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NTE1483
Integrated Circuit
Video IF System

Description:
The NTE1483 is a silicon monolithic integrated circuit in a 22–Lead DIP type package designed for use in the PIF section in color TV receivers. As it contains a separate picture detector and sound IF detector, this device offers low buzz characteristics. The NTE1483 has all functions including picture IF amplifier (4th), picture low–level detector, sound IF detector, AFC detector, IF AGC, RF AGC and picture amplifier.

Features:
- Low Buzz Characteristics for Audio Multiplex TV
- High Input Sensitivity
- Wide AGC Control Range
- Contains Differential Mode Input for use with SAW Filter

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)
Supply Voltage (Pin13), V_{13}max 15V
Pin22 Current, I_{22}max 100mA
Pin14 Current, I_{14}max . . . . . ±3mA
Power Dissipation ($T_A \leq$ +65°C), P_D 900mW
Operating Temperature Range, T_{opr} . . . . . –15° to +65°C
Storage Temperature Range, T_{stg} . . . . . –40° to +125°C

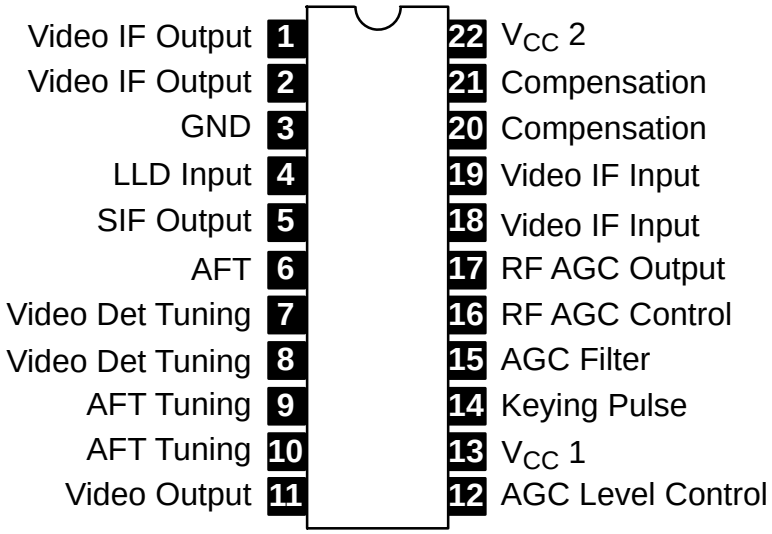
Electrical Characteristics: (T_A = +25°C, V_{CC} = 12V, R_A = 120Ω, f_p = 58.75MHz unless otherwise specified)

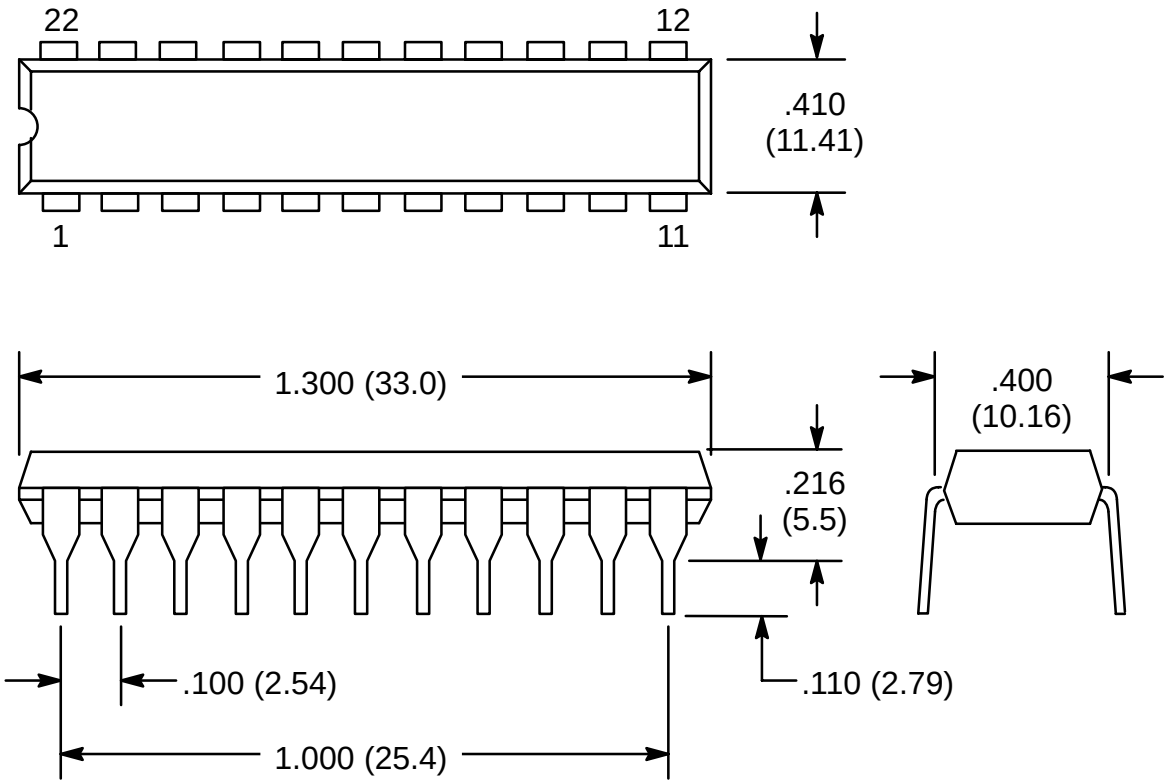
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Supply Current	I_{CC}	Zero Carrier	55	70	90	mA
Pin13 Current	I_{13}	Zero Carrier	20	30	40	mA
Pin22 Curent	I_{22}	Zero Carrier	35	40	50	mA
Pin22 Voltage	V_{22}		6.6	7.2	7.6	V
Maximum RF AGC Voltage	V_{17H}	V_{16} = 7V	9.0	9.2	10.0	V
Minimum RF AGC Voltage	V_{17L}	V_{16} = 0	–	0	0.5	V
Pin11 Voltage	V_{11}		3.7	4.1	4.7	V

Electrical Characteristics (Cont'd): (T_A = +25°C, V_{CC} = 12V, R_A = 120Ω, f_p = 58.75MHz unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Pin10 Voltage	V_{10}		5.0	6.5	7.7	V
Maximum AFT Output Voltage	V_{10H}	V_7 = 4.8V, V_8 = 5.1V	11.0	–	–	V
Minimum AFT Output Voltage	V_{10L}	V_7 = 5.1V, V_8 = 4.8V	–	–	1.0	V
Input Sensitivity	$v_{i(lim)}$	fm = 400Hz, m = 40%, $v_o = 0.8V_{P-P}$	25	32	41	dBμ
AGC Range	G.R.	fm = 10kHz, m = 40%, $v_o = 0.8V_{P-P}$	60	80	–	dB
Maximum Input Voltage	$v_{i(Max)}$	fm = 10kHz, m = 40%, $v_o = 0.8V_{P-P}$	100	55	–	mV_{rms}
Signal–to–Noise Ratio	S/N	fm = 15.75kHz, m = 80%, $v_o = 1.5V_{P-P}$, $v_i = 10mV_{rms}$	50	–	–	dB
SIF Output Voltage	$v_{o(SIF)}$	fm = 400Hz, m = 40%, $v_{i(P)} = 3mV_{rms}$, f_s = 54.25MHz, $v_{i(s)} = 300\mu V_{rms}$	12	25	50	mV_{rms}
Carrier Leak	$CL_{(DET)}$	$v_i = 20mV_{rms}$	–	5	50	mV_{rms}
Picture Frequency Response	f_C	m = 40%, $v_i = 20mV_{rms}$	5	13	–	MHz
Differential Gain	DG	f_p = 58.75MHz, Stair Step, fm = 3.58MHz, m = 85%, 14% Modulated White to Sync Level, $v_{o(DET)} = 1.4V_{P-P}$	–	5	–	%
Differential Phase	DP		–	5	–	deg
AFT Control Sensitivity	S_f	fm = 400Hz, m = 40%, $v_o = 0.8V_{P-P}$	50	150	–	mV/kHz
AFT Band Width	BW	fm = 400Hz, m = 40%, $v_o = 0.8V_{P-P}$	0.2	1.1	2.1	MHz
PIF Input Resistance	R_i		–	1.5	–	kΩ
PIF Input Capacitance	C_i		–	3.5	–	pF

Pin Connection Diagram




22
12
.410
(11.41)
1
11
1.300 (33.0)
.400
(10.16)
.216
(5.5)
.100 (2.54)
.110 (2.79)
1.000 (25.4)