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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 (4^{th}), 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

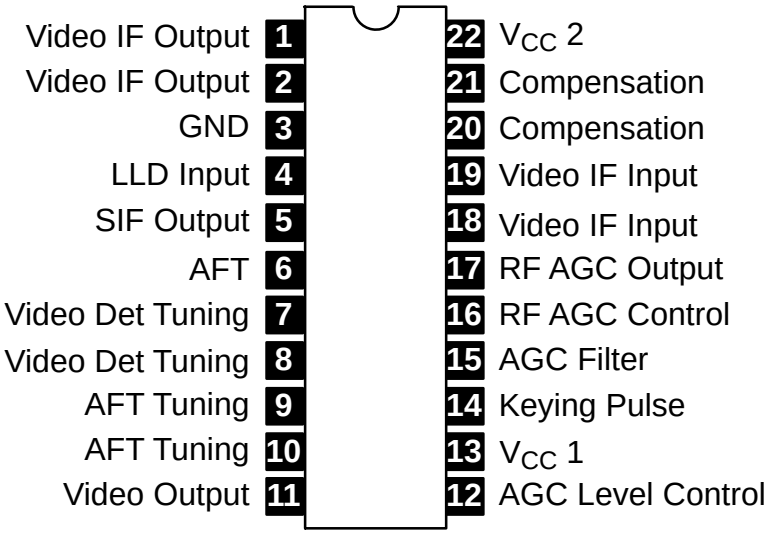
Electrical Characteristics: (T_A = +25°C, V_{CC} = 12V, R_A = 120Ω, f_p = 58.75MHz unless otherwise specified)

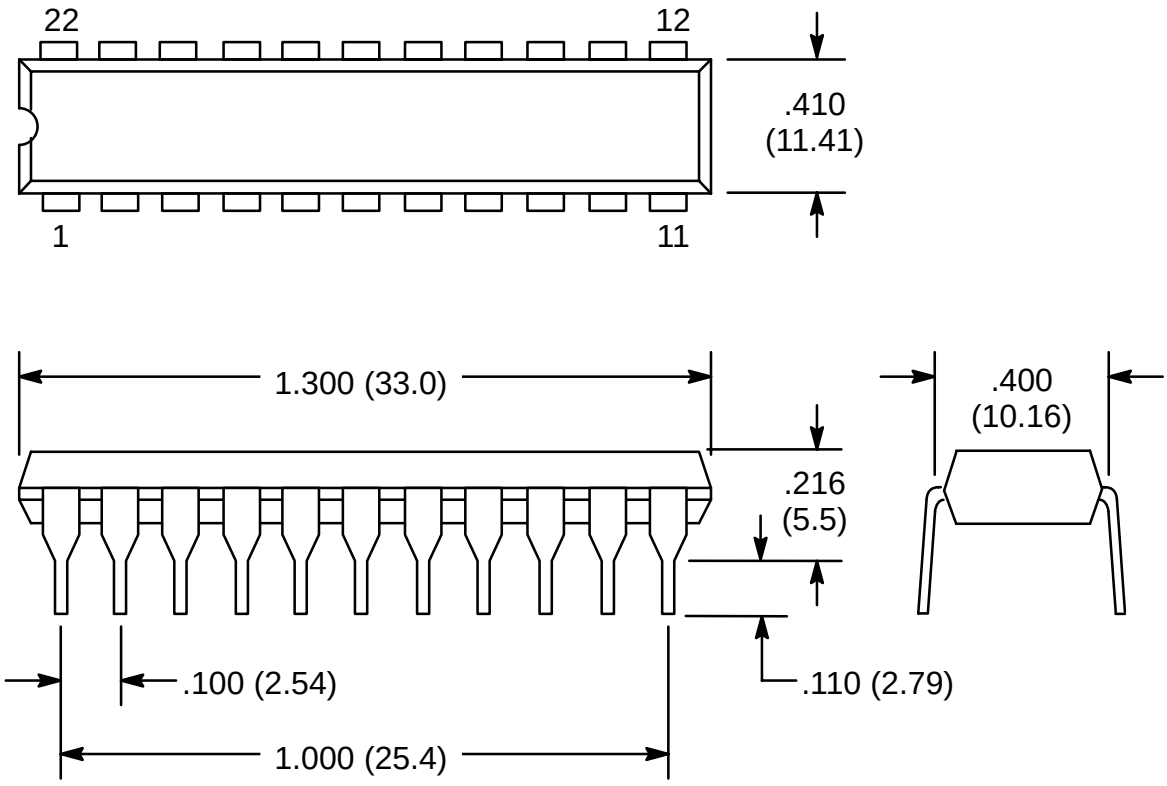
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Supply Current	I_{CC}	Zero Carrier	55	70	90	mA
Pin13 Current	I_{13}	Zero Carrier	20	30	40	mA
Pin22 Curent	I_{22}	Zero Carrier	35	40	50	mA
Pin22 Voltage	V_{22}		6.6	7.2	7.6	V
Maximum RF AGC Voltage	V_{17H}	V_{16} = 7V	9.0	9.2	10.0	V
Minimum RF AGC 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, $v_{i(s)}$ = 300μV_{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)