

**LA7833****Color TV Vertical Deflection Output Circuit****Overview**

The LA7833 is a monolithic linear IC for vertical deflection output for large color television sets that requires few external components and dissipates little power. When used in conjunction with the LA7620 series of video chroma deflection ICs, the LA7800 series of deflection ICs, and the LA7850 series of display ICs, it is possible to create a stable and compact vertical output deflection circuit.

**Features**

- High output.
- Low power dissipation due to built-in pump-up circuit.
- Few external components needed.
- Thermal protection circuit built in.

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

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V <sub>6</sub> max	(Pump-up block)	30	V
	V <sub>3</sub> max	(Output block)	62	V
Deflection output current	I <sub>2</sub> max		±1.5	Ap-o
Allowable power dissipation	Pd max	With arbitrarily large heat sink	8.0	W
Operating temperature	Topr		-20 to +85	°C
Storage temperature	Tstg		-40 to +150	°C
Thermal resistance	θj-c		4	°C/W

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

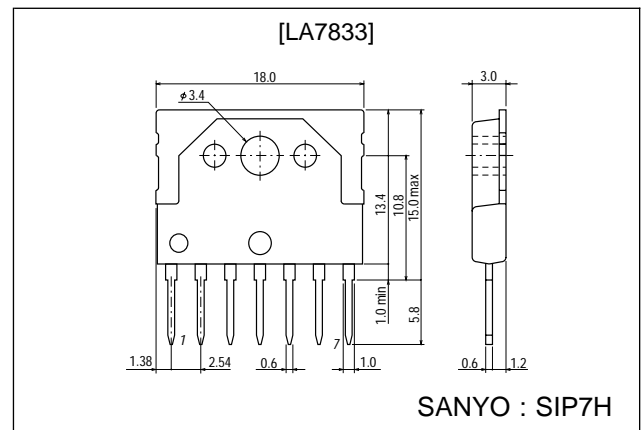
Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V <sub>6</sub>		24	V
Operating supply voltage range	V <sub>6</sub>		10 to 27	V
Deflection output current	I <sub>2p-p</sub>		to 2.2	Ap-p

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**Package Dimensions**

unit : mm

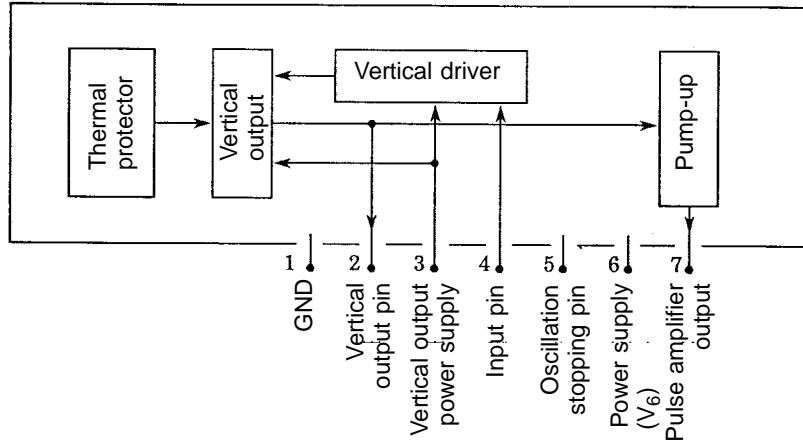
**3075-SIP7H**

# LA7833

## Operating Characteristics at Ta = 25 °C, V6 = 24 V

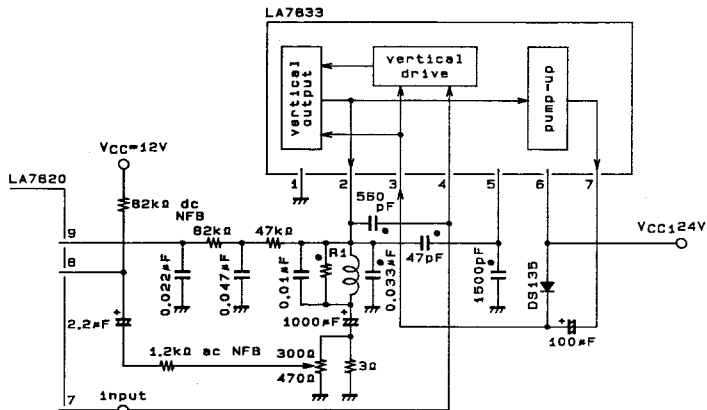
Parameter	Symbol	Conditions	min	typ	max	Unit
Deflection output saturation voltage (lower)	$V_{(sat)2-1}$	$I_2 = +1.1 \text{ A}$			1.5	V
Deflection output saturation voltage (upper)	$V_{(sat)3-2}$	$I_2 = -1.1 \text{ A}$			3.5	V
Pump-up charge saturation voltage	$V_{(sat)7-1}$	$I_7 = +20 \text{ mA}$			1.8	V
Pump-up discharge saturation voltage	$V_{(sat)6-7}$	$I_7 = -1.1 \text{ A}$			3.2	V
Idling current	$I_{DL}$		30		60	mA
Midpoint voltage	$V_{MID}$		9.5	10.5	11.5	V

## Pin Assignment and Functional Block Diagram



## Sample Application Circuit

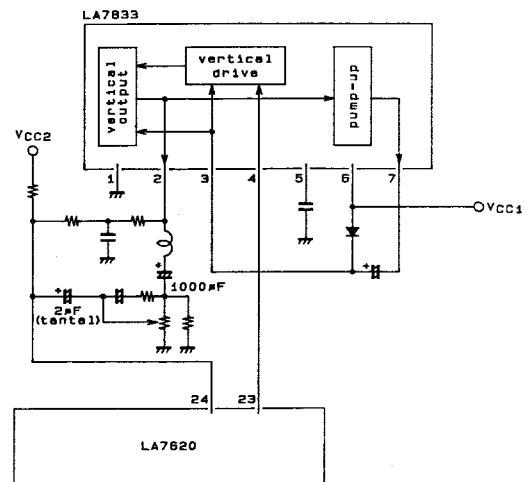
LA7820 vertical output



R1\* = several hundreds of ohms to 1 kΩ  
 \*: CR used against oscillation  
 The combination depends on the oscillation mode.

## Sample Application Circuit

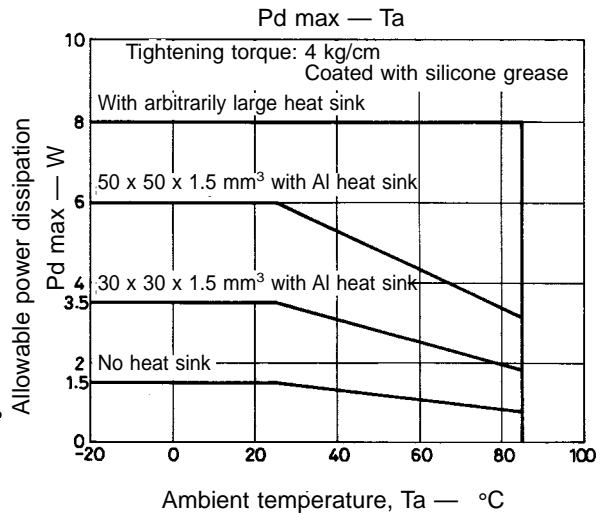
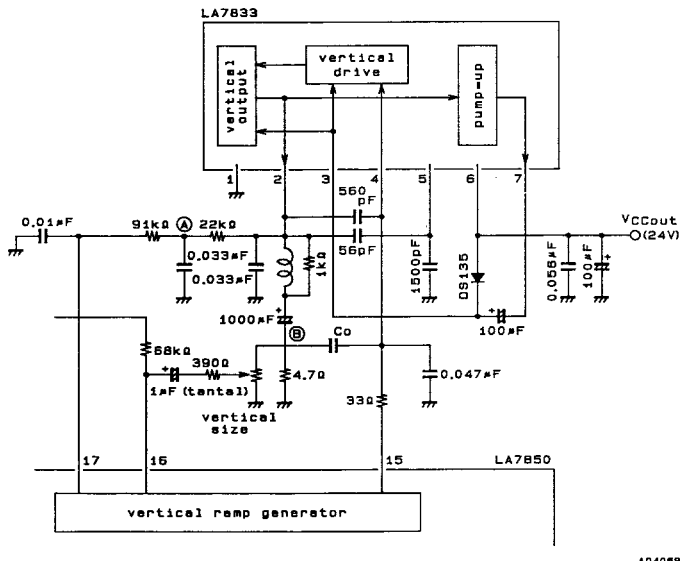
LA7620 vertical output



A04088

Sample Application Circuit

LA7850 vertical output



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