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## NTE984 Integrated Circuit TV Video IF System

**Description:**

The NTE984 is a monolithic integrated circuit in a 16-Lead DIP type package designed to perform IF amplification, video detection, and video-amplifier functions in color and monochrome TV receivers.

**Features:**

- Improved AGC, Fast Response, Sample and Hold Keyed
- High Gain Wideband IF Amplifiers
- Delayed AGC Output for Tuner
- Gain Reduction with Excellent Stability
- Linear Video Detector
- Video Amplifier
- Low Noise
- Internal Shunt Regulator
- For Color or Monochrome

**Absolute Maximum Ratings:**

DC Supply Voltage:	
Between Pin15 and Pin4 .....	16V
Between 470Ω Connected to Pin12 and Pin14 .....	35V
DC Supply Current:	
At Pin15 .....	20mA
At Pin12 .....	30mA
Device Dissipation ( $T_A \leq +55^\circ\text{C}$ ), $P_D$ .....	750mW
Derate Linearly Above $+55^\circ\text{C}$ .....	7.9mW/ $^\circ\text{C}$
Operating Ambient Temperature Range, $T_A$ .....	$-40^\circ$ to $+85^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	$-65^\circ$ to $+150^\circ\text{C}$
Lead Temperature (During Soldering, 1/16" $\pm$ 1/32" from case, 10sec max), $T_L$ .....	$+265^\circ\text{C}$

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Operating Supply Voltage	$V_{15}$	Note 1	12.0	–	14.2	V
Supply Current	$I_{15}$		3	–	15	mA
Shunt Regulator Voltage	$V_{12}$		10.9	–	13.0	V
Shunt Regulator Current	$I_{12}$	$V_{12} = 10.5\text{V}$	6	–	20	mA
Tuner AGC High Voltage	$V_{10}$		18.5	–	21.0	V
Tuner AGC Low Voltage	$V_{10}$		0.3	–	1.3	V
AGC Current	$I_2$	Non-Keyed	80	–	500	$\mu\text{A}$
AGC Peak Current	$I_2$	Keyed Source Current	0.7	–	3.0	mA
		Keyed Sink Current	150	–	680	$\mu\text{A}$
Horizontal Key Input		Through $100\text{k}\Omega$ connected to Pin1	25	–	35	V
Video Output High Voltage	$V_{16}$	At Zero Carrier	7	–	10	V
Video Output Low Voltage	$V_{16}$	At $30\text{mV}$ Input	0.9	–	2.0	V
Sensitivity Voltage	$V_{16}$	At $400\mu\text{V}$ Input	0.9	–	5.0	V
Noise			–	–	12	$\text{mV}_{\text{rms}}$
Chroma		$45.75\text{MHz}$ , $10\text{mV}$ ; $42.17\text{MHz}$ , $3\text{mV}$	0.7	–	1.6	$\text{V}_{\text{rms}}$
AFT Drive			35	–	85	$\text{mV}_{\text{rms}}$
Distortion		$50\text{kHz}$ , 80% Modulated, Sync Tip Equiv. $30\text{mV}_{\text{rms}}$	–	–	10	%
Delay Voltage		Through $15\text{k}\Omega$ connected to Pin7, Note 2	0	–	$V_{15}$	V

Note 1  $V_{15}$  Min should be at least  $0.6\text{V}$  above Terminal 12 potential. Lower voltage may cause some “white” compression.

Note 2 Zero voltage corresponds to maximum delay at signal input +  $30\text{mV}_{(\text{RMS})}$ .

**Pin Connection Diagram**



