



# LA7840

## Vertical Deflection Output Circuit

### Overview

The LA7840 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 1.8 Ap-p, the LA7840 is suited for small and medium screen sets.

### 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

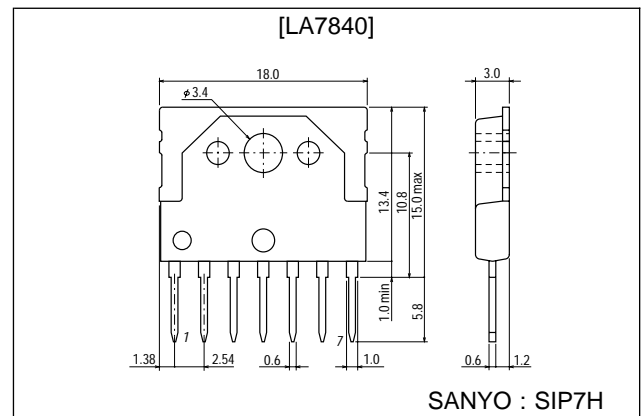
#### Maximum Ratings at Ta = 25 °C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC6}$ max		34	V
Output block supply voltage	$V_{CC3}$ max		70	V
Deflection output current	I 2 max		-1.5 to +1.5	Ap-o
Thermal resistance	$\theta_{j-c}$		4.0	°C/W
Allowable power dissipation	$P_d$ max	With arbitrarily large heat sink	9	W
Operating temperature	Topr		-20 to +85	°C
Storage temperature	Tstg		-40 to +150	°C

### Package Dimensions

unit : mm

#### 3075-SIP7H



■ Any and all SANYO products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your SANYO representative nearest you before using any SANYO products described or contained herein in such applications.

■ SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

# LA7840

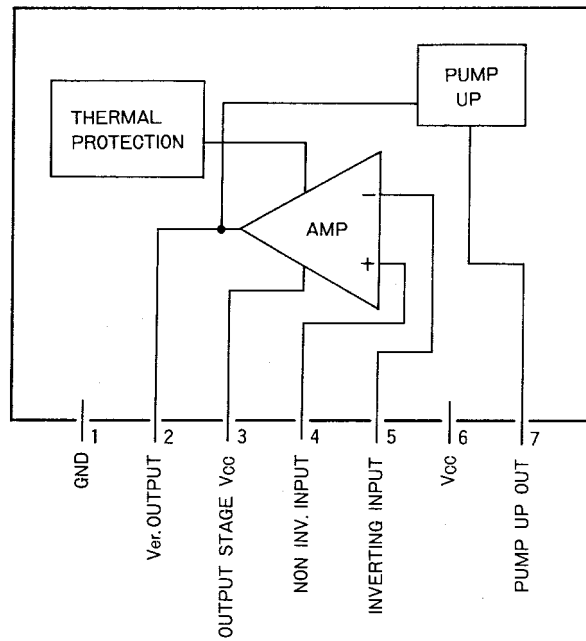
## Operating Conditions at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	$V_{CC6}$		24	V
Operating supply voltage range	$V_{CC6\text{ op}}$		16 to 33	V
Recommended deflection output current	I 2 p-p		to 1.8	Ap-p

## Operating Characteristics at $T_a = 25\text{ }^\circ\text{C}$ , $V_{CC6} = 24\text{ V}$

Parameter	Symbol	Conditions	min	typ	max	Unit
Pump-up charge saturation voltage	$V_{S7-1}$	I 7 = 20 mA			1.8	V
Pump-up discharge saturation voltage	$V_{S6-7}$	I 7 = -0.9 A			3.0	V
Deflection output saturation voltage (lower)	$V_{S2-1}$	I 2 = 0.9 A			1.3	V
Deflection output saturation voltage (upper)	$V_{S3-2}$	I 2 = -0.9 A			3.2	V
Idling current	$I_{DL}$		35		65	mA
Midpoint voltage	$V_{MID}$		11.0	12.0	13.0	V

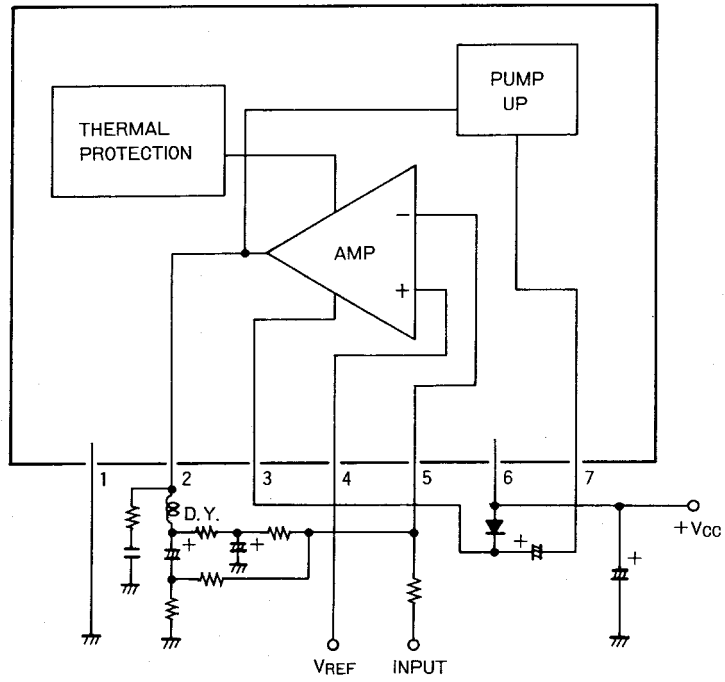
## Block Diagram



# LA7840

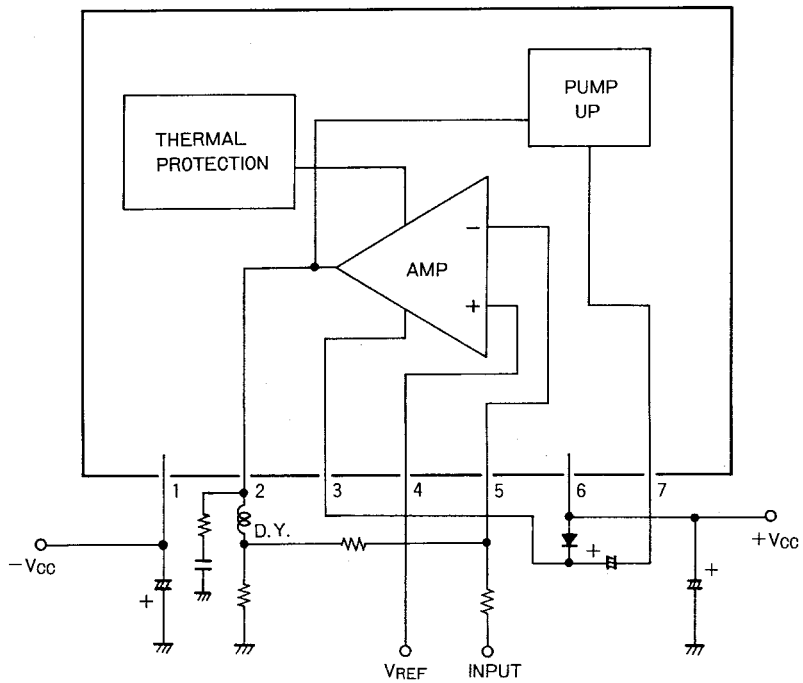
## Sample Application Circuit

(Single power supply)



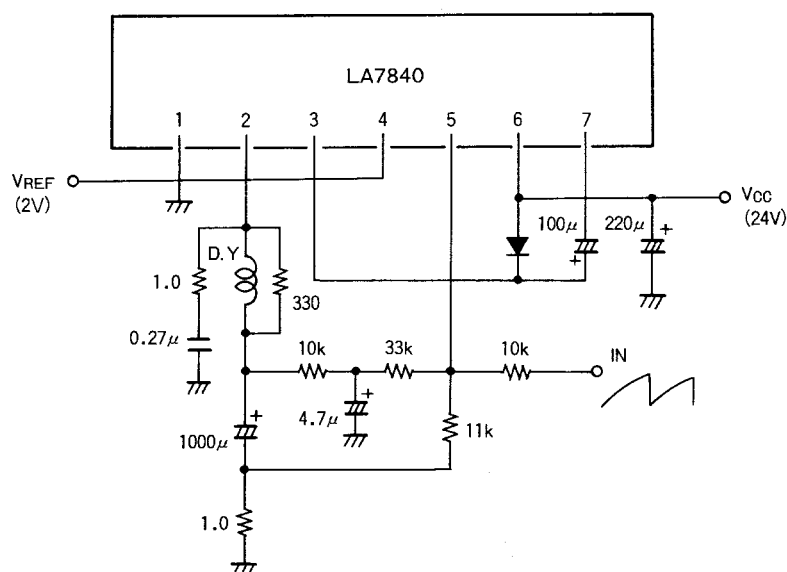
## Sample Application Circuit

(Double power supply)



## LA7840

### Sample Application Circuit



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

- Specifications of any and all SANYO products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer's products or equipment.
- SANYO Electric Co., Ltd. strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with some probability. It is possible that these probabilistic failures could give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits and error prevention circuits for safe design, redundant design, and structural design.
- In the event that any or all SANYO products (including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from the authorities concerned in accordance with the above law.
- No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written permission of SANYO Electric Co., Ltd.
- Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. When designing equipment, refer to the "Delivery Specification" for the SANYO product that you intend to use.
- 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.