Ordering number:ENN5170

Thick Film Hybrid IC

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 ust 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

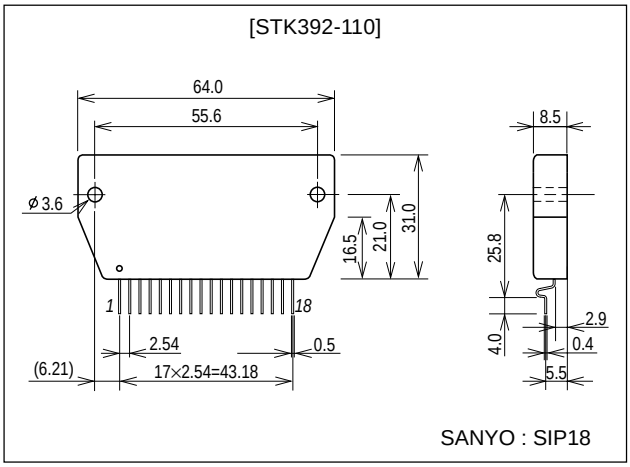
Features

- 3 output amplifier circuits in a single package
- High maximum supply voltage (V_{CC} max = ±38V)
- Low thermal resistance (θj-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 f_H max	Application grade
	V_{CC} max	I_C max	θj-c		
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

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Specifications

Maximum Ratings at Ta = 25˚C

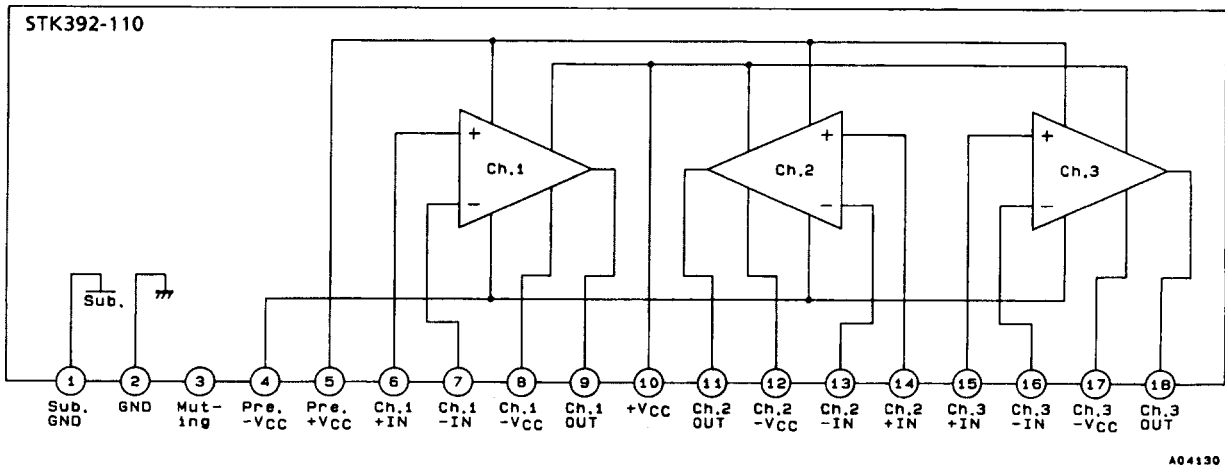
Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC} max		±38	V
Maximum collector current	I_C	Tr6, 7, 13, 14, 20, 21	3.0	A
Thermal resistance	θ j-c	Tr6, 7, 13, 14, 20, 21 (per transistor)	3.0	˚C/W
Junction temperature	Tj		150	˚C
Operating temperature	Tc		125	˚C
Storage temperature	Tstg		–30 to +125	˚C

Operating Characteristics at Ta = 25˚C, Rg=50Ω, V_{CC}=±30V, specified test circuit

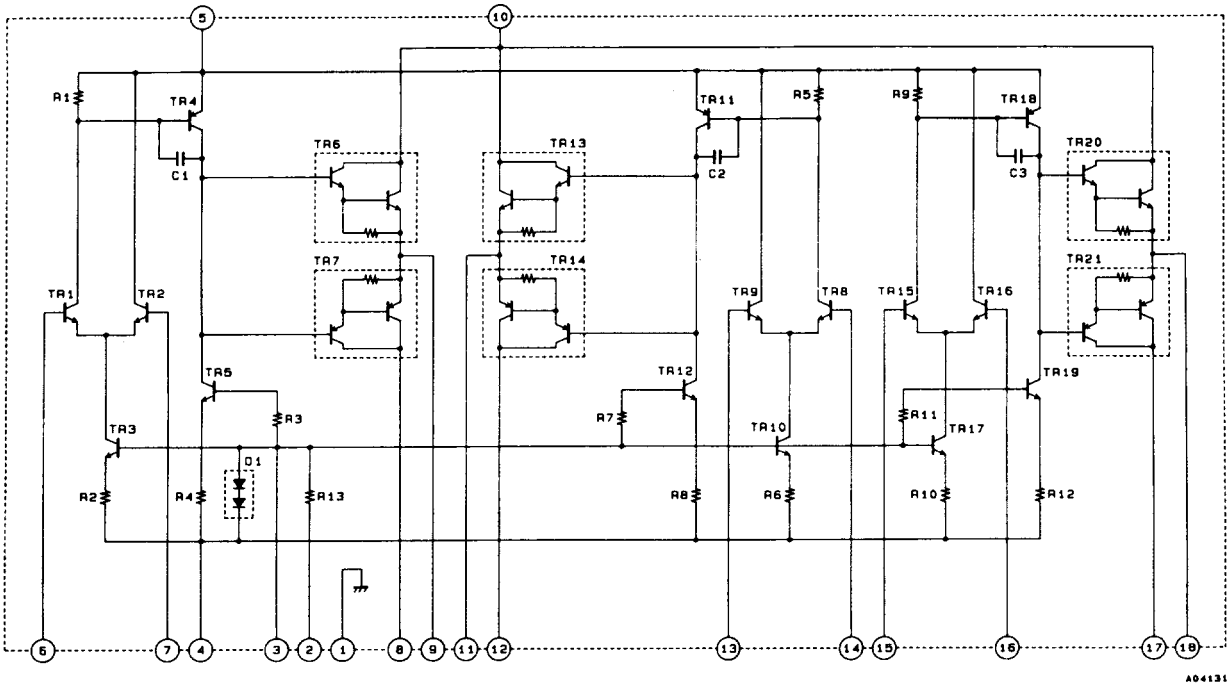
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output noise voltage	V_{NO}				0.2	mVrms
Quiescent current	I_{CCO}		15	22	30	mA
Neutral voltage	V_N		–50	0	+50	mV
Output delay time	t_D	f=15.75kHz, triangular wave input, V_{OUT}=1.5Vp-p			1	µs

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).

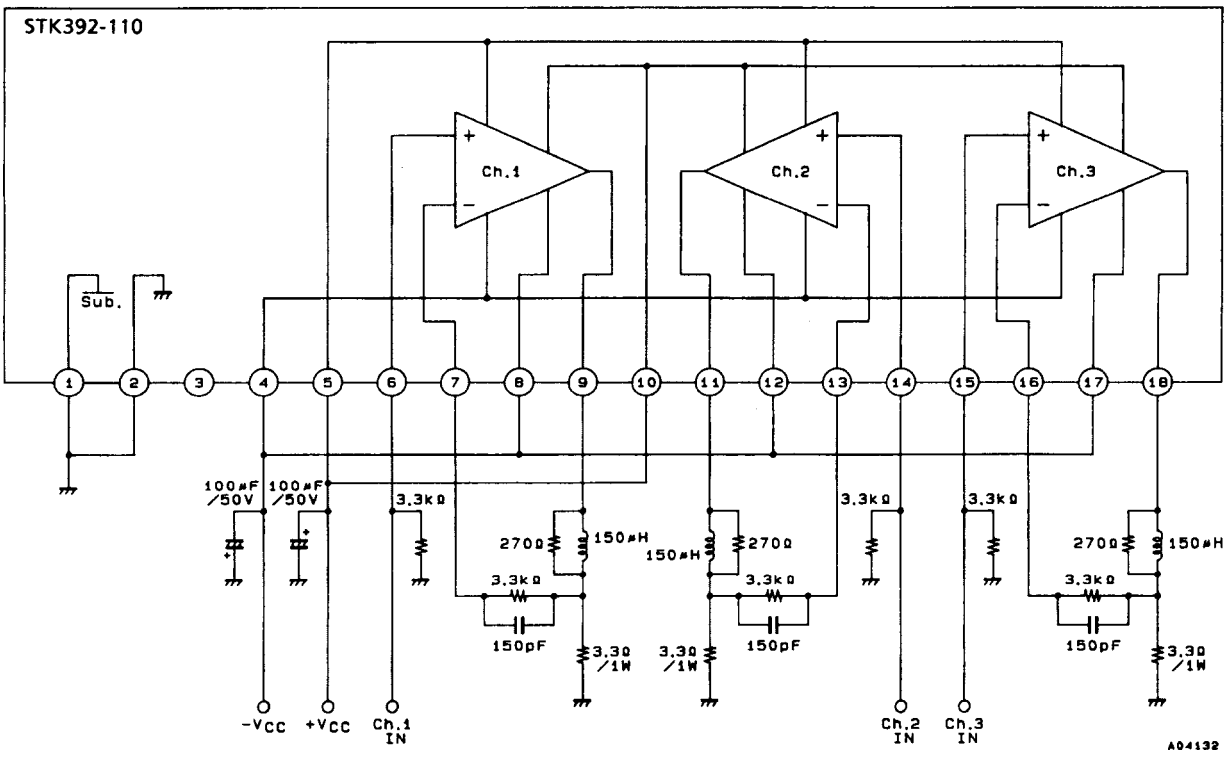
Block Diagram



Equivalent Circuit



Test Circuit



Sample Application Circuit