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NTE700
Integrated Circuit
TV Chroma System

Description:

The NTE700 is a monolithic integrated circuit in a 16–Lead DIP type package that performs the functions of subcarrier regeneration, ACC and APC detection, and tint control in color television receivers. It is designed to function compatibly with the NTE743 TV Chroma Amplifier/Demodulator in a 2–package chroma system.

The NTE700 is a TV Chroma System equivalent to the NTE982 except that the typical supply voltage is +12V and no internal shunt regulator is incorporated.

Features:

- Voltage–Controlled Oscillator
- Keyed APC and ACC Detectors
- DC Hue Control
- Operates From +12V

Absolute Maximum Ratings:

DC Supply Voltage 15V
Device Dissipation (Up to T_A = +55°C) 630mW
Derate Linearly Above +55°C . . . . . 6.6mW/°C
Operating Ambient Temperature Range . . . . . –40° to +85°C
Storage Temperature Range . . . . . –65° to +150°C
Lead Temperature (During Soldering, 1/16” from case, 10sec max) . . . . . +265°C

Electrical Characteristics: (T_A = +25°C, V+ = 12V unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Supply Current	I+		12	–	24	mA
Oscillator Current	I_2		4.25	–	8.55	mA
ACC Output Balance		Measure Pin15 to Pin16	–330	–	300	mV
APC Output Balance		Measure Pin11 to Pin12	–450	–	450	mV
Oscillator Balance		Measure Pin7 to Pin8	–330	–	330	mV

Electrical Characteristics (Cont'd): (T_A = +25°C, V+ = 12V unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Dynamic Characteristics (e_{IN} = 0.4V_{P-P} Sine Wave)						
Oscillator Center Frequency	f_O	Set R for f_O = 3.579545 ±5Hz	–	–	–	Hz
Oscillator Frequency Deviation	f_O1		–400	–	400	Hz
Oscillator Frequency Deviation	$\|\Delta f_O\|$	V+ = 12V ±1V	–	–	175	Hz
Oscillator Pull–In Range, High Side		Osc. must pull–in and lock to e_{IN} at: f_{IN} = 3.579745MHz	200	–	–	Hz
Oscillator Pull–In Range, Low Side		Osc. must pull–in and lock to e_{IN} at: f_{IN} = 3.579345MHz	–200	–	–	Hz
Dynamic ACC		Measure Pin15 to Pin16, Record value (V1)	–75	–	75	mV
ACC Control		Measure Pin15 to Pin16, f_{IN} = 3.579545MHz	Record Value (V2)			mV
ΔACC Control		Limits for ΔACC Control = V2 – V1	120	–	250	
Dynamic APC		Tap of R to GND	1	–	12	V

Pin Connection Diagram