

**LA7890****RGB Cutoff Adjustment IC**

## Overview

The LA7890 is a DC-controlled, CRT display RGB cutoff adjustment IC. It can be used for a wide range of applications, regardless of whether they employ a Trinitron tube or a dot-matrix tube display.

## Function

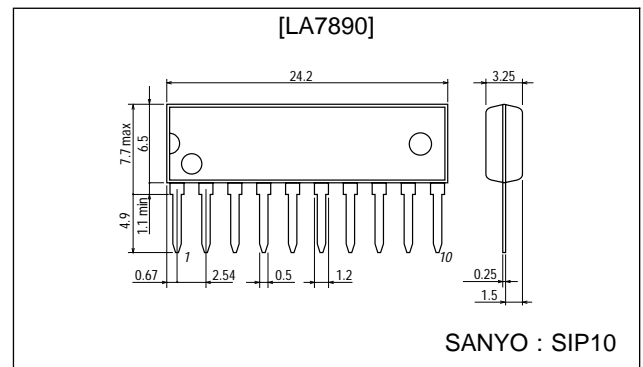
- Operational amplifier

## Features

- DC control
- Temperature drift stability
- 100 V maximum supply voltage

## Package Dimensions

unit : mm

**3043A-SIP10**

## Specifications

### Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V <sub>CC</sub> max		100	V
Allowable power dissipation	Pd max	Ta ≤ 75°C	400	mW
Operating temperature	Topr		-10 to +75	°C
Storage temperature	Tstg		-55 to +150	°C

### Recommended Operating Conditions at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V <sub>CC</sub>		80	V
Operating supply voltage	V <sub>CC</sub> op		60 to 90	V

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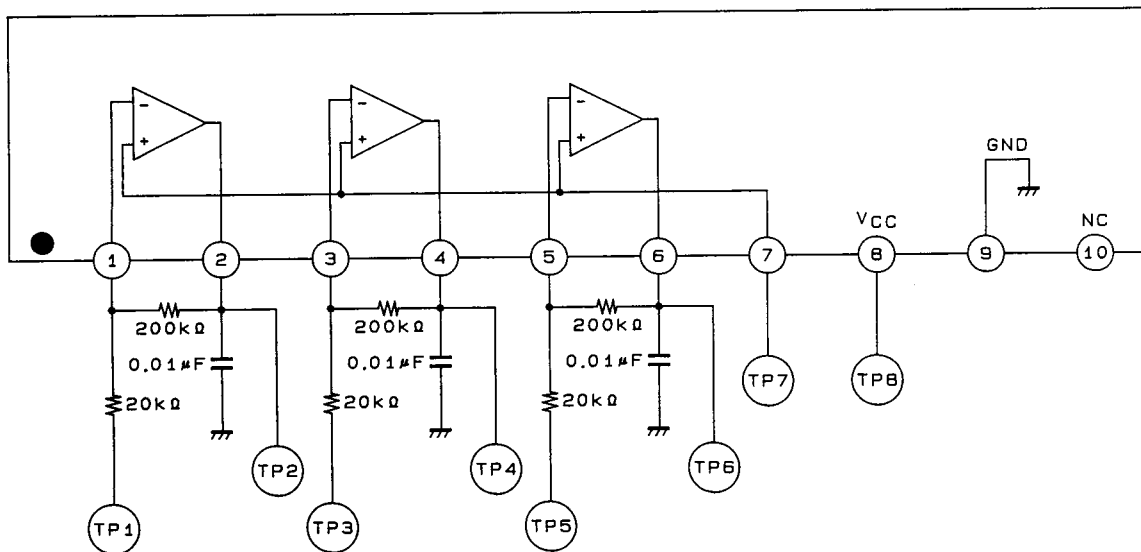
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# LA7890

## Operating Characteristics at $T_a = 25^\circ\text{C}$ , $V_{CC} = 80\text{ V}$

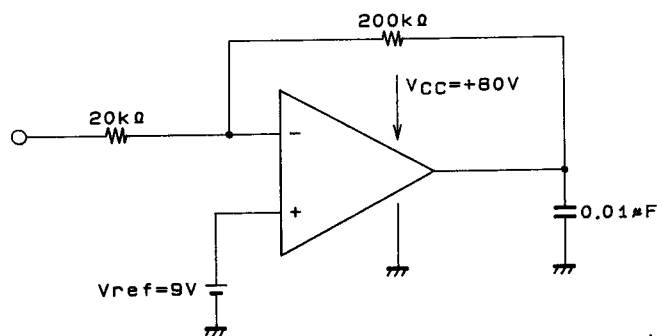
Parameter	Symbol	Conditions	min	typ	max	Unit
Current drain	$I_{CC}$	When 6 V DC is applied to TP1, TP3 and TP5, and 9 V is applied to TP7	1.9	2.2	2.7	mA
Minimum reference voltage	$V_{REF\ min}$	Reference value	0			V
Maximum reference voltage	$V_{REF\ max}$	Reference value			75	V
Minimum output voltage	$V_{OUT\ min\ (R)}$	When 12 V DC is applied to TP1, TP3 and TP5, and 9 V is applied to TP7			0.3	V
	$V_{OUT\ min\ (G)}$				0.3	V
	$V_{OUT\ min\ (B)}$				0.3	V
Maximum output voltage	$V_{OUT\ max\ (R)}$	When 0 V DC is applied to TP1, TP3 and TP5, and 9 V is applied to TP7	77			V
	$V_{OUT\ max\ (G)}$		77			V
	$V_{OUT\ max\ (B)}$		77			V
High-level output voltage	$V_{OUT\ high\ (R)}$	When 3 V DC is applied to TP1, TP3 and TP5, and 9 V is applied to TP7	67	69	71	V
	$V_{OUT\ high\ (G)}$		67	69	71	V
	$V_{OUT\ high\ (B)}$		67	69	71	V
Mid-level output voltage	$V_{OUT\ mid\ (R)}$	When 6 V DC is applied to TP1, TP3 and TP5, and 9 V is applied to TP7	37	39	41	V
	$V_{OUT\ mid\ (G)}$		37	39	41	V
	$V_{OUT\ mid\ (B)}$		37	39	41	V
Low-level output voltage	$V_{OUT\ low\ (R)}$	When 9 V DC is applied to TP1, TP3 and TP5, and 9 V is applied to TP7	7	9	11	V
	$V_{OUT\ low\ (G)}$		7	9	11	V
	$V_{OUT\ low\ (B)}$		7	9	11	V

## Internal Equivalent Circuit Block Diagram



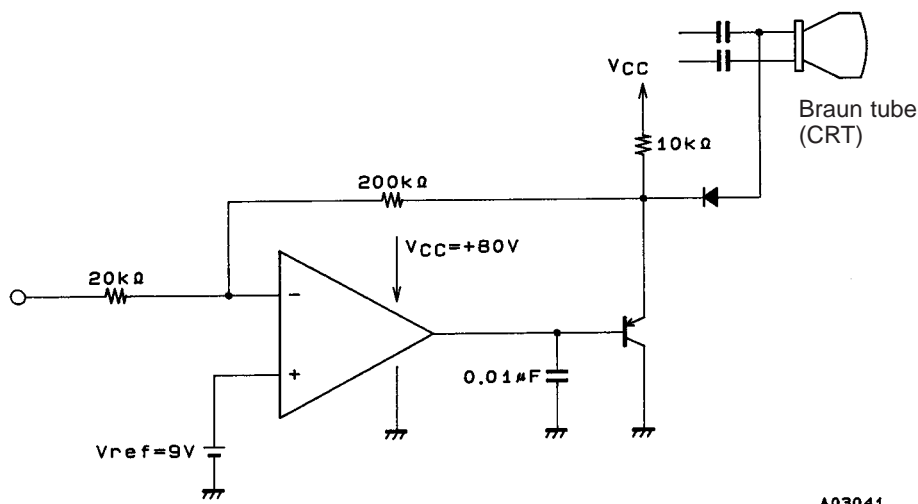
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## Test Circuit



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## Sample Application Circuit



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