

NTE1673 Integrated Circuit Video Chroma Processor

Description:

The NTE1673 is a multifunctional integrated circuit in a 28-Lead DIP type package where an APC chroma circuit is formed so compactly as to use only 16 pins with the characteristic requirements remaining fulfilled and the rest of pins are used for video circuits. It contains a double differential circuit enabling soft video tone, a color temperature control circuit enabling reproduction of beautiful bright white color and true color, and a high level contrast circuit eliminating brightness drop at the time of contrast adjustment, thereby allowing a wider design margin for television set design engineers.

Functions:

- Band-Pass Amp
- Voltage Controlled Oscillation
- Peak Clip
- Color Saturation Control
- Double Differential
- Killer
- Contrast Amp
- Color Temperature Control
- Tint Control
- DC Restoration
- Automatic Saturation Control
- Automatic Phase Control
- Blanking
- Chroma Demodulation
- Bright Control

Functions:

- High level contrast system eliminating brightness drop at the time of contrast adjustment.
- Double differential circuit enabling soft video tone.
- Color temperature control function enabling reproduction of beautiful bright white color and true color
- Capable of being connected to IC for VIR.
- Only one adjustment: APC adjustment
- Minimum number of external parts required.

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

Maximum Supply Voltage, $V_{CC\text{max}}$	14.5V
Allowable Power Dissipation ($T_A \leq +65^\circ\text{C}$), $P_{D\text{max}}$	875mW
Operating Temperature Range, T_{opr}	-20° to $+70^\circ\text{C}$
Storage Temperature Range, T_{stg}	-40° to $+125^\circ\text{C}$

Electrical Characteristics: ($T_A = +25^{\circ}\text{C}$, $V_{CC} = 12\text{V}$, 0dB input: burst $100\text{mV}_{\text{p-p}}$, chroma $200\text{mV}_{\text{p-p}}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Chroma Characteristics						
ACC Amplitude Characteristic	G_A	+6dB	-7	0	± 3	dB
		-20dB	-	-3	+2	dB
ACC Phase Characteristic	ϕ_A	+6dB	-	0	± 3	deg
		-20dB	-	± 3	± 7	deg
Killer Operating Point	$V_{I(K)}$		-55	-47	-40	dB
Maximum B-Y Demodulation	Θ_{OBM}		4.5	5.5	-	$V_{\text{p-p}}$
Tint Change Range	$\Delta T(T_{\text{max}} - T_{\text{min}})$		-	120	-	deg
Static Phase Error	ϕ_{Θ}	$\Delta f = \pm 100\text{Hz}$	± 1.5	± 5	-	deg
APC Pull-in Range	f_p		± 350	± 500	-	Hz
Demodulation Output DC Voltage	V_{12}, V_{13}, V_{14}		6.7	7.2	7.7	V
Demodulation Output DC	$V_{12} - V_{13}$		-	300	-	mV
Video Characteristics						
Video Tone Control	$G_{\text{p max}}$		7.0	9.5	12.0	dB
	$G_{\text{p min}}$		-5.0	-2.5	-1.0	dB
Video Gain	G_v		10	12.5	15.0	dB
Contrast Variable Range	ΔG_C		8	10	12	dB
Frequency Characteristic	ΔG_v	$f = 5\text{MHz}$	-3	-	-	dB

Pin Connection Diagram



