



STK792-110

Vertical Deflection Output Circuit for CTV and CRT Displays

Overview

The STK792-110 is a vertical output amplifier and supply switching circuit hybrid IC for high withstand voltage, vertical deflection output circuits in CTV and CRT displays.

Applications

- Large screen, ultrahigh definition CRT displays
- Large screen CTV, HDTV and video projectors

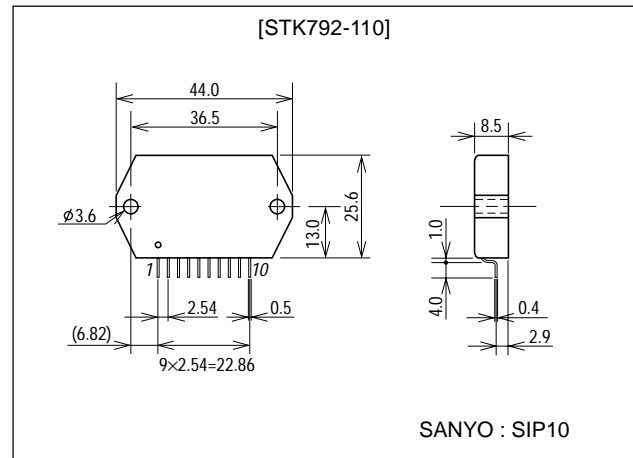
Features

- Vertical deflection basic functions (output amplifier and supply switching circuit) in a compact package
- Split dual supply DC amplifier, output amplifier structure
- Supply switching circuit built-in, making low power dissipation operation possible
- High-current (4Ap-p), high withstand voltage (160V max) output amplifier design
- Increasing the supply switching circuit supply voltage enables the retrace time to be reduced ($\leq 0.2\text{ms}$)
- High-power design ideal for large-screen CTV and CRT displays, and video projectors
- DC amplifiers for good DC component characteristics in the sawtooth waveform for vertical centering correction

Package Dimensions

unit:mm

4154



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC8-4}	Between pins 8 and 4	160	V
	$\pm V_{CC}$		± 30	V
Maximum deflection current	I_{p-o}	Pin 5	± 2.0	A
Maximum collector current	I_C	TR11	2.0	A
Thermal resistance	θ_{j-c1}	Vertical output transistors Tr8 and Tr9	6.0	$^\circ\text{C/W}$
	θ_{j-c2}	Supply switching transistor Tr11	15	$^\circ\text{C/W}$
Junction temperature	T_j		150	$^\circ\text{C}$
Operating substrate temperature	T_c		105	$^\circ\text{C}$
Storage temperature	T_{stg}		-30 to +125	$^\circ\text{C}$

■ 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.

SANYO Electric Co., Ltd. Semiconductor Company

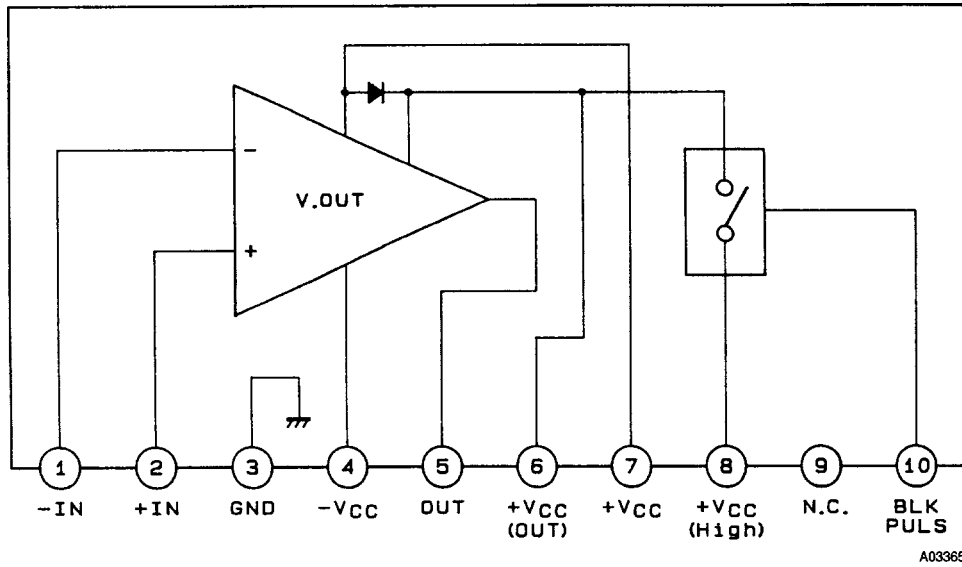
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

STK792-110

Electrical Characteristics at $T_a = 25^\circ\text{C}$, $\pm V_{CC}=20\text{V}$, $V_{CC8}=120\text{V}$

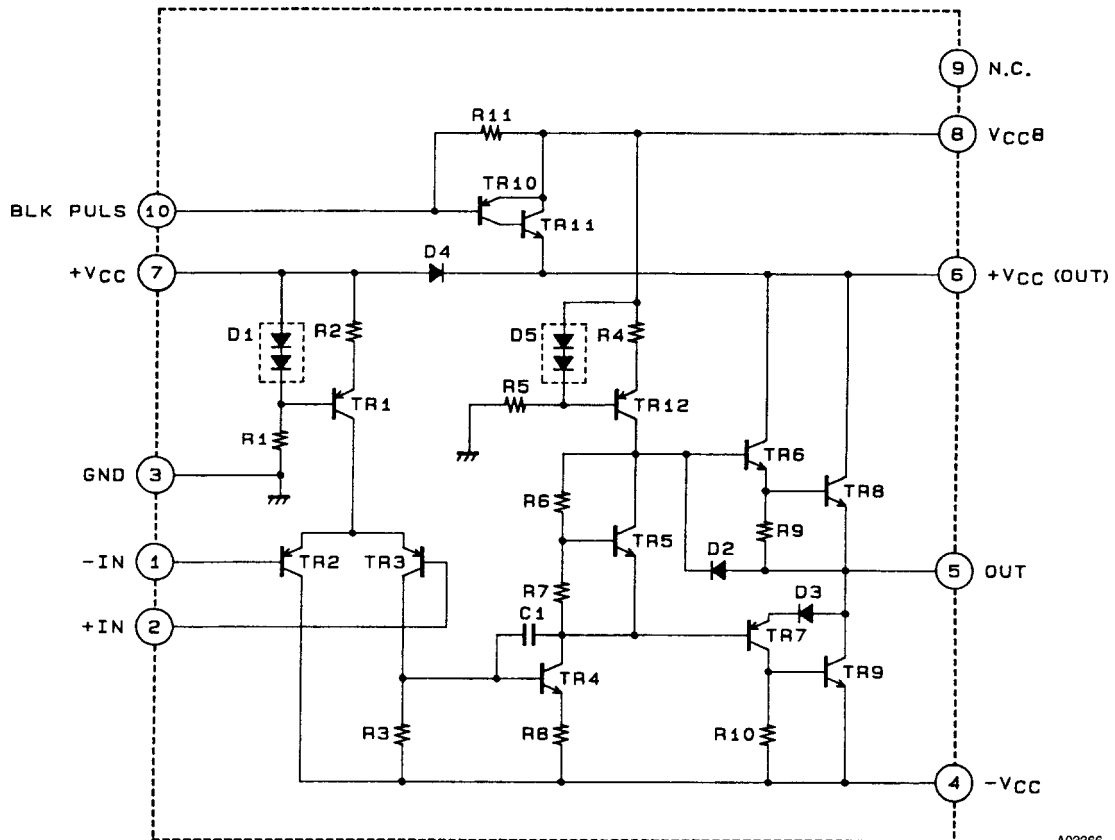
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Idling current	I_{CCO7}			15	30	mA
Neutral voltage	V_{N5}		-50		+50	mV
Deflection output saturation voltage (lower)	V_{sat5-4}	Between pins 5 and 4, $I_5=+1.1\text{A}$		2.2	3.0	V
Deflection output saturation voltage (upper)	V_{sat6-5}	Between pins 6 and 5, $I_5=+1.1\text{A}$		1.0	2.0	V
Supply switching circuit saturation voltage	V_{sat8-6}	Between pins 8 and 6, $I_8=+1.1\text{A}$		1.0	2.0	V

Block Diagram



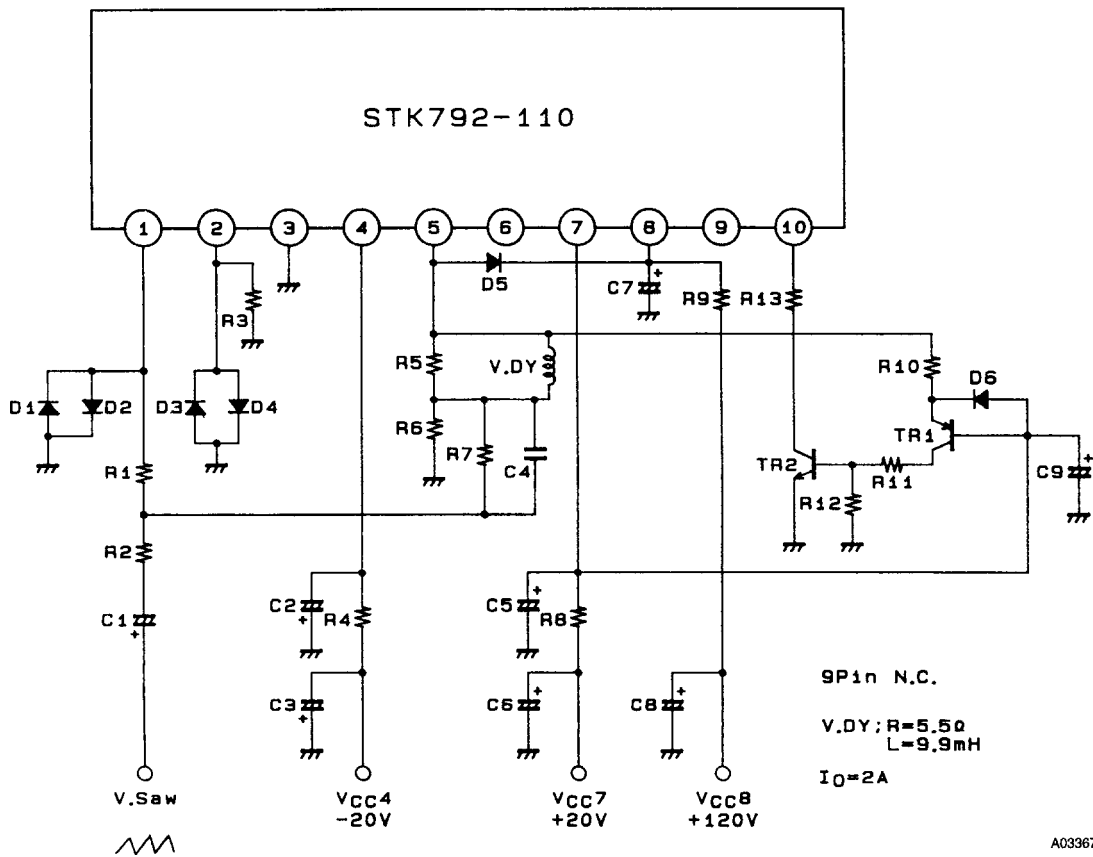
A03365

Equivalent Circuit



A03366

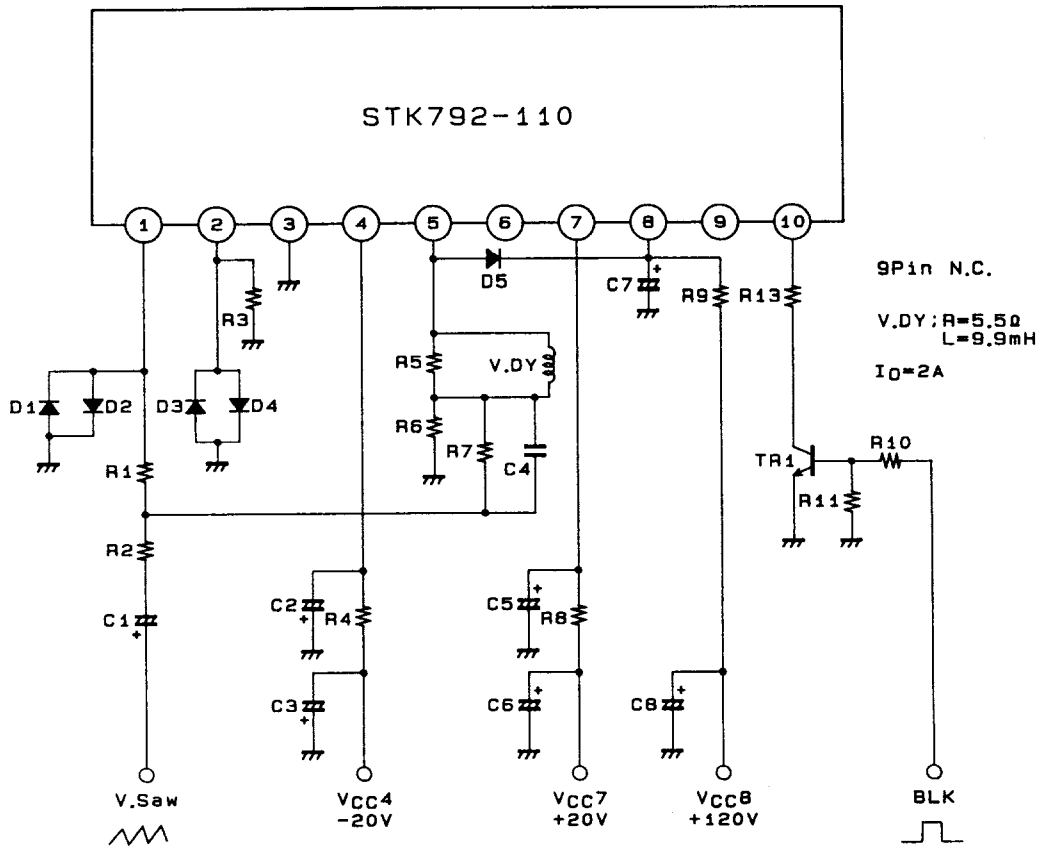
Sample Application Circuit (1)



A03367

TR1	2SA1209	R1	2.7kΩ	C1	22μF/16V
TR2	2SC2911	R2	4.7kΩ	C2	1000μF/35V
		R3	4.7kΩ	C3	100μF/50V
D1	DS442	R4	1.8Ω/1W	C4	0.0022μF
D2	DS442	R5	680Ω/12W	C5	1000μF/35V
D3	DS442	R6	1.1Ω/1W	C6	100μF/50V
D4	DS442	R7	2.2kΩ	C7	22μF/160V
D5	DFC15	R8	1.8Ω/1W	C8	1μF/160V
D6	DS442	R9	470Ω/2W	C9	22μF/50V
		R10	10kΩ		
		R11	10kΩ		
		R12	3.3kΩ		
		R13	10kΩ		

Sample Application Circuit (2)



A03368

TR1	2SC2911	R1	2.7kΩ	C1	22μF/16V
D1	DS442	R2	4.7kΩ	C2	1000μF/35V
D2	DS442	R3	4.7kΩ	C3	100μF/50V
D3	DS442	R4	1.8Ω/1W	C4	0.0022μF
D4	DS442	R5	680Ω/12W	C5	1000μF/35V
D5	DFC15	R6	1.1Ω/1W	C6	100μF/50V
		R7	2.2kΩ	C7	22μF/160V
		R8	1.8Ω/1W	C8	1μF/160V
		R9	470Ω/2W		
		R10	4.7kΩ		
		R11	4.7kΩ		
		R12	10kΩ		

- 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 October, 1999. Specifications and information herein are subject to change without notice.