Thick Film Hybrid IC

SANYO

No. 5170

STK392-110

3-Channel Convergence Correction Circuit
(I_C 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 circuits use a class-B configuration, in comparison with the STK392-010, realizing a more compact package and lower cost.

Applications

· Video projectors

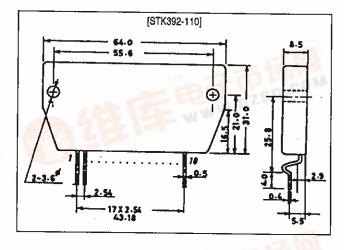
Features

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

Package Dimensions

unit: mm

4083



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	44.
	V _{CC} max	I _C max	Ө ј-с	f _H max	Application grade
STK392-110	±38V	3A	3.0°C/W	15kHz	General projection TVs
STK392-010	±38V	5A	2.6°C/W	15kHz	General projection TVs
STK392-020	±44V	6A	2.1°C/W	35kHz	HD, VGA
STK392-040	±50V	7A	1.8°C/W	100kHz	XGA, CAD, CAM
STK392-210	±65V	8A	1.5°C/W	130kHz	CAD, CAM
STK392-220	±75V	10A	1.3°C/W	160kHz	CAD, CAM

Specifications

Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit	
Maximum supply voltage	V _{CC} max		±38		
Maximum collector current	lc	Tr6, 7, 13, 14, 20, 21	3.0	A	
Thermal resistance	0ј-с	Tr6, 7, 13, 14, 20, 21 (per transistor)	3.0	°C/W	
Junction temperature	Tj		150	°C	
Operating substrate temperature	Tc		125	°C	
Storage temperature	Tstg		-30 to +125	°C	

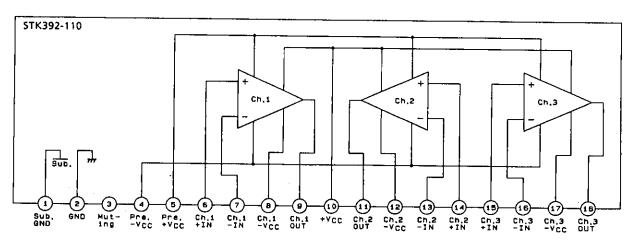
Operating Characteristics at Ta = 25°C, $Rg = 50\Omega$, $V_{CC} = \pm 30V$, specified test circuit

Parameter	Symbol	Conditions	min	typ	max	Unit
Output noise voltage	V _{NO}			-	0.2	mVrms
Quiescent current	lcco		15	22	30	mA
Neutral voltage	V _N		-50	0	+50	mV
Output delay time	t _D	f = 15.75kHz, triangular wave input, V _{OUT} = 1.5Vp-p	-	-	1	μѕ

Notes.

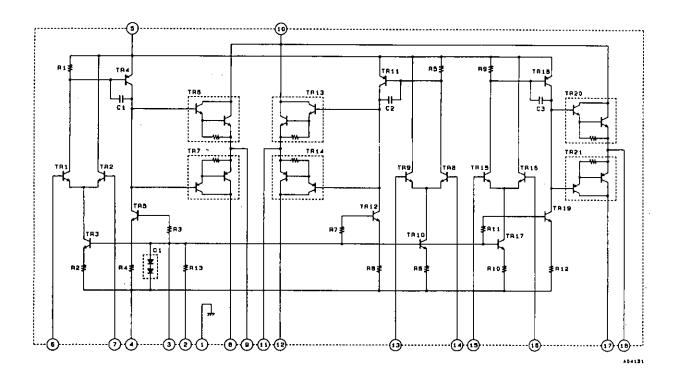
All tests are conducted using a constant-voltage regulated supply unless otherwise specified. The output noise voltage is the peak value of an average-reading meter with an rms value scale (VTVM).

Block Diagram

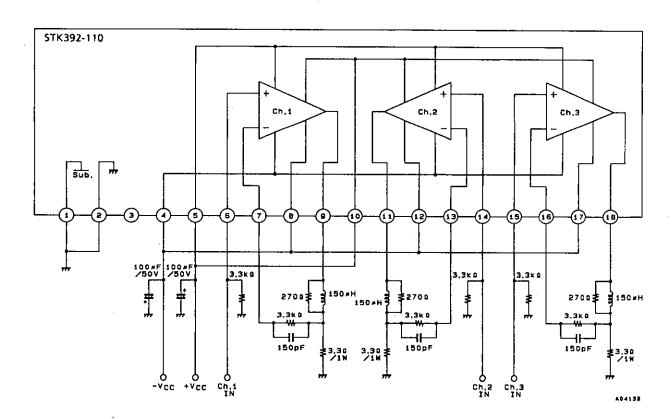


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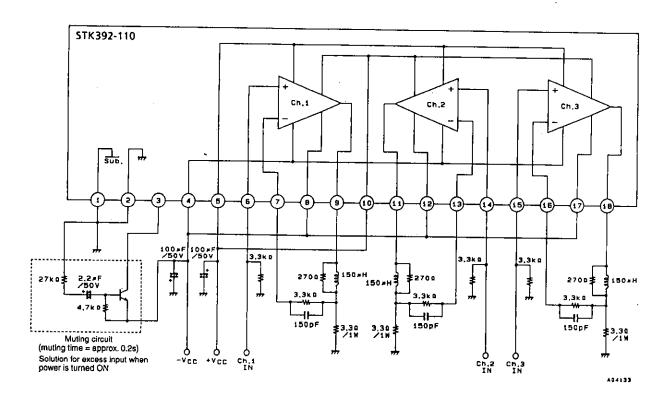
Equivalent Circuit



Test Circuit



Sample Application Circuit



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