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## NTE1522 Integrated Circuit B/W Video IF

### **Description:**

The NTE1522 is a silicon monolithic integrated circuit designed for VIF section in B/W television receivers. This IC has all functions including a video IF amplifier, video low-level detector, RF AGC, IF AGC and noise canceller. The IC is a 14 Pin Dual In-Line Package with a Heat tab.

### **Features:**

- High Input Sensitivity: 30dB $\mu$  (Typ.)
- It can be used both of keyed type AGC and peak type AGC.
- It can be operated with the power supply voltage above 7V.
- Since the video detector has a wide bandwidth, it's suitable for the sound carrier frequency of 4.5, 5.5, 6.0 and 6.5MHz
- As input is in differential mode, it can be used with SAW filter.

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

Supply Voltage,  $V_7$  ..... 15V  
 Input Signal Voltage,  $V_8, V_9$  ..... 3V $_{p-p}$   
 Power Dissipation (Note 1),  $P_D$  ..... 875mW  
 Operating Temperature Range,  $T_{opr}$  .....  $-20^\circ$  to  $+75^\circ\text{C}$   
 Storage Temperature Range,  $T_{stg}$  .....  $-40^\circ$  to  $+125^\circ\text{C}$

Note 1.  $T_A = +75^\circ\text{C}$  Free Air

### **Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$ , $V_{CC} = 12\text{V}$ , $f = 58.75\text{MHz}$ , $f_M = 15.75\text{kHz}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Supply Current	$I_{CC}$	$I_7 + I_{12}$ , $RA = 150\Omega$	40	50	60	mA
Input Sensitivity	$v_{i(sens)}$	MOD = 80%, $V_o = 1.4V_{p-p}$	-	30	35	dB $\mu$
Max. Input Voltage	$v_{i(max)}$	MOD = 80%, -1dB Point	100	-	-	dB $\mu$
Video Output Voltage	$v_o$	MOD = 80%, $V_i = 3_mV_{rms}$	1.0	1.4	1.7	V $_{p-p}$
Video Output DC Voltage	$V_O$	No Signal	3.3	3.8	4.3	V
Signal to Noise Ratio	S/N	MOD = 80% to 0%, $v_i = 3_mV_{rms}$	40	50	-	dB
RF AGC Voltage (High)	$V_{6H}$	$V_5 = 0V$	8	9	11	V
RF AGC Voltage (Low)	$V_{6L}$	$V_5 = 7V$	-	0	0.5	V
Differential Gain	DG	Stair Step $f_M = 3.58\text{MHz}$	-	-	10	%
Differential Phase	DP		-	-	10	deg.
Video Detector Bandwidth	BW	-3dB Point	5.5	-	-	MHz
Input Resistance	$R_{IN}$		-	1.5	-	k $\Omega$
Input Capacitance	$C_{IN}$		-	3.3	-	pF

### Pin Connection Diagram

