

|                                                                                   |                                                                                       |            |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------------|
|  | No. 5080                                                                              | STK392-010 |
|                                                                                   | <b>3-Channel Convergence Correction Circuit</b><br><b>(<math>I_C</math> max = 5A)</b> |            |

## Overview

The STK392-010 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

- General video projectors

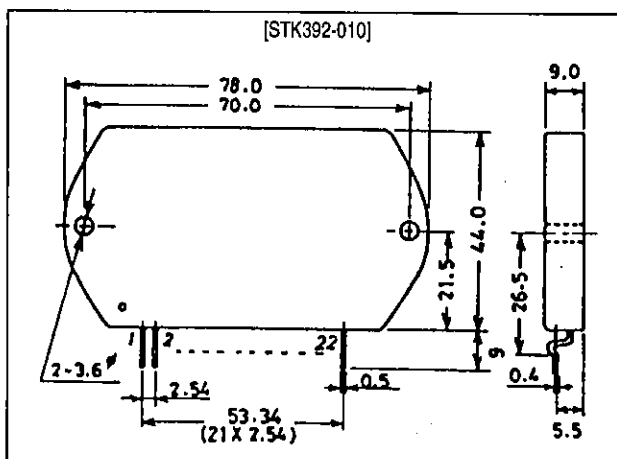
## Features

- 3 output amplifier circuits in a single package (22-pin)
- High absolute maximum supply voltage ( $V_{CC}$  max =  $\pm 38V$ )
- Low thermal resistance ( $\theta_{j-c}$  =  $2.6^{\circ}C/W$ )
- 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

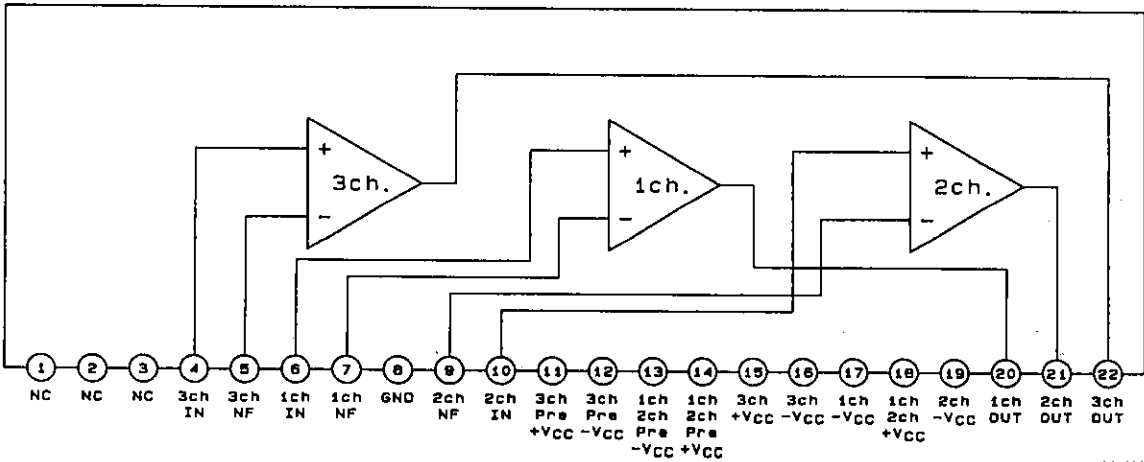
Maximum Ratings at Ta = 25°C

| Parameter                       | Symbol              | Conditions                                  | Ratings     | Unit |
|---------------------------------|---------------------|---------------------------------------------|-------------|------|
| Maximum supply voltage          | V <sub>CC</sub> max |                                             | ±38         | V    |
| Maximum collector current       | I <sub>C</sub>      | Tr8, 10, 18, 20, 28, 30                     | 5.0         | A    |
| Thermal resistance              | θj-c                | Tr8, 10, 18, 20, 28, 30<br>(per transistor) | 2.6         | °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 = 50Ω

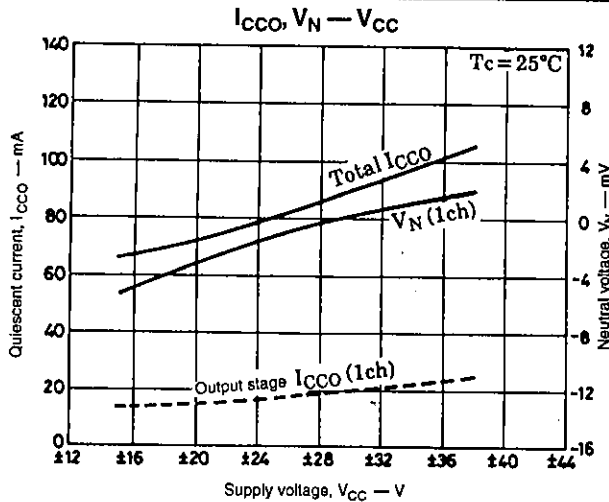
| Parameter            | Symbol           | Conditions                                                                                    | min | typ | max | Unit  |
|----------------------|------------------|-----------------------------------------------------------------------------------------------|-----|-----|-----|-------|
| Output noise voltage | V <sub>NO</sub>  | V <sub>CC</sub> = ±30V                                                                        | -   | -   | 0.2 | mVrms |
| Quiescent current    | I <sub>CCO</sub> | V <sub>CC</sub> = ±30V                                                                        | 30  | 90  | 150 | mA    |
| Neutral voltage      | V <sub>N</sub>   | V <sub>CC</sub> = ±30V                                                                        | -50 | 0   | +50 | mV    |
| Output delay time    | t <sub>D</sub>   | V <sub>CC</sub> = ±30V, f = 15.75kHz,<br>triangular wave input,<br>V <sub>OUT</sub> = 1.5Vp-p | -   | -   | 1.0 | μs    |
| Frequency response   | f <sub>H</sub>   | V <sub>CC</sub> = ±30V, -3dB, (0dB at<br>1kHz), sine wave input,<br>V <sub>in</sub> = 50mVp-p | -   | 1.8 | -   | MHz   |

Block Diagram

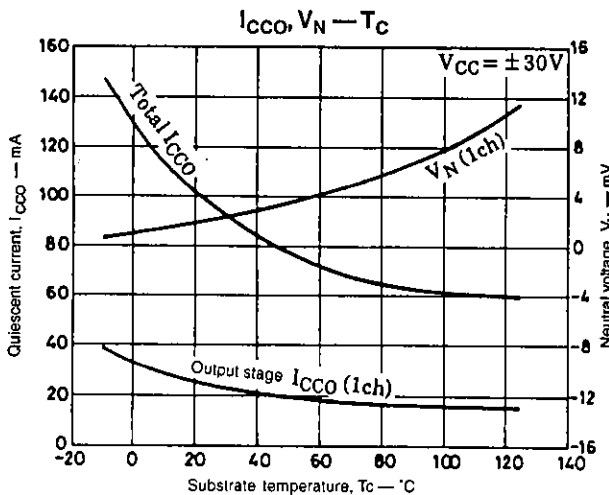
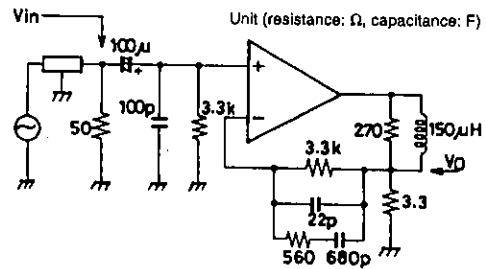


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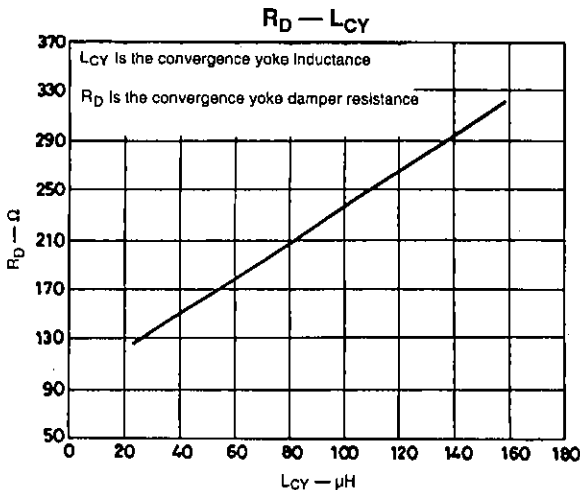
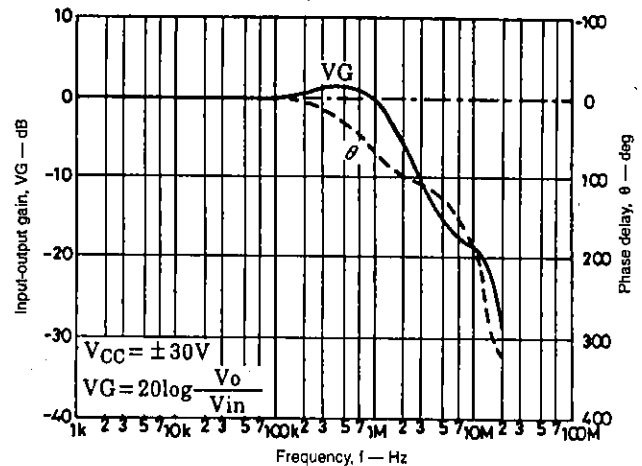




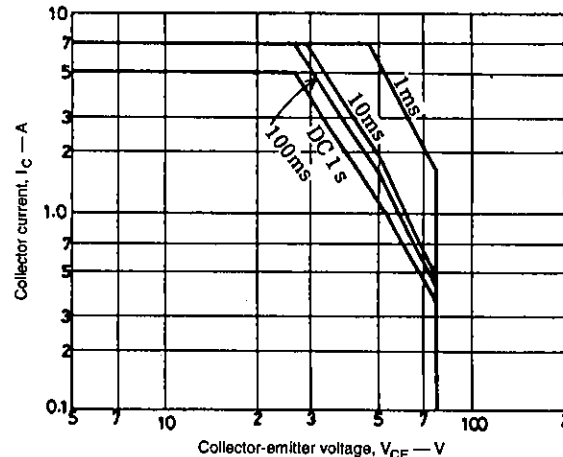
Test circuit



$V_G, \theta - f$



Power transistor ASO



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