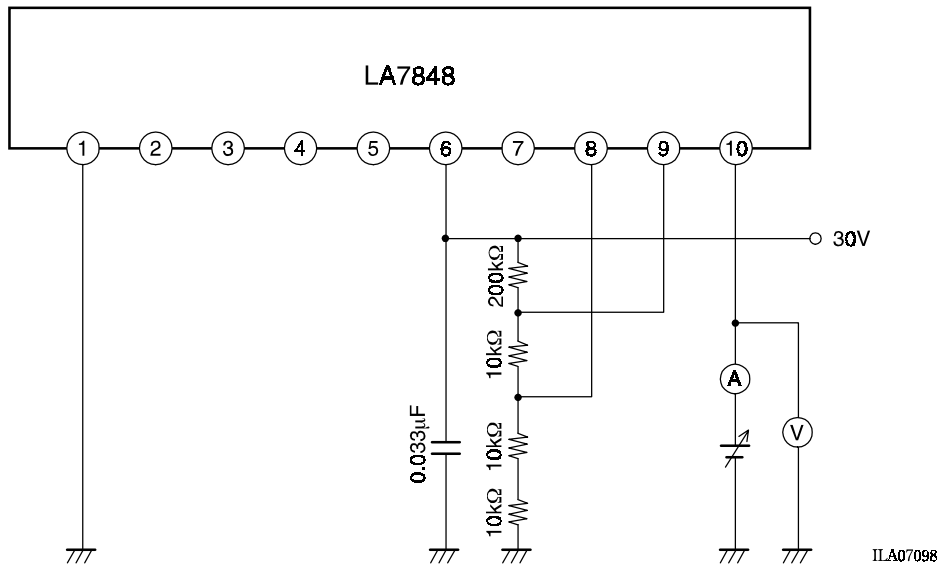
In the circuit in figure 5, read the value shown by the voltage meter (V).

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9. EW drive saturation voltage V_{sat10-1}

Figure 6

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In the circuit in figure 6, read the value shown by the voltage meter (V) when the current meter (A) reads 500mA.

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