TBA396-N

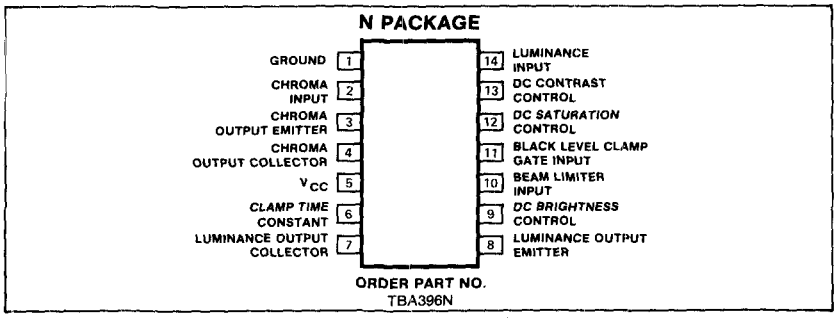
DESCRIPTION

Luminance and chrominance combination circuit designed for use in PAL television receivers.

FEATURES

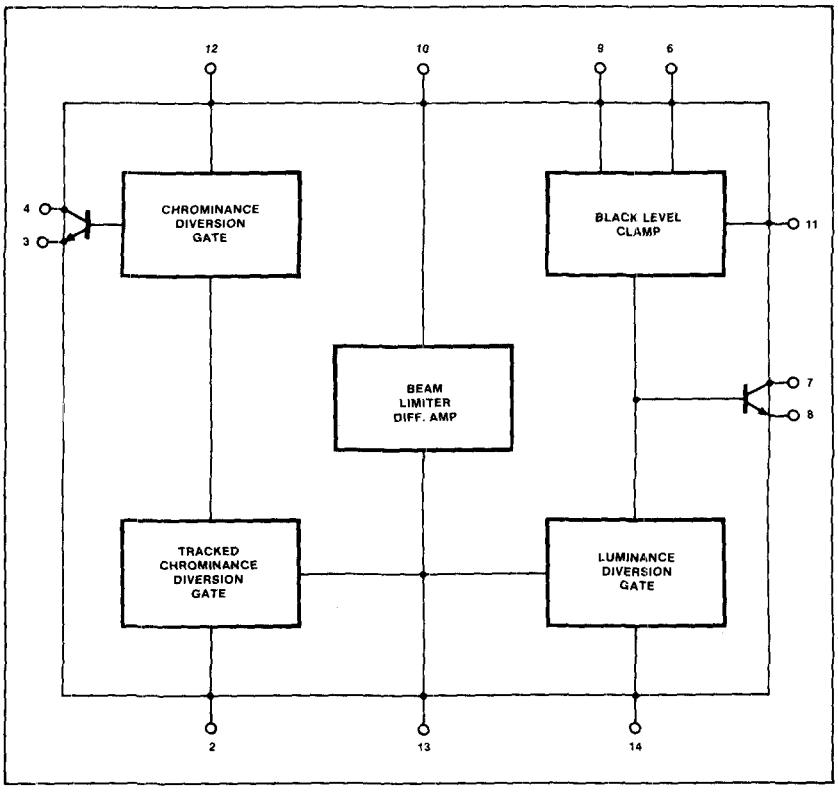
- **DC control of brightness, contrast and saturation**
- **Tracking of saturation with contrast control changes**
- **Beam current limiting**
- **Black level clamping**
- **Designed to be used in conjunction with TBA395 and TBA327/MC1327**

PIN CONFIGURATION



ORDER PART NO.
TBA396N

SYSTEM BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS T_A = +25°C unless otherwise specified.

PARAMETER	RATING	UNIT
Supply voltage	20	V
Luminance output collector voltage	30	V
Luminance output emitter current	7.0	mA
Chrominance output emitter current	5.0	mA
Operating temperature range	0 to +70	°C
Power dissipation (package limitation)	625	mW
Derate above T_A = +25°C	5.0	mW/°C
Storage temperature range	-65 to +150	°C

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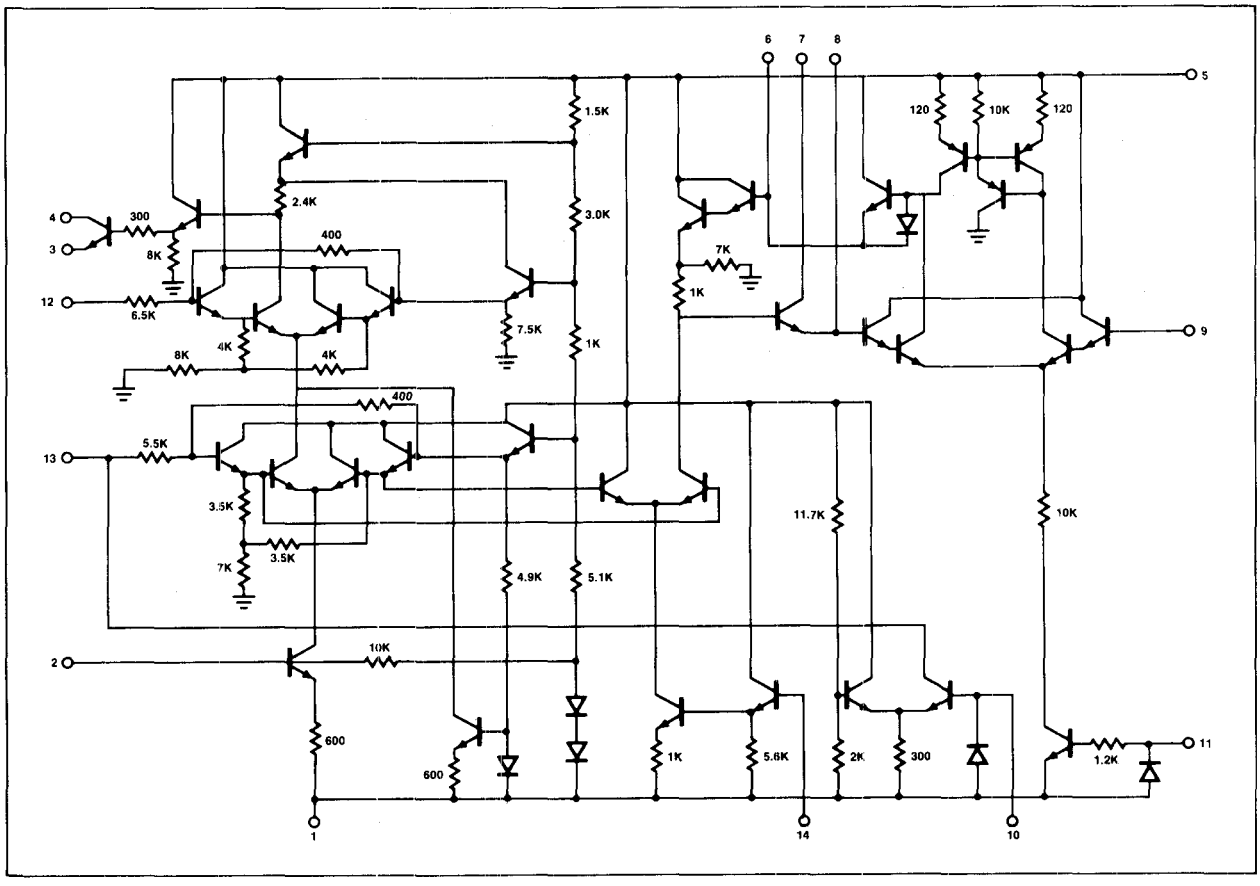
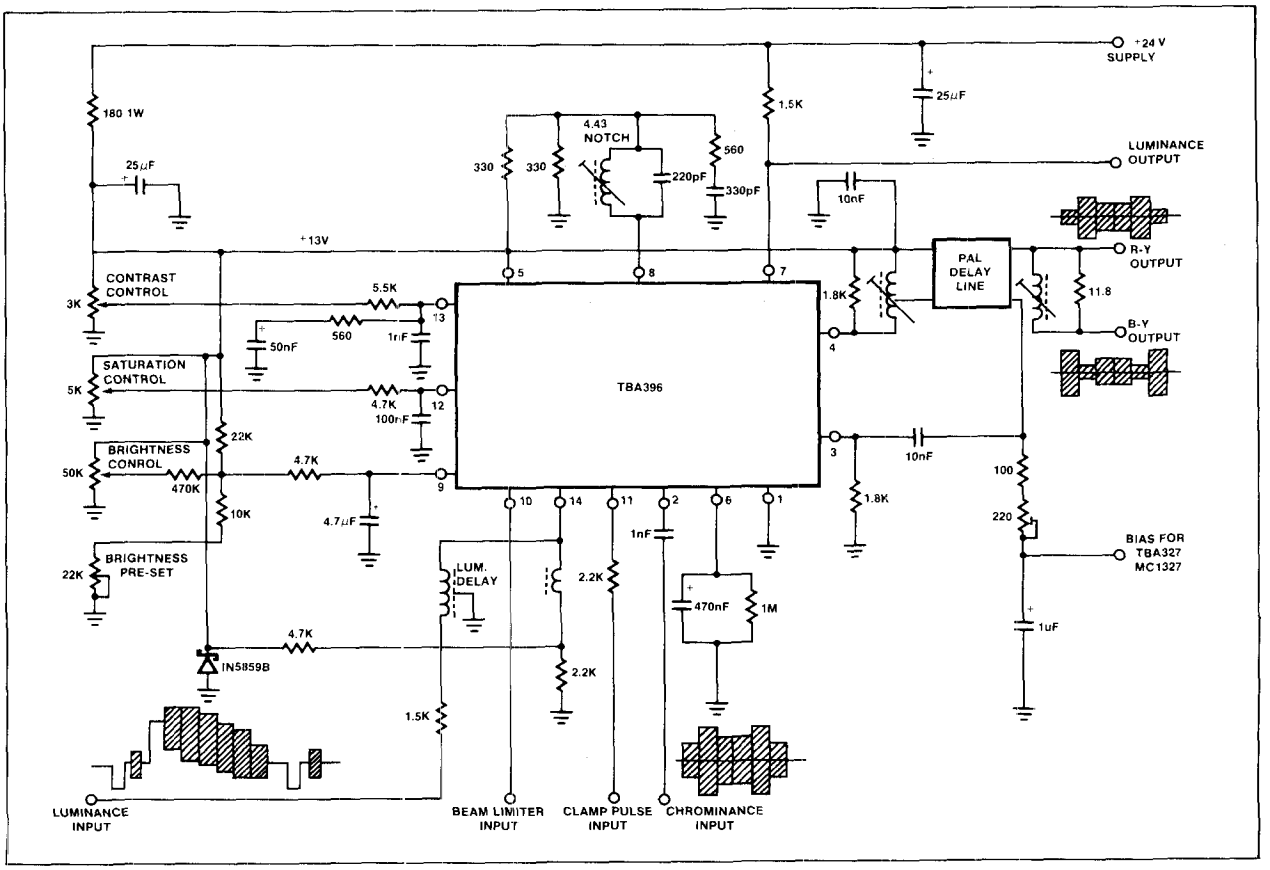
EQUIVALENT SCHEMATIC



GENERAL ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	TBA396			UNIT
		Min	Typ	Max	
Luminance input resistance		100			kΩ
Luminance gain		0.6	1.0	1.2	
Change of black level with contrast and signal changes	Black to white 4μs gating			3.0	%
Black level clamp gating pulse		50		1000	μA
Contrast control range		35			dB
Saturation control range		35			dB
3dB luminance bandwidth	Resistive load		7.5		MHz
Video input aperture		1.4		3.4	Vp-p
Chrominance input resistance		5.0			kΩ
Chrominance voltage gain	Resistive load	2.5	3.0	5.0	
Chrominance phase shift with saturation control				±3	%
Chrominance phase shift with contrast control				±3	%
Chrominance/Luminance tracking error with contrast control				±2	dB
Threshold of beam limiter		1.8	2.0	2.2	V

TYPICAL CIRCUIT CONFIGURATION



APPLICATION NOTES

- **The dc controls are relatively insensitive to interference if the decoupling associated with these lines is close to the IC.**
- **Good decoupling is required close to the "cold" end of the PAL delay line driving coil to prevent spurious subcarrier components reaching the IC supply line.**

SETTING UP PROCEDURE

The pre-set brilliance control must be adjusted to give the correct black level of +16.5V at pin 7. If the color demodulator IC TBA327/MC1327 is used to complete the system a voltage of +7.5V at the chroma outputs can be set using the same procedure.

This operation must be performed with the brilliance control at the center of its range.