

NTE1808 Integrated Circuit Playback Video Processor for VCR

Description:

The NTE1808 is a integrated circuit in a 28-Lead DIP type package designed for VCR playback video signal processin circuits.

Features:

- Built-In Line Noise Canceler
- Built-In Picture Control Circuit
- Supply Voltage: $V_{CC} = 5V$

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

Supply Voltage, V_{CC} 6V
 Power Dissipation ($T_A = +70^{\circ}C$), P_D 200mW
 Operating Ambient Temperature Range, T_{opr} -20° to $+70^{\circ}C$
 Storage Temperature Range, T_{stg} -55° to $+150^{\circ}C$

Electrical Characteristics: ($V_{CC} = 5V$, $T_A = +25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Circuit Current	I_{23}		17	–	30	mA
DOC Amplifier Gain	G_{25}	Pin24 Input (60mV _{P-P} , 4MHz)	13	–	16	dB
DOC Sensitivity ON	S_{28}	Pin26 Input (4MHz), 0dB = 350mV _{P-P}	–15	–	–11.5	dB
DOC Sensitivity OFF (Hysteresis)	ΔS_{28}		–5	–	–0.5	dB
Sub FM Demodulation Det. Sensitivity	S_{15}	Pin24 Input (50mV _{P-P}) Pin17 3.5V F11 is multiplied by Gain (0dB = 250mV)	2.5	–	–	dB
Sub FM Demodulation Det. Limitation	L_{f15}	Pin24 Input (100mV _{P-P}), Pin17 3.5V	7	–	–	MHz
Main FM Demodulation Det. Sensitivity	S_{16}	Pin21 Input (150mV _{P-P}), Pin17 3.5V F11 is multiplied by Gain (0dB = 250mV)	2.5	–	–	dB
Main FM Demodulation Det. Limitation	L_{f16}	Pin21 Input (100mV _{P-P}), Pin17 3.5V	7	–	–	MHz
Difference Det. Amp. Gain A	G_{11-1}	Pin14 Input (100mV _{P-P} , 1MHz)	13.5	–	16.5	dB
Difference Det. Amp. Gain B	G_{11-2}	Pin13 Input (100mV _{P-P} , 1MHz)	12	–	15	dB

Note 1. Operating Supply Voltage Range: $V_{CC(opr)} = 4.5V$ to $5.5V$

Electrical Characteristics (Cont'd): ($V_{CC} = 5V$, $T_A = +25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Differential + Mix Amp Gain	G_{4-1}		7	–	10	dB
Mix Amp. Ratio	G_{4-2}	Pin12 Input (500mV _{P-P} , 1MHz)	–5.5	–	–2.5	dB
Line Noise Canceler Switch Changeover Level Difference	Δv_4	Pin27 Control Pulse	–5	–	5	mV
Line Noise Canceler Switch Crosstalk	CT ₄	500mV _{P-P} , 1MHz Pin4 Output Ratio of Pin10 & Pin12	–	–	–40	dB
Line Noise Canceler Limiter Gain	G ₇	Pin9 Input (40mV _{P-P} , 1MHz)	15.5	–	19.0	dB
Line Noise Canceler Cerrlative Det. Sensitivity ON	S ₆	Pin9 Input (4MHz), 0dB = 60mV _{P-P}	1.5	–	4.5	dB
Line Noise Canceler Cerrlative Det. Sensitivity OFF (Hysteresis)	ΔS_6	Pin9 Input (4MHz), 0dB = 60mV _{P-P}	–4	–	–0.1	dB
Picture Gain Control	G ₁	Pin3 Input (250mV _{P-P} , 1MHz), Output Ratio of Pin2 0V and 2.5V	–1.5	–	0.5	dB
Picture Control Frequency Characteristics A	f ₁₋₁	Pin3 Input (250mV _{P-P} , 1MHz)	–	–	–3	dB
Picture Control Frequency Characteristics B	f ₁₋₂	Pin3 Input (250mV _{P-P} , 1MHz), Output Ratio of Pin2 5V and 2.5V	5	–	–	dB

Note 1. Operating Supply Voltage Range: $V_{CC(opr)} = 4.5V$ to 5.5V

Note 2. Pin8 shall be always used in connection with Pin23

Note 3. Power supply to be supplied to the variable resistor added to Pin2 and Pin17 shall be used the same as that supplied to this integrated circuit.

Note 4. Since deterioration or destroy of characteristics due to flow of overcurrent caused by reverse current, careful should be taken to handling.

Pin Connection Diagram

Video Output	1	28	DOC Pulse Output
Picture Control	2	27	Envelope DET
De-Emphasis	3	26	RF Input
Peaking	4	25	RF Output
Extension	5	24	1H Delay RF Input
Relative Detecting Pulse Output	6	23	V_{CC}
Line N.C. LIM Output	7	22	Double LIM H.P.F. Input
V_{CC} (Record)	8	21	Double LIM H.P.F. Input
Line N.C. LIM Input	9	20	GND
Diff Signal Input	10	19	LIM
Diff Signal Output	11	18	LIM
Limited Signal Input	12	17	DEM Gain Control
Video Input	13	16	DEM Output
Video (1H DL) Input	14	15	DEM (1H DL) Output

