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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<sup>th</sup>), 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:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Supply Voltage (Pin13),  $V_{13\text{max}}$  ..... 15V  
 Pin22 Current,  $I_{22\text{max}}$  ..... 100mA  
 Pin14 Current,  $I_{14\text{max}}$  .....  $\pm 3\text{mA}$   
 Power Dissipation ( $T_A \leq +65^\circ\text{C}$ ),  $P_D$  ..... 900mW  
 Operating Temperature Range,  $T_{\text{opr}}$  .....  $-15^\circ$  to  $+65^\circ\text{C}$   
 Storage Temperature Range,  $T_{\text{stg}}$  .....  $-40^\circ$  to  $+125^\circ\text{C}$

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$ ,  $V_{CC} = 12\text{V}$ ,  $R_A = 120\Omega$ ,  $f_p = 58.75\text{MHz}$  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 Current	$I_{22}$	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):** ( $T_A = +25^\circ\text{C}$ ,  $V_{CC} = 12\text{V}$ ,  $R_A = 120\Omega$ ,  $f_p = 58.75\text{MHz}$  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	$V_{10H}$	$V_7 = 4.8\text{V}$ , $V_8 = 5.1\text{V}$	11.0	–	–	V
Minimum AFT Output Voltage	$V_{10L}$	$V_7 = 5.1\text{V}$ , $V_8 = 4.8\text{V}$	–	–	1.0	V
Input Sensitivity	$v_{i(\text{lim})}$	$f_m = 400\text{Hz}$ , $m = 40\%$ , $v_o = 0.8V_{P-P}$	25	32	41	$\text{dB}\mu$
AGC Range	G.R.	$f_m = 10\text{kHz}$ , $m = 40\%$ , $v_o = 0.8V_{P-P}$	60	80	–	dB
Maximum Input Voltage	$v_{i(\text{Max})}$	$f_m = 10\text{kHz}$ , $m = 40\%$ , $v_o = 0.8V_{P-P}$	100	55	–	$\text{mV}_{\text{rms}}$
Signal-to-Noise Ratio	S/N	$f_m = 15.75\text{kHz}$ , $m = 80\%$ , $v_o = 1.5V_{P-P}$ , $v_i = 10\text{mV}_{\text{rms}}$	50	–	–	dB
SIF Output Voltage	$v_{o(\text{SIF})}$	$f_m = 400\text{Hz}$ , $m = 40\%$ , $v_{i(\text{P})} = 3\text{mV}_{\text{rms}}$ , $f_s = 54.25\text{MHz}$ , $v_{i(\text{s})} = 300\mu\text{V}_{\text{rms}}$	12	25	50	$\text{mV}_{\text{rms}}$
Carrier Leak	$CL_{(\text{DET})}$	$v_i = 20\text{mV}_{\text{rms}}$	–	5	50	$\text{mV}_{\text{rms}}$
Picture Frequency Response	$f_C$	$m = 40\%$ , $v_i = 20\text{mV}_{\text{rms}}$	5	13	–	MHz
Differential Gain	DG	$f_p = 58.75\text{MHz}$ , Stair Step, $f_m = 3.58\text{MHz}$ , $m = 85\%$ , 14% Modulated White to Sync	–	5	–	%
Differential Phase	DP	Level, $v_{o(\text{DET})} = 1.4V_{P-P}$	–	5	–	deg
AFT Control Sensitivity	$S_f$	$f_m = 400\text{Hz}$ , $m = 40\%$ , $v_o = 0.8V_{P-P}$	50	150	–	$\text{mV}/\text{kHz}$
AFT Band Width	BW	$f_m = 400\text{Hz}$ , $m = 40\%$ , $v_o = 0.8V_{P-P}$	0.2	1.1	2.1	MHz
PIF Input Resistance	$R_i$		–	1.5	–	$\text{k}\Omega$
PIF Input Capacitance	$C_i$		–	3.5	–	pF

**Pin Connection Diagram**



