



ELECTRONICS, INC.
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NTE1542 Integrated Circuit Color TV Video IF System

Features:

- High-gain IF amp.
- Wide AGC Range
- Excellent characteristic against noise and high AGC speed.

Functions:

- Video IF amp.
- Black and white noise canceller
- Video detector
- AFT
- Peak value IF ACC
- Video amp.
- RF AGC amp.

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

Maximum Supply Voltage, $V_{11\text{max}}$ 14V
 Flow-out Current, $I_{12\text{max}}$ 4mA
 Allowable Power Dissipation, $P_{D\text{max}}$ 850mW
 Operating Temperature Range, T_{opr} -15° to $+65^\circ\text{C}$
 Storage Temperature Range, T_{stg} -55° to $+125^\circ\text{C}$

Electrical Characteristics: ($T_A = +25^\circ\text{C}$, $V_{11} = 12\text{V}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Current Dissipation	I_{CC}		-	52	-	mA
Quiescent Video Output	V_{12}		-	6	-	V
Sync Tip Voltage	$V_{12\text{TIP}}$		-	3.4	-	V
Black Noise Inverting Threshold Detect Level	$V_{12\text{BTH}}$		-	2.1	-	V
White Noise Inverting Threshold Detect Level	$V_{12\text{WTH}}$		-	6.7	-	V
Max. RF AGC Voltage	$V_{4\text{H}}$	Reverse	-	9	-	V
Min. RF AGC Voltage	$V_{4\text{L}}$		-	0.1	-	V
Quiescent AFT Output Voltage	V_5		-	6.5	-	V
Max. AFT Voltage	$V_{5\text{H}}$		-	11.5	-	V
Min. AFT Voltage	$V_{5\text{L}}$		-	0.5	-	V
Input Sensitivity	V_i	$f = 58.75\text{MHz}$, AM 40%, $f_m = 400\text{Hz}$, $V_O = 0.5V_{\text{p-p}}$	-	50	-	V_{rms}

Electrical Characteristics (Cont'd): ($T_A = +25^\circ\text{C}$, $V_{11} = 12\text{V}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
AGC Range	G_R	$f = 58.75\text{MHz}$, AM 40%, $f_m = 15\text{kHz}$	-	75	-	dB
Max. Allowable Input	V_{imax}	$f = 58.75\text{MHz}$, $\Delta V_O = \pm 1\text{dB}$	-	300	-	mV_{rms}
Output S/N	S/N	$f = 58.75\text{MHz}$, $V_i = 10\text{mV}_{\text{rms}}$	-	53	-	dB
Frequency Characteristic	f_c	-3dB	-	8	-	MHz
Differential Gain	DG	$f = 58.75\text{MHz}$, AM 85%	-	5	-	%
Differential Phase	DP	$f = 58.75\text{MHz}$, AF 85%	-	4	-	deg.
AFT Detect Sensitivity	S_f	$f = 58.75\text{MHz}$	-	90	-	mV/kHz

Pin Connection Diagram

