



# STK392-040

## 3-Channel Convergence Correction Circuit (I<sub>c</sub> 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)

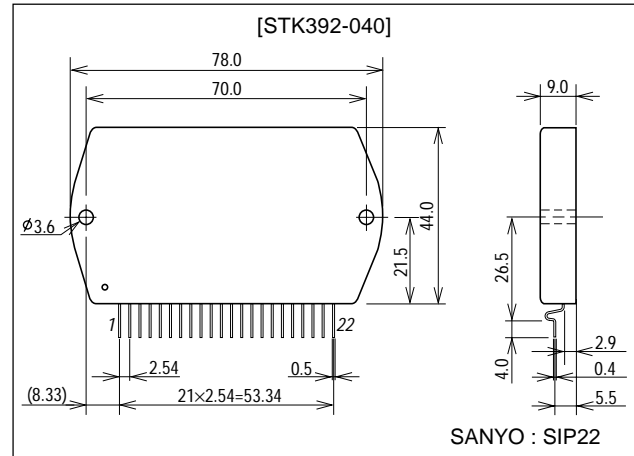
### Features

- 3 output amplifier circuits in a single package (22-pin)
- High absolute maximum supply voltage (V<sub>CC</sub> max = ±50V)
- Low thermal resistance ( $\theta_{j-c}=1.8^{\circ}\text{C}/\text{W}$ )
- High temperature stability (T<sub>C</sub> max=125°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



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## Specifications

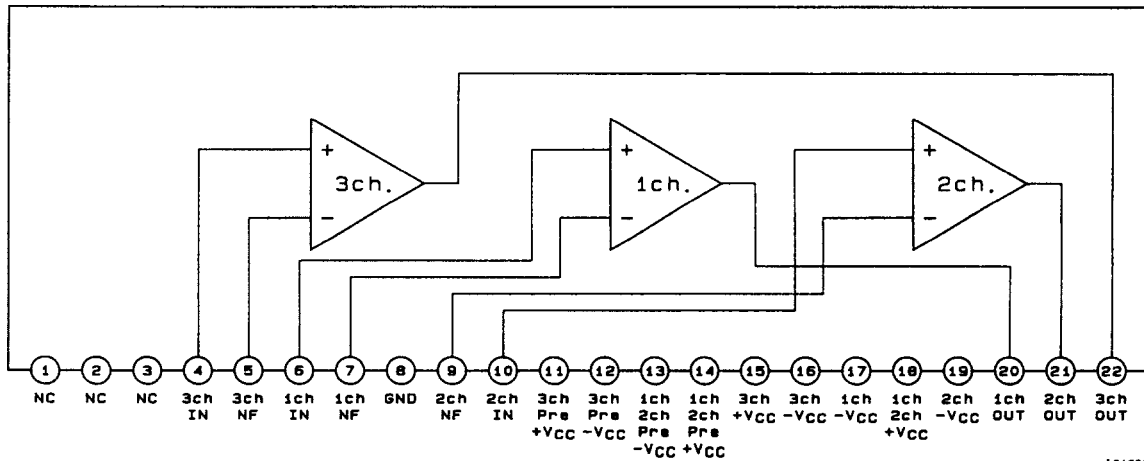
Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V <sub>CC</sub> max		±50	V
Maximum collector current	I <sub>C</sub>	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 <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, Rg=50Ω

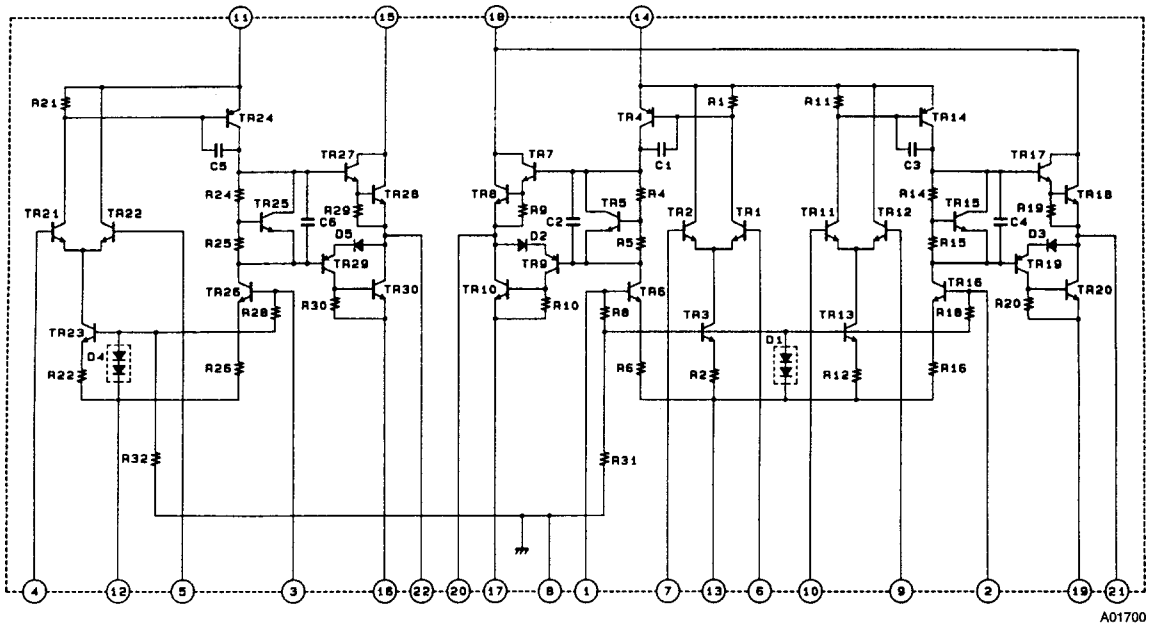
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output noise voltage	V <sub>NO</sub>	V <sub>CC</sub> =±40V			0.2	mVrms
Quiescent current	I <sub>CCO</sub>	V <sub>CC</sub> =±40V	30	90	150	mA
Neutral voltage	V <sub>N</sub>	V <sub>CC</sub> =±40V	-50	0	+50	mV
Output delay time	t <sub>D</sub>	V <sub>CC</sub> =±40V, f=64kHz, triangular wave input, V <sub>OUT</sub> =1.5Vp-p			0.2	μs
Frequency response	f <sub>H</sub>	V <sub>CC</sub> =±35V, -3dB, (0dB at 1kHz), sine wave input, V <sub>in</sub> =50mVp-p		3.8		MHz

## Block Diagram



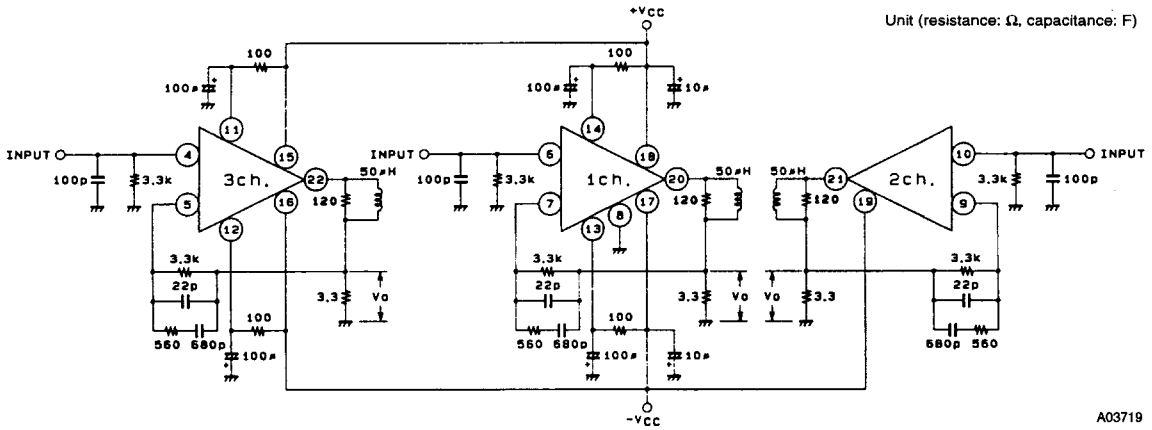
A01899

Equivalent Circuit



A01700

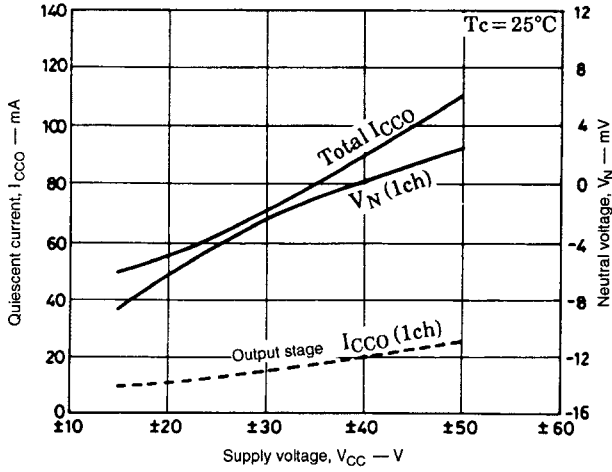
Test Circuit



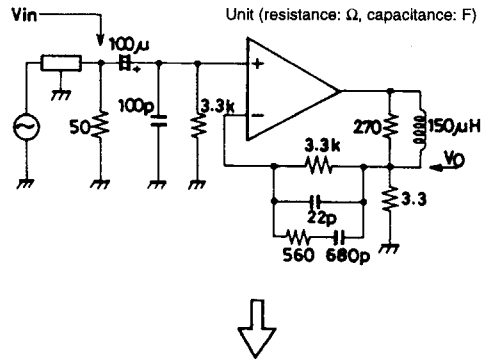
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Vo :  $V_{NO}$  is measured by connecting a VTVM.  
 $V_N$  is measured by connecting a DC voltmeter.  
 $t_D$  is measured by connecting an oscilloscope.

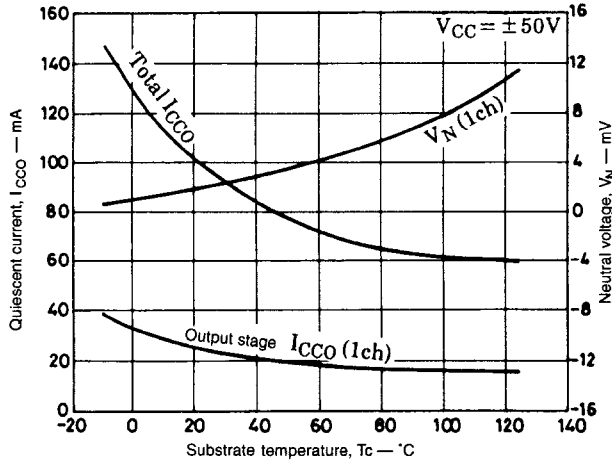
$I_{CCO}, V_N - V_{CC}$



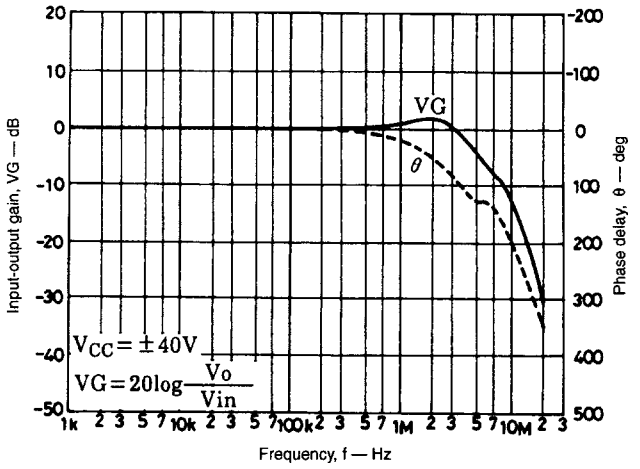
Test circuit



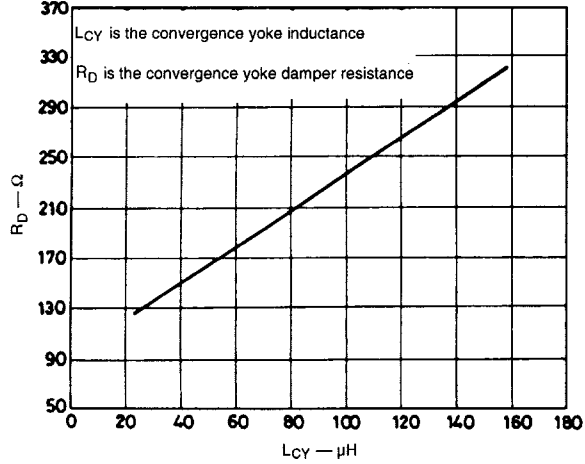
$I_{CCO}, V_N - T_c$



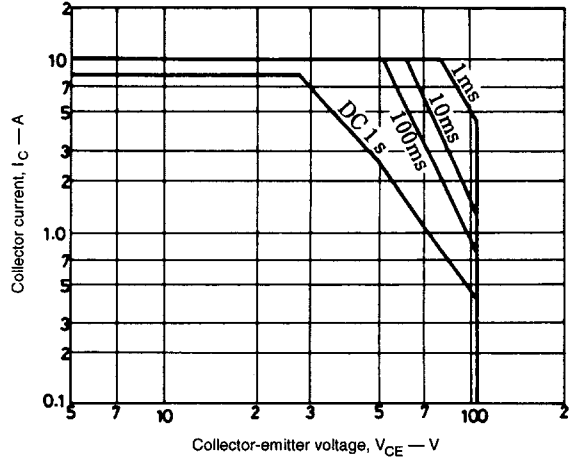
$VG, \theta - f$



$R_D - L_{CY}$



Power transistor ASO



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