

# STK392-110

Thick Film Hybrid IC  
**3-Channel Convergence Correction Circuit**  
 (IC max = 3A)

## Overview

The STK392-110 is a convergence correction circuit IC for video projectors. It incorporates three output amplifiers in a single package, making possible the construction of CRT horizontal and vertical convergence correction output circuits for each of the RGB colors using just two hybrid ICs. The output circuit use a class-B configuration, in comparison with the STK392-010, realizing a more compact package and lower cost.

## Applications

- Video projectors

## Features

- 3 output amplifier circuits in a single package
- High maximum supply voltage ( $V_{CC}$  max =  $\pm 38V$ )
- Low thermal resistance ( $\theta_{j-c}=3.0^{\circ}C/W$ )
- High temperature stability ( $T_C$  max= $125^{\circ}C$ )
- Separate predriver and output stage supplies
- Output stage supply switching for high-performance designs
- Low inrush current when power is applied

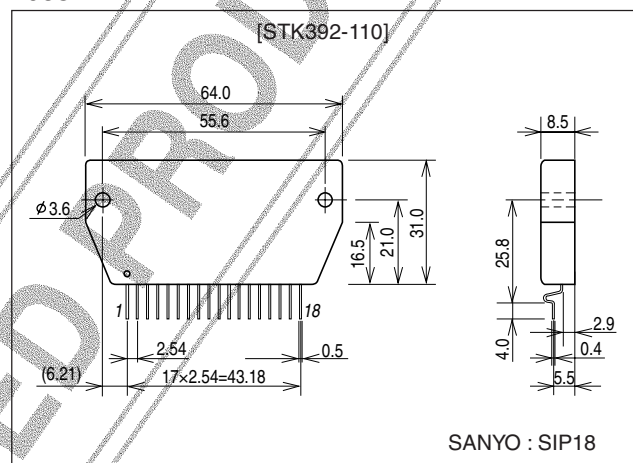
## Series Organization

The following devices form a series with varying output capacity and application grade. Some of the devices below are under development, so contact your nearest sales representative for details.

Type No.	Maximum ratings			Maximum horizontal frequency $f_H$ max	Application grade
	$V_{CC}$ max	$I_C$ max	$\theta_{j-c}$		
STK392-110	$\pm 38V$	3A	$3.0^{\circ}C/W$	15kHz	General projection TVs
STK392-010	$\pm 38V$	5A	$2.6^{\circ}C/W$	15kHz	General projection TVs
STK392-020	$\pm 44V$	6A	$2.1^{\circ}C/W$	35kHz	HD, VGA
STK392-040	$\pm 50V$	7A	$1.8^{\circ}C/W$	100kHz	XGA, CAD, CAM
STK392-210	$\pm 65V$	8A	$1.5^{\circ}C/W$	130kHz	CAD, CAM
STK392-220	$\pm 75V$	10A	$1.3^{\circ}C/W$	160kHz	CAD, CAM

## Package Dimensions

unit:mm  
4083



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**Specifications**

**Maximum Ratings** at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V <sub>CC</sub> max		±38	V
Maximum collector current	I <sub>C</sub>	Tr6, 7, 13, 14, 20, 21	3.0	A
Thermal resistance	θ j-c	Tr6, 7, 13, 14, 20, 21 (per transistor)	3.0	°C/W
Junction temperature	T <sub>J</sub>		150	°C
Operating temperature	T <sub>c</sub>		125	°C
Storage temperature	T <sub>stg</sub>		-30 to +125	°C

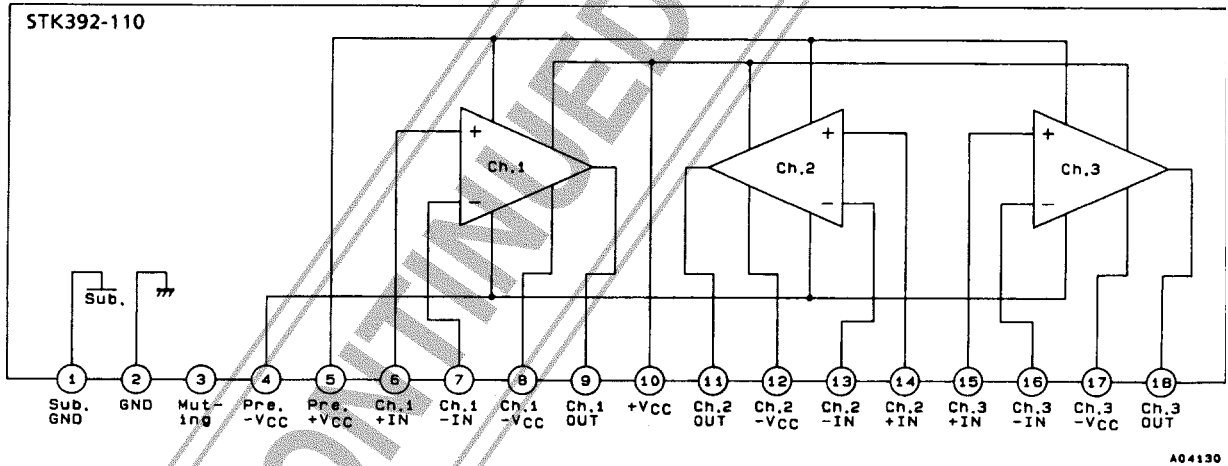
**Operating Characteristics** at Ta = 25°C, R<sub>g</sub>=50Ω, V<sub>CC</sub>=±30V, specified test circuit

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output noise voltage	V <sub>NO</sub>				0.2	mVrms
Quiescent current	I <sub>CCO</sub>		15	22	30	mA
Neutral voltage	V <sub>N</sub>		-50	0	+50	mV
Output delay time	t <sub>D</sub>	f=15.75kHz, triangular wave input, V <sub>OUT</sub> =1.5Vp-p			1	μs

Note :

All tests are conducted using a constant-voltage regulated supply unless otherwise specified.  
The output noise voltage is the peak value of an average-reading meter with an rms value scale (VTVM).

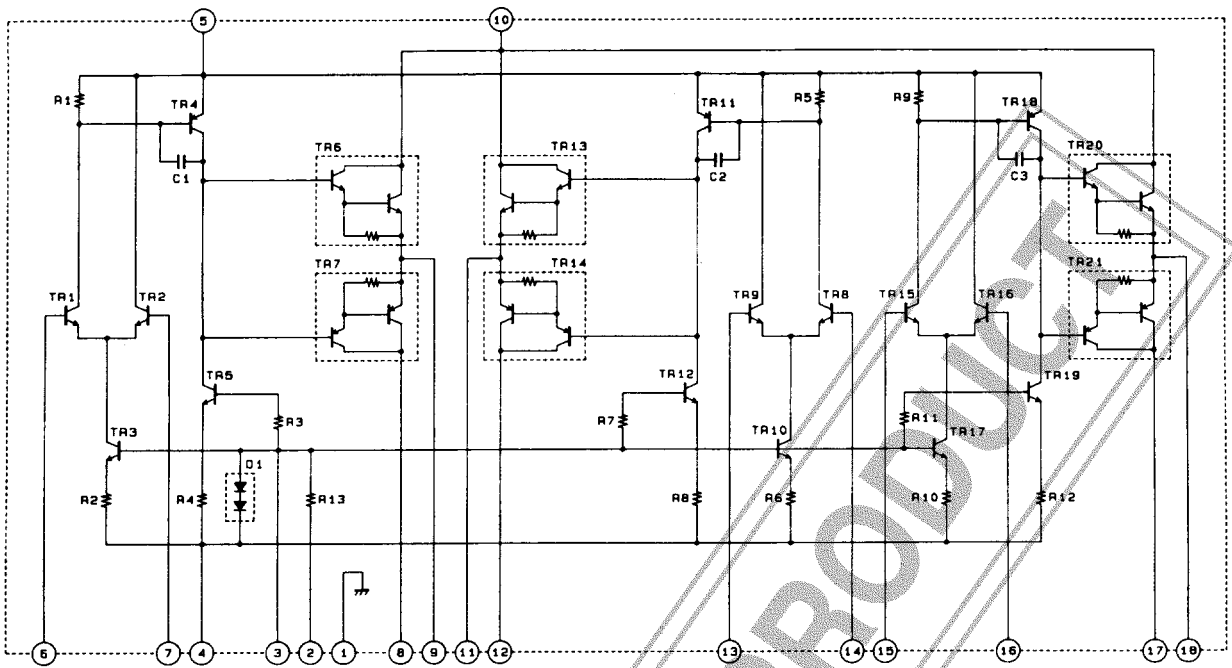
**Block Diagram**



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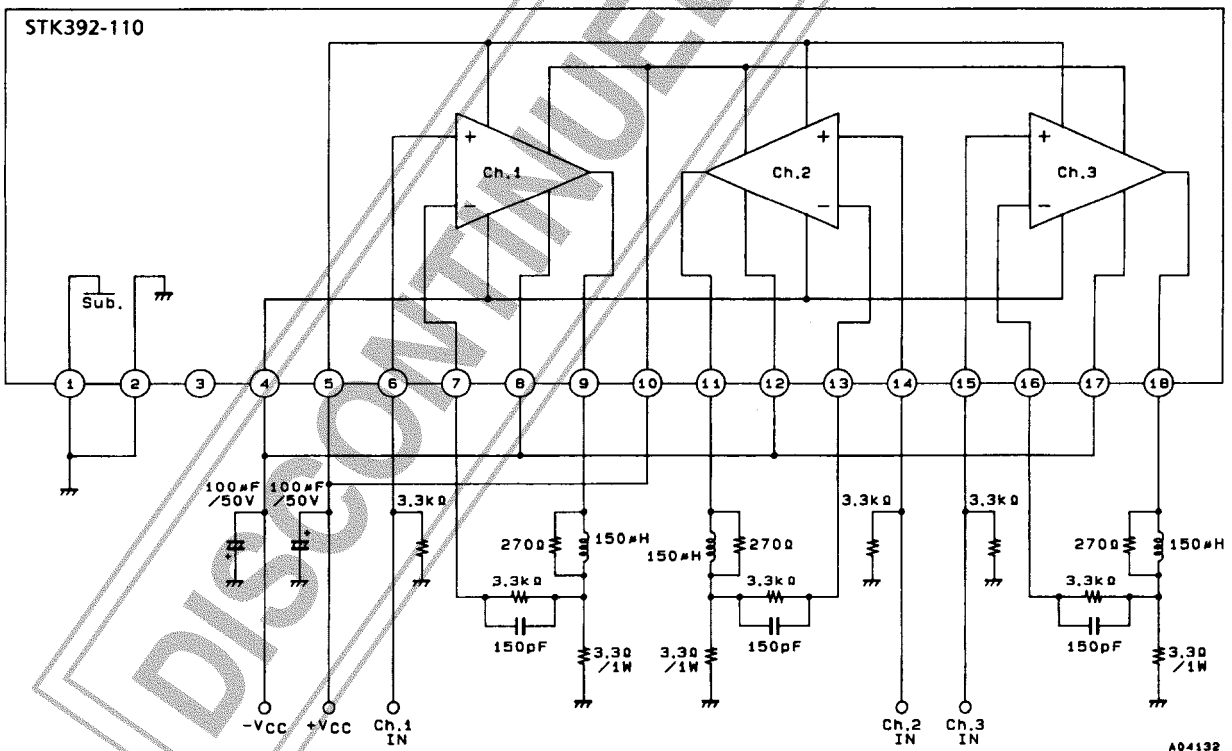
# STK392-110

## Equivalent Circuit



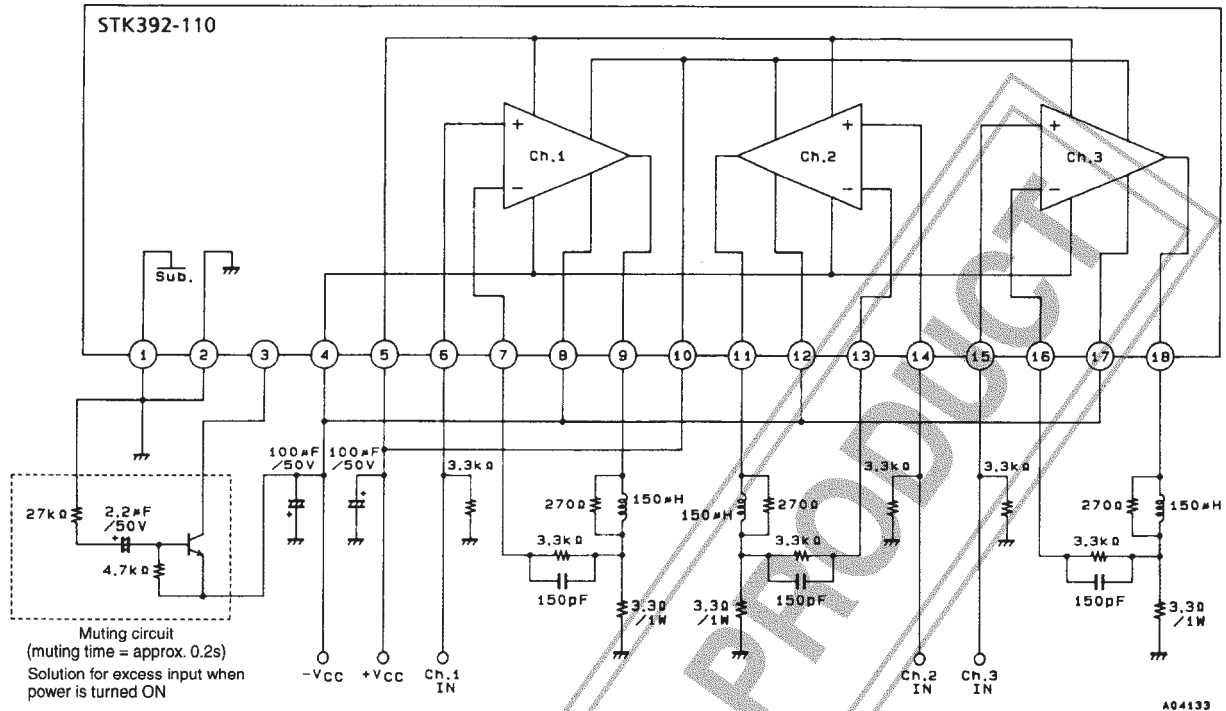
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## Test Circuit



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Sample Application Circuit



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