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## NTE1295 Integrated Circuit TV Signal Processor

**Description:**

The NTE1295 is an integrated circuit in an 18-Lead DIP type package designed for color TV deflection signal processing circuit. It can be operated with 12V power supply and is suitable for compact and medium-sized color TV sets.

**Features:**

- Built-In Vertical Deflection Driver Circuit
- Incorporating Vertical and Horizontal Oscillator Circuit, Operations Highly Stable Against Changes in Supply Voltage and Temperature.
- Highly Stable Synchronous Separation Circuit Against Noise
- Built-In High Tension Protector Circuit (X-Ray Protection)
- 12V Supply Voltage Operation.

**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$ , Note 1 unless otherwise specified)

Supply Voltage	
$V_{7-8}$ .....	10.5V
$V_{15-8}$ .....	14.4V
Circuit Voltage	
$V_{1-8}$ .....	0 to 10V
$V_{10-8}$ .....	0 to $V_{15-8}$
$V_{12-8}$ .....	0 to $V_{15-8}$
$V_{17-8}$ .....	-0.6 to 6.0V
$V_{18-8}$ .....	-3 to +2V
Supply Current	
$I_7$ .....	15mA
$I_{15}$ .....	20mA
Circuit Current	
$I_2$ .....	-3 to +3mA
$I_3$ .....	-5 to 0mA
$I_4$ .....	-5 to +5mA
$I_5$ .....	-1 to +1mA
$I_6$ .....	-20 to 0mA
$I_9$ .....	-15 to 0mA
$I_{12}$ .....	-1 to +150mA
$I_{13}$ .....	0 to 40mA
Power Dissipation, $P_D$ .....	450mW
Operating Ambient Temperature Range, $T_{opr}$ .....	-20° to +70°C
Storage Temperature Range, $T_{stg}$ .....	-55° to +150°C

Note 1.  $\oplus$  and  $\ominus$  are flow-in and flow-out currents to/from the circuit, respectively.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Circuit Current	$I_7$	Apply 12V with 240 $\Omega$ to Pin7	7.5	11.2	15.0	mA
	$I_{15}$	$V_{15-8} = 12\text{V}$	15.5	23.0	32.0	mA
Protector Operating Voltage	$V_{5-8}$	Apply 12V with 240 $\Omega$ to Pin7	0.64	0.70	0.76	V
Oscillation Starting Voltage (V • $O_{sc}$ )	$V_{OSC-S}$	$f_{VO} = 40$ to 70Hz, 1.0V $_{P-P}$ or More	–	–	6.2	V
Vertical Oscillation Frequency	$f_{VO}$	$V_{CC1} = 12\text{V}$	53	55	58	Hz
$f_{VO}$ Change with Supply Voltage	$\Delta f_{VO}/V_{CC}$	$f_{VO} _{9.6\text{V}}$ to $f_{VO} _{14.4\text{V}}$	0	0.93	1.3	Hz
Pulse Width (V • $O_{sc}$ )	$\tau$	$V_{CC1} = 12\text{V}$	500	600	820	$\mu\text{s}$
Vertical Pull-In Range	$f_{VP}$	$R_{OSC} = 10.93\text{k}\Omega$ , ( $f_{VO} = 48 \pm 1.5\text{Hz}$ )	–	–	50	Hz
Vertical Sawtooth Wave Amplification	$V_{(saw)}$	$R_{SAW} = 26.4\text{k}\Omega$	1.8	2.0	2.2	V $_{P-P}$
$f_{VO}$ Change with Ambient Temperature	$\Delta f_{VO}/T_A$	$T_A = -20^\circ$ to $+70^\circ\text{C}$ , Note 2	–220	–170	0	ppm/ $^\circ\text{C}$
$V_{(saw)}$ Change with Ambient Temperature	$\Delta V_{(saw)}/T_A$	$T_A = -20^\circ$ to $+70^\circ\text{C}$ , Note 2	–	–	30	mV $_{P-P}/^\circ\text{C}$
Vertical Output Tr Drive Current	$I_9$		–	–	7.5	mA
Oscillation Starting Voltage (H • $O_{sc}$ )	$V_{OSC-S}$	$f_{HO} = 10$ to 20kHz, 1.4V $_{P-P}$ or More ( $V_{CC2} = 6.5\text{V}$ )	–	–	6	V
Horizontal Oscillation Frequency	$f_{HO}$	$V_{CC2} = 12\text{V}$	15.0	15.6	16.25	kHz
$f_{HO}$ Change with Supply Voltage	$\Delta f_{HO}/V_{CC}$	$f_{HO} _{13\text{V}}$ to $f_{HO} _{10\text{V}}$	0	25	45	Hz
Pulse Width Duty Ratio (H • $O_{sc}$ )	$\tau$	$V_{CC2} = 12\text{V}$	32.0	36.0	39.5	%
$f_{HO}$ Control Sensitivity	$\beta$	$I_O = \pm 100\text{mA}$	19	21	23	Hz/ $\mu\text{A}$
$f_{HO}$ Change with Ambient Temperature	$\Delta f_{HO}/T_A$	$T_A = -20^\circ$ to $+70^\circ\text{C}$ , Note 2	–210	–100	0	ppm/ $^\circ\text{C}$
AFC Loop Gain	$f_{AFC}$	$\mu \times \beta$	5800	7700	9600	Hz/rad

Note 2. Design reference value.



