



# 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

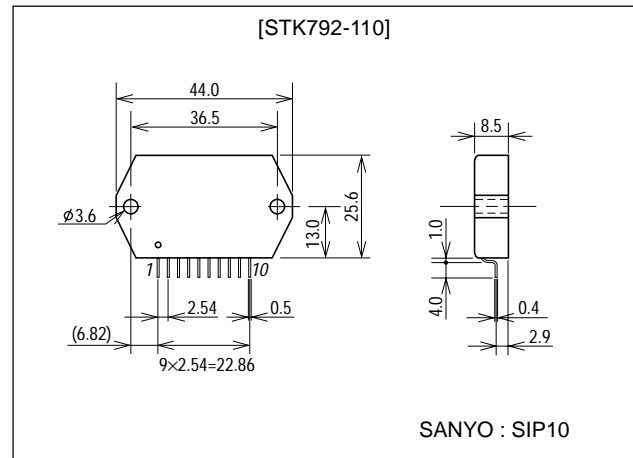
### Features

- 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
	$\pm V_{CC}$		$\pm 30$	V
Maximum deflection current	$I_{p-o}$	Pin 5	$\pm 2.0$	A
Maximum collector current	$I_C$	TR11	2.0	A
Thermal resistance	$\theta_{j-c1}$	Vertical output transistors Tr8 and Tr9	6.0	$^\circ\text{C/W}$
	$\theta_{j-c2}$	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	$^\circ\text{C}$

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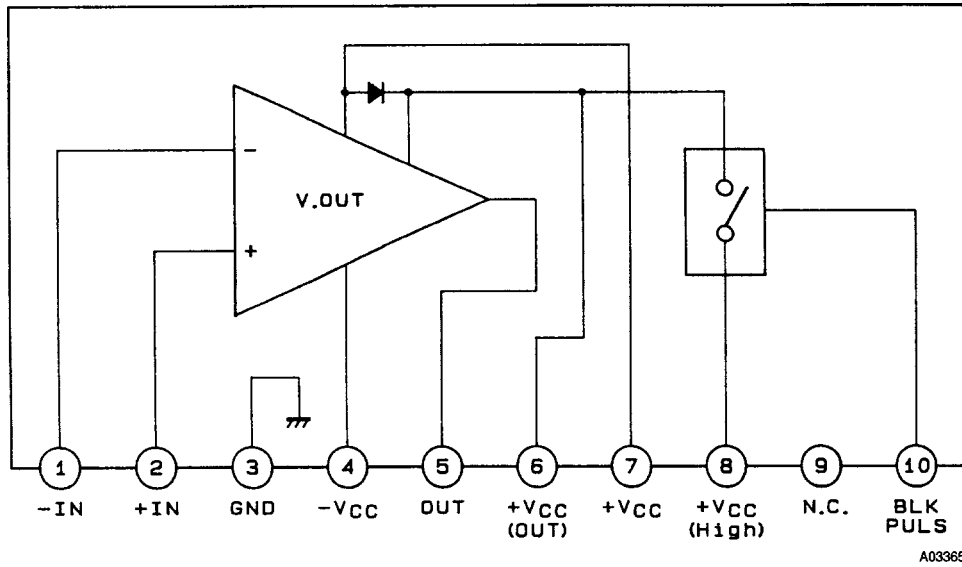
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

# STK792-110

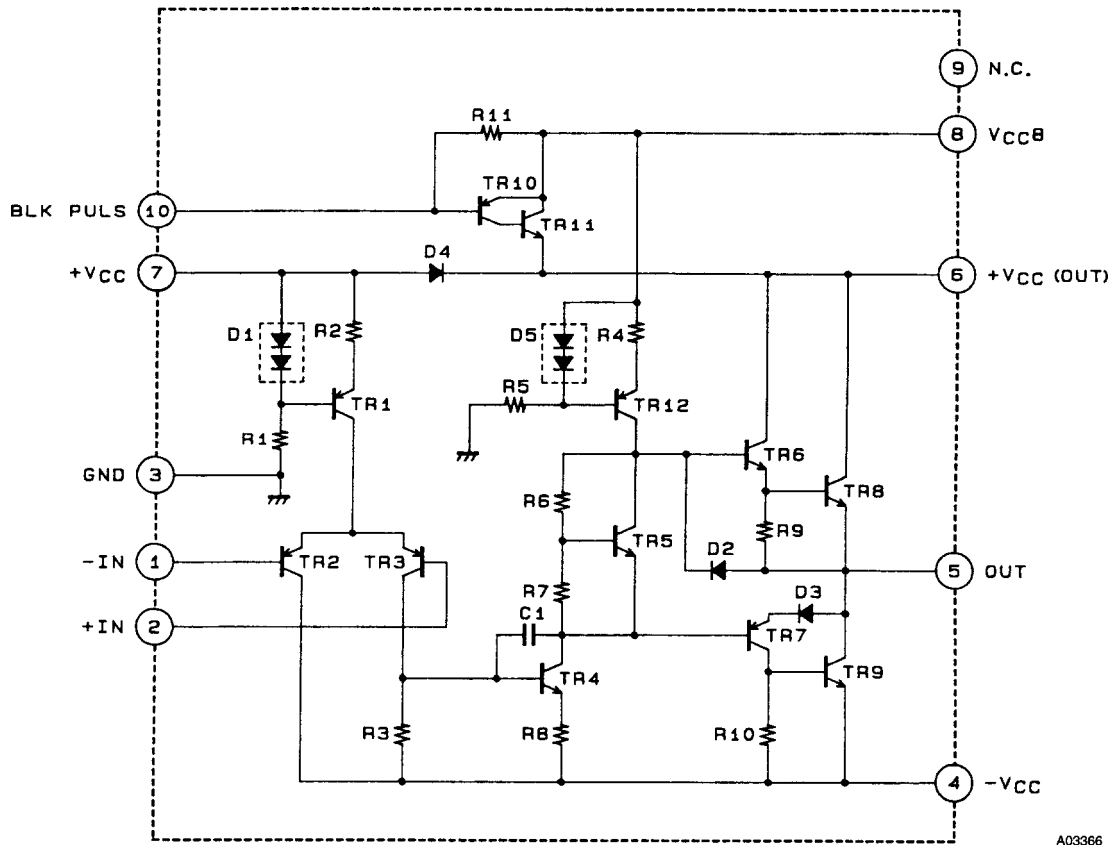
Electrical Characteristics at  $T_a = 25^\circ\text{C}$ ,  $\pm V_{CC}=20\text{V}$ ,  $V_{CC8}=120\text{V}$

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

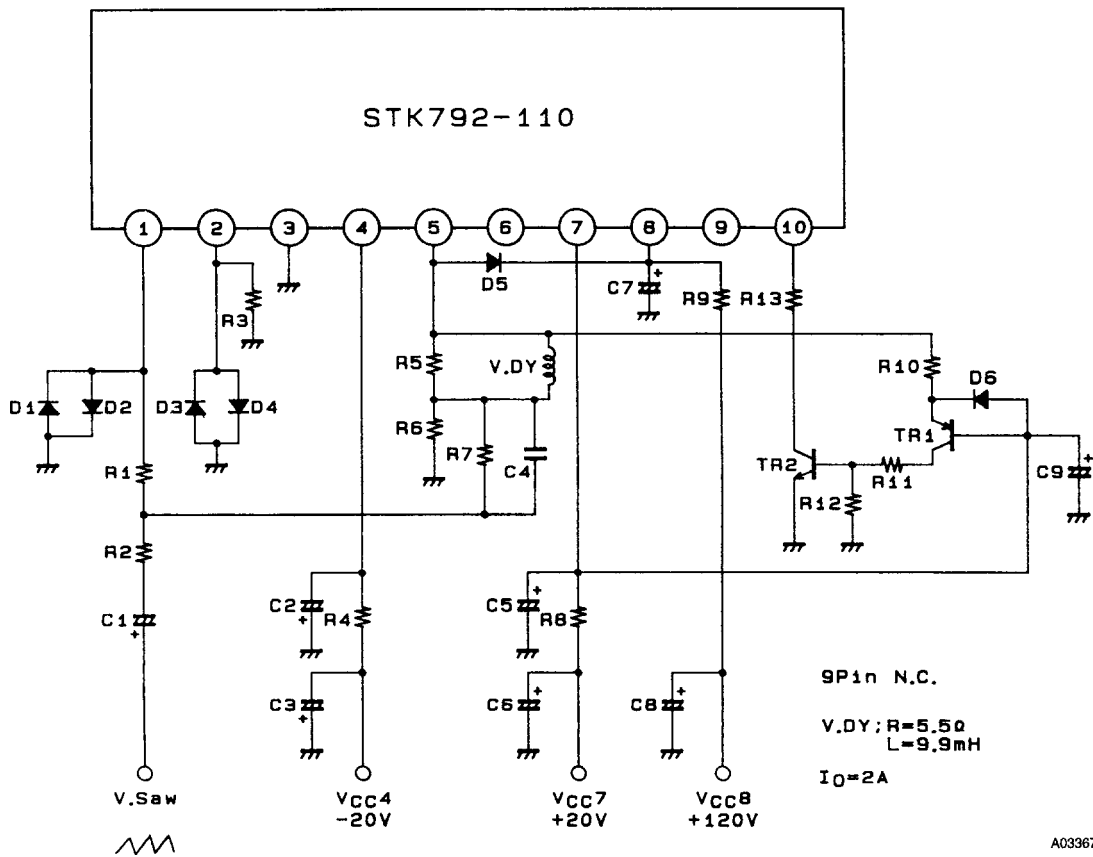
## Block Diagram



## Equivalent Circuit



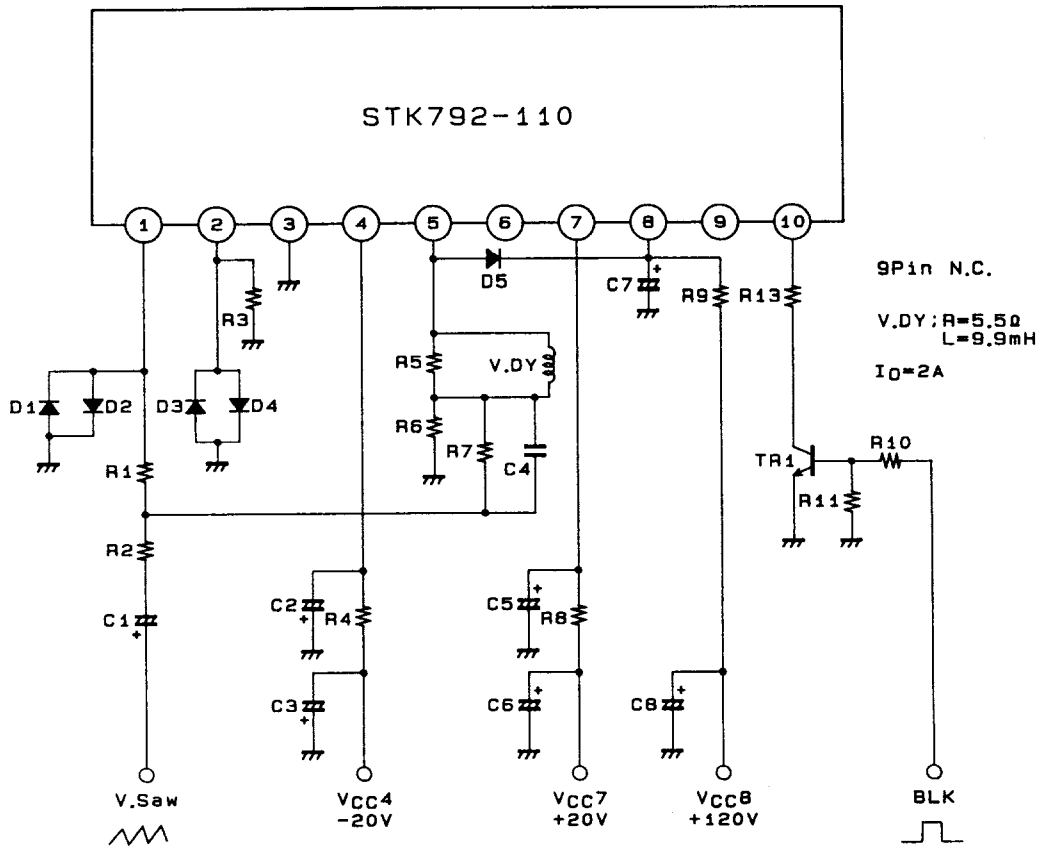
Sample Application Circuit (1)



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		

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