

**DESCRIPTION**

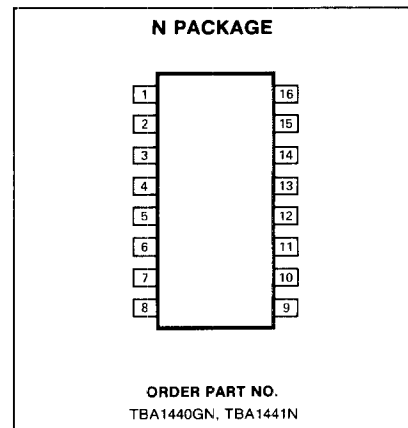
The TBA1440G (for pnp tuner pre-stages) and TBA1441 (for npn tuner pre-stages) have been developed from the TBA440P/N. Their improvements are as follows:

- Reduced residual IF at outputs 11 and 12
- Reduced residual IF at pin 13
- Considerably improved intermodulation distance
- Excellent tuning attitude even with low-ohmic tank circuit at demodulator

The IC's contain a high-amplifying controllable video IF amplifier, a controlled demodulator and two low-resistance video outputs

with positive- and negative-going signals as well as the complete keyed control and delayed tuner control.

- Large control range with low noise and wide dynamic range
- High sensitivity
- Controlled demodulator, so minimum 1.07MHz disturbances
- Internal temperature stabilization
- The white levels of the video signals at the positive and negative video output are independent of the operating voltage
- The white and black levels can be adjusted separately



**ABSOLUTE MAXIMUM RATINGS**

PARAMETER	RATING	UNIT
V <sub>13</sub> Supply voltage	15*	V
V <sub>4</sub> Voltages	5	V
V <sub>5</sub>	20	V
V <sub>14</sub>	5	V
R <sub>8-9</sub> Ohmic resistance between pins 8 and 9	≤ 20	Ω
R <sub>THSA</sub> Thermal resistance (system-air)	100	K/W
T <sub>J</sub> Junction temperature	150	°C
T <sub>S</sub> Storage temperature	-40 to +125	°C
V <sub>13</sub> Supply voltage range	10.5 to 15	V
T <sub>A</sub> Ambient temperature in operation	-25 to +60	°C

\*NOTE  
Briefly 16.5V

**DC ELECTRICAL CHARACTERISTICS**

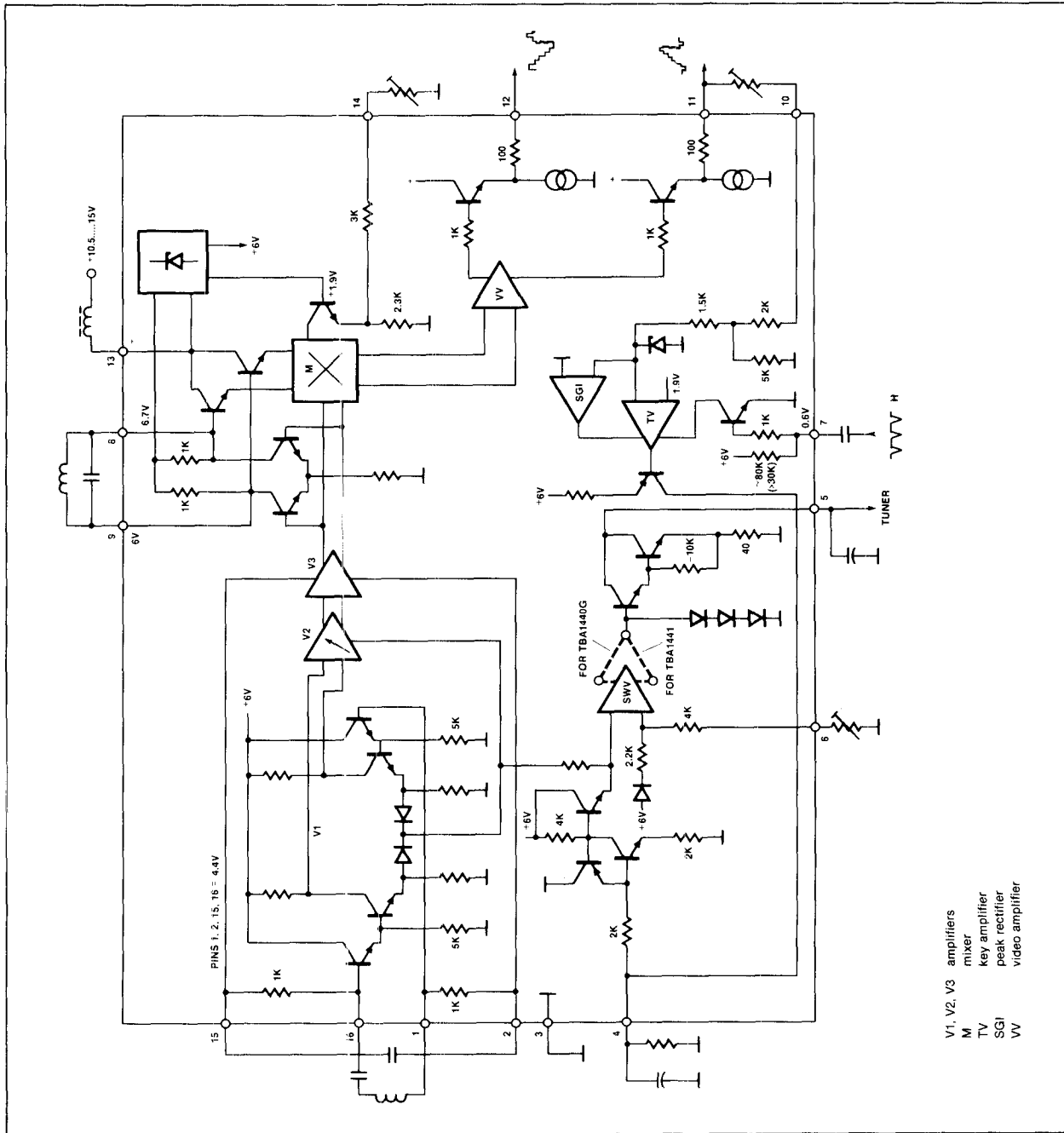
V<sub>13</sub> = 13V, f<sub>IF</sub> = 38.9MHz; T<sub>A</sub> = 25°C; all data with reference to ground, unless otherwise specified.

PARAMETER	TEST CONDITIONS	TBA1440G/1441			UNIT
		Min	Typ	Max	
I <sub>13</sub> Current consumption	V <sub>13</sub> = 15V	34	47	60	mA
V <sub>11</sub> DC voltage at output 11	V <sub>13</sub> = 15V; V <sub>1</sub> = 0 R <sub>14-3</sub> = ∞ R <sub>14-3</sub> = 0		5.5		V
			9.6		V
V <sub>12</sub> DC voltage at output 12	V <sub>13</sub> = 15V; V <sub>1</sub> = 0 R <sub>14-3</sub> = ∞ R <sub>14-3</sub> = 0		1.9		V
			3.5		V
V <sub>10</sub> = V <sub>11</sub> AGC threshold	V <sub>10</sub> = sync pulse level for R <sub>10-11</sub> = 0		1.9		V
V <sub>11sync</sub> Sync pulse level with async or without gating pulses	Peak level control		.5		V
V <sub>4</sub> IF control voltage	For max. gain For min. gain	0		.5	V
		2.5		5	V
-V <sub>7</sub> Gating pulse voltage		2		5	V
I <sub>11</sub> ; I <sub>12</sub> Output current	To ground TO +V <sub>13</sub>			5	mA
				-1	mA

NOTES

1. According to test circuit; V<sub>1</sub> = effective sync pulse level at 60Ω.
2. Test level a<sub>cc</sub> = -3dB  
a<sub>sc</sub> = -20dB referring to picture carrier.

EQUIVALENT SCHEMATIC



**AC ELECTRICAL CHARACTERISTICS** ( $V_{13} = 13V$ ;  $f_{11F} = 38.9MHz$ ;  $T_A = 25^\circ C$ ; all data with reference to ground, unless otherwise specified.)

PARAMETER	TEST CONDITIONS	TBA1440G/1441			UNIT
		Min	Typ	Max	
$\Delta V_{11}/\Delta V_{13}$ White level deviation $\Delta V_{12}/\Delta V_{13}$			100 20		mV/V mV/V
$R_{14-3}$ $R_{10-11}$	Resistance for $\Delta V_{11} = 1V$ Resistance for sync pulse level deviation of 1V		8.5 2.4		k $\Omega$ k $\Omega$
$I_5$	Control current for tuner prestage  $V_5 > 2V$ TBA1440G: 10dB after AGC TBA1441: 10dB previous to AGC	10	15		mA
$V_{11}; V_{12}$	Residual IF (basic frequency)		10		mV
$Z_{1-16}$	Input impedance	At max. gain At min. gain	1.8/2 1.9/0		k $\Omega$ /pF k $\Omega$ /pF
$V_1$ $B_{video}$	Input voltage <sup>1</sup> Video band width	$V_{11} = 3V_{PP}$ -3dB	70 6	100 7	$\mu V$ MHz
$\Delta G_v$ a	AGC range Intermodulation with reference color carrier <sup>2</sup>		55 45		dB dB
$Z_q$ 8-9	Output impedance		2/2.5		k $\Omega$ /pF

NOTES

- According to test circuit;  $V_1$  = effective sync pulse level at 60 $\Omega$ .
- Test level  $a_{cc} = -3dB$   
 $a_{sc} = -20dB$  referring to picture carrier.

**TYPICAL PERFORMANCE CHARACTERISTICS**

