

**SANYO**

No. 5081

**STK392-040****3-Channel Convergence Correction Circuit  
( $I_C$  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)

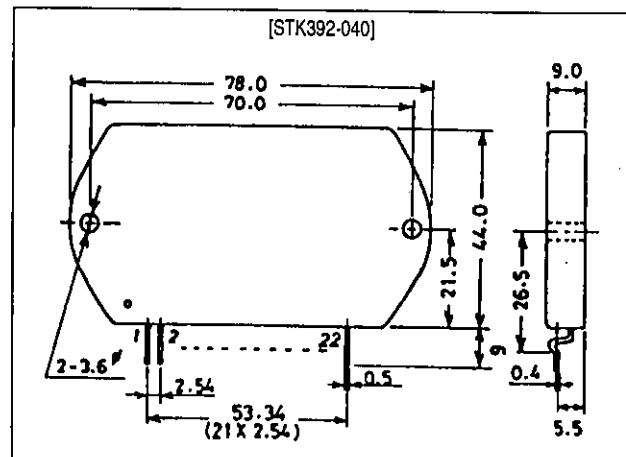
**Features**

- 3 output amplifier circuits in a single package (22-pin)
- High absolute maximum supply voltage ( $V_{CC}$  max =  $\pm 50V$ )
- Low thermal resistance ( $\theta_{j-c}$  =  $1.8^{\circ}C/W$ )
- High temperature stability ( $T_C$  max =  $125^{\circ}C$ )
- Separate predriver and output stage supplies
- Output stage supply switching for high-performance designs
- 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

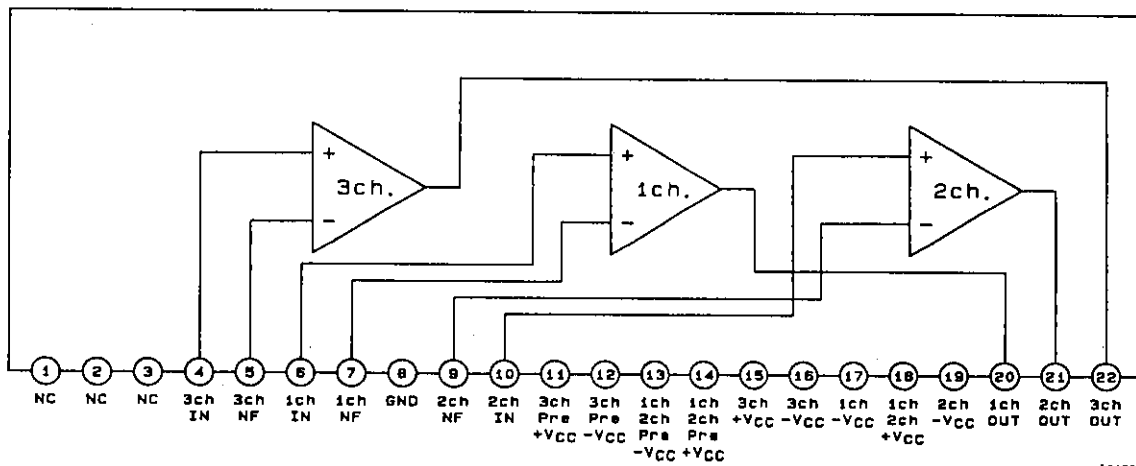
Maximum Ratings at  $T_a = 25^\circ\text{C}$

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

Operating Characteristics at  $T_a = 25^\circ\text{C}$ ,  $R_g = 50\Omega$

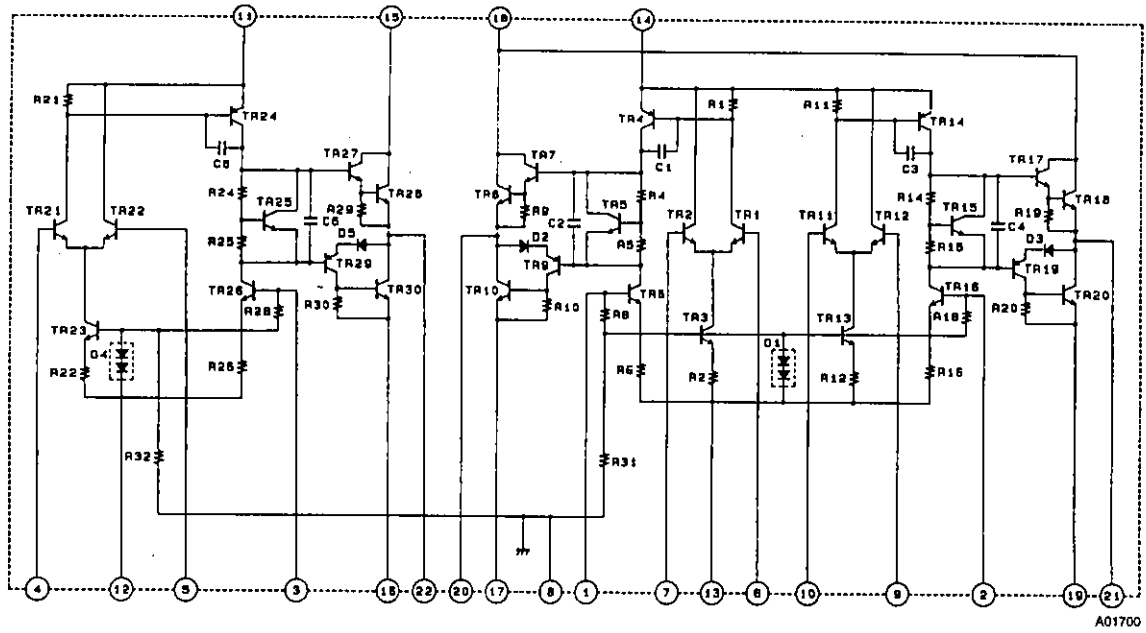
Parameter	Symbol	Conditions	min	typ	max	Unit
Output noise voltage	$V_{NO}$	$V_{CC} = \pm 40\text{V}$	-	-	0.2	mVrms
Quiescent current	$I_{CCO}$	$V_{CC} = \pm 40\text{V}$	30	90	150	mA
Neutral voltage	$V_N$	$V_{CC} = \pm 40\text{V}$	-50	0	+50	mV
Output delay time	$t_D$	$V_{CC} = \pm 40\text{V}$ , $f = 64\text{kHz}$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

## Block Diagram

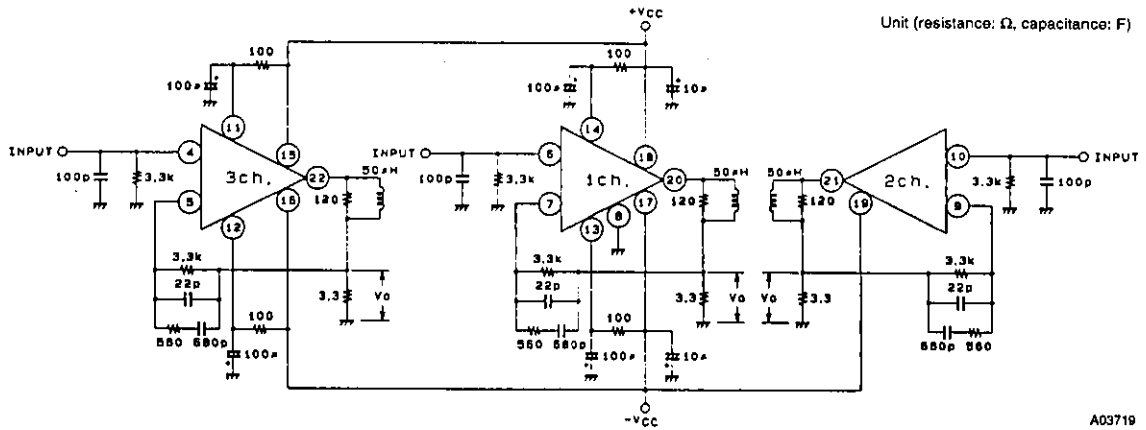


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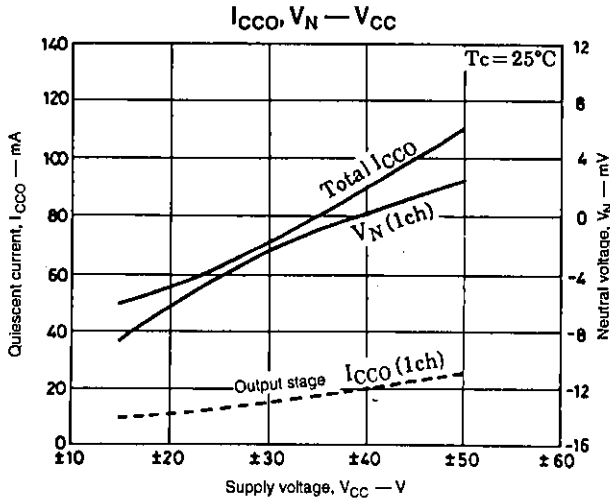
Equivalent Circuit



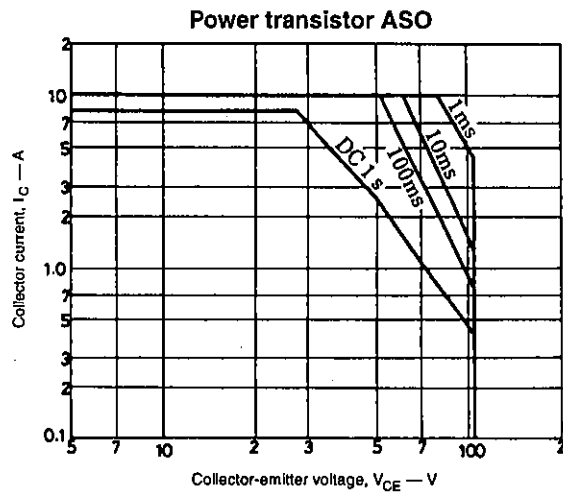
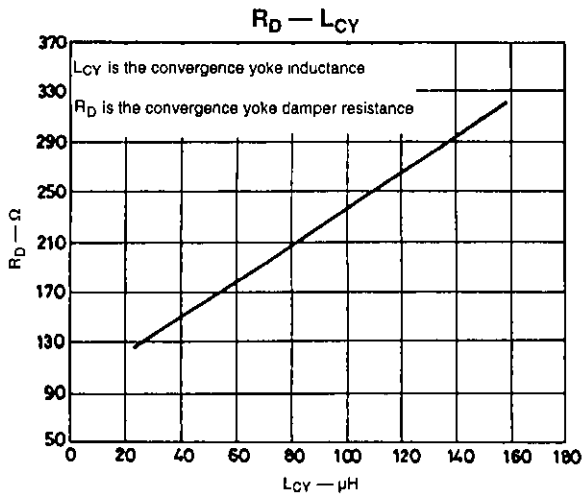
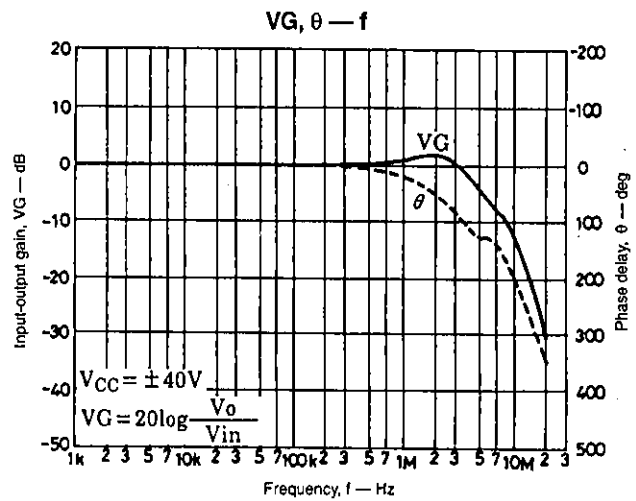
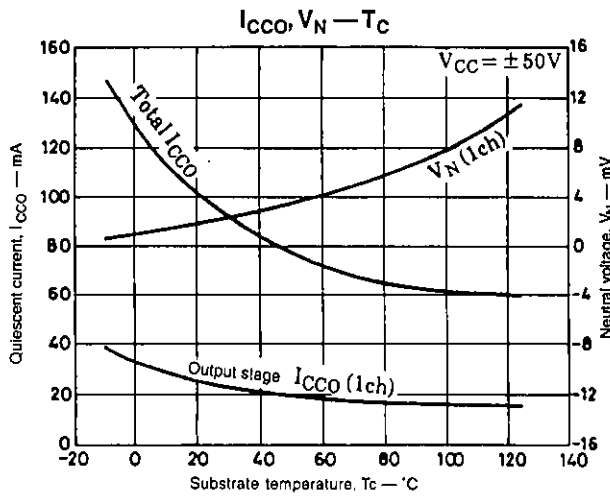
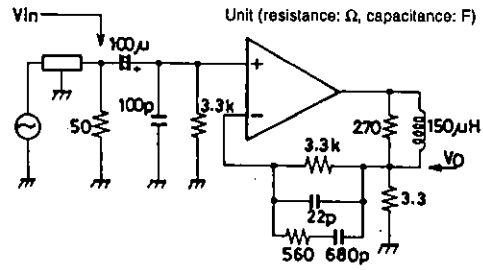
Test Circuit



Vo:  $V_{N0}$  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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