

SANYO	No. 5081	STK392-040
		3-Channel Convergence Correction Circuit ($I_C \text{ max} = 7A$)

Overview

The STK392-040 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.

Applications

- Video projectors (high-definition television, high-definition graphic projectors)

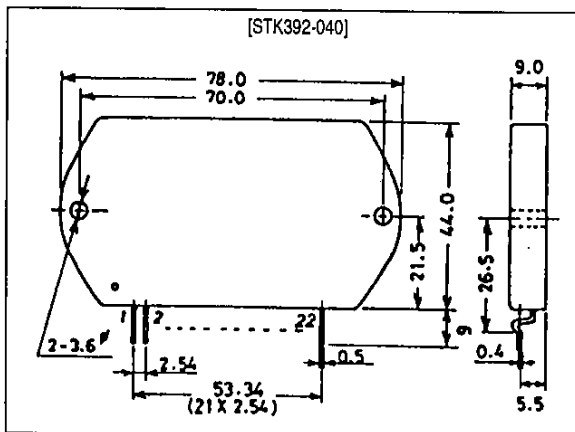
Features

- 3 output amplifier circuits in a single package (22-pin)
- High absolute maximum supply voltage ($V_{CC} \text{ max} = \pm 50V$)
- Low thermal resistance ($\theta_{j-c} = 1.8^\circ C/W$)
- High temperature stability ($T_C \text{ max} = 125^\circ C$)
- Separate predriver and output stage supplies
- Output stage supply switching for high-performance designs
- Pins are arranged in separate groups of inputs, supply, and outputs to reduce the adverse effects of pattern layout on characteristics and to make design easier.
- Constant-current circuit in the predriver for stable supply switching operation
- Large lineup of family devices (STK392-000 series) to cover the range from general applications to high-class applications using a single PCB

Package Dimensions

unit: mm

4086A



Specifications

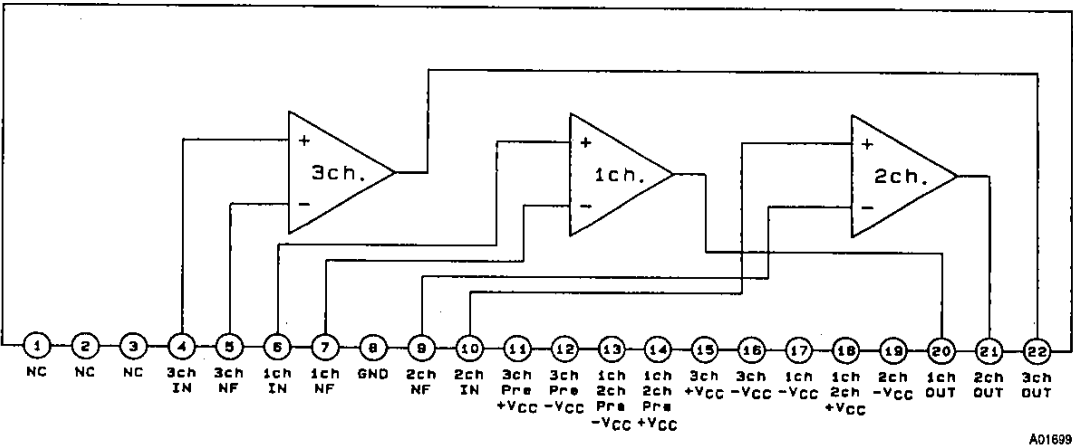
Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC\ max}$		± 50	V
Maximum collector current	I_C	Tr8, 10, 18, 20, 28, 30	7.0	A
Thermal resistance	θ_{j-c}	Tr8, 10, 18, 20, 28, 30 (per transistor)	1.8	°C/W
Junction temperature	T_J		150	°C
Operating substrate temperature	T_c		125	°C
Storage temperature	T_{stg}		-30 to +125	°C

Operating Characteristics at Ta = 25°C, Rg = 50Ω

Parameter	Symbol	Conditions	min	typ	max	Unit
Output noise voltage	V_{NO}	$V_{CC} = \pm 40V$	-	-	0.2	mVrms
Quiescent current	I_{CCO}	$V_{CC} = \pm 40V$	30	90	150	mA
Neutral voltage	V_N	$V_{CC} = \pm 40V$	-50	0	+50	mV
Output delay time	t_D	$V_{CC} = \pm 40V$, $f = 64kHz$, triangular wave input, $V_{OUT} = 1.5V_{p-p}$	-	-	0.2	μs
Frequency response	f_H	$V_{CC} = \pm 35V$, -3dB, (0dB at 1kHz), sine wave input, $V_{in} = 50mV_{p-p}$	-	3.8	-	MHz

Block Diagram



A01699

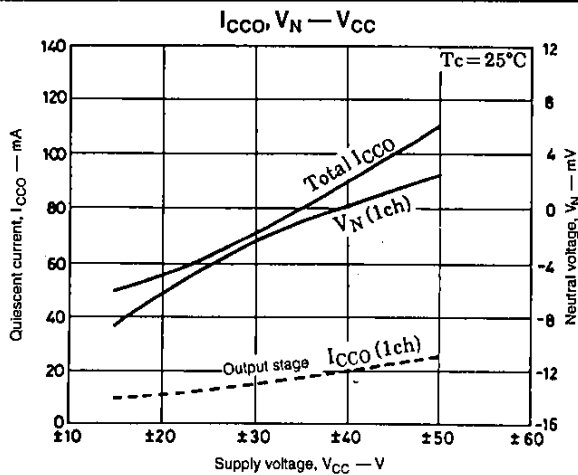
Equivalent Circuit



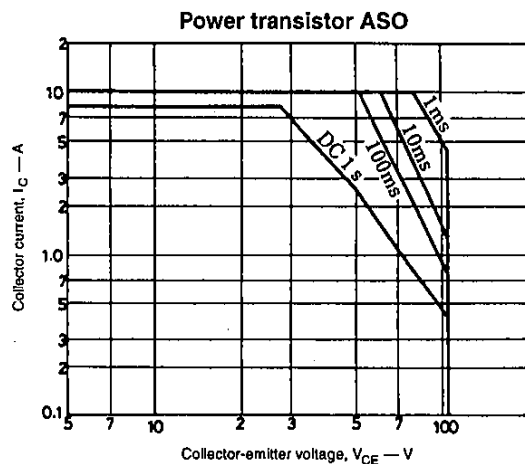
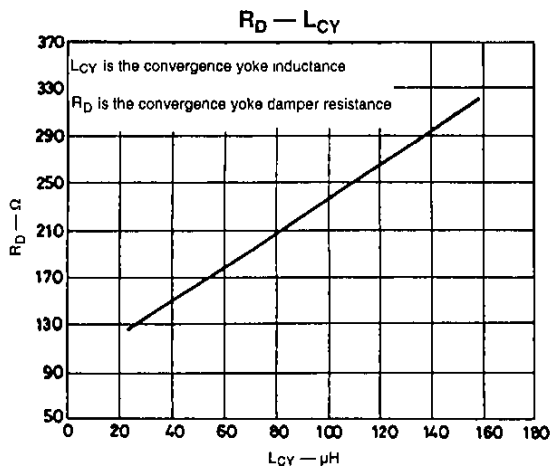
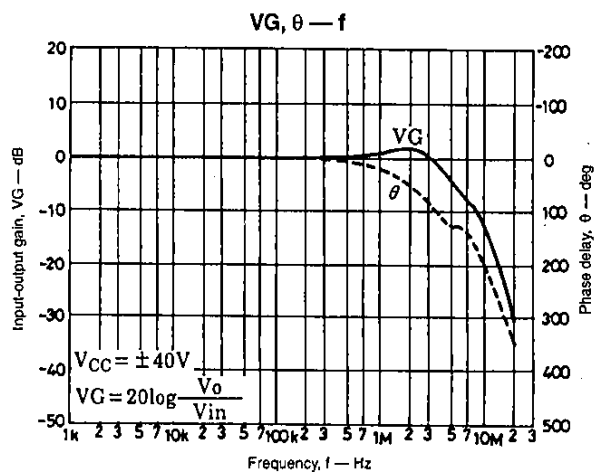
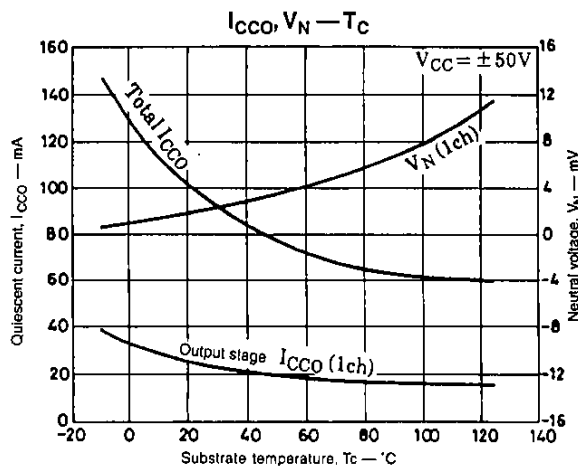
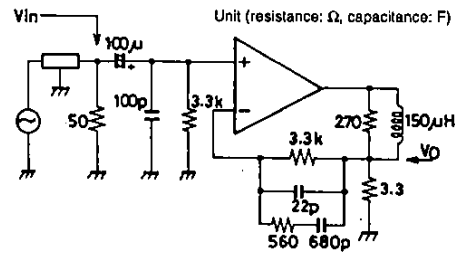
Test Circuit



Vo: V_{NO} is measured by connecting a VTVM.
 V_N is measured by connecting a DC voltmeter.
 t_D is measured by connecting an oscilloscope.



Test circuit



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