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NTE1713 Integrated Circuit Line Noise Canceller for VCR

Description:

The NTE1713 is an integrated circuit in an 18-Lead DIP type package designed for use as a line noise canceller in VCRs.

Features:

- The Functions Consist of:
 FM Demodulator
 Differential Amplifier
- Supply Voltage: 5V

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

Supply Voltage, V_{CC} 6V
 Power Dissipation ($T_A = +70^\circ\text{C}$), P_D 370mW
 Operating Ambient Temperature Range, T_{opr} -20° to $+70^\circ\text{C}$
 Storage Temperature Range, T_{stg} -40° to $+150^\circ\text{C}$

Absolute Maximum Ratings: ($V_{CC} = 5V$, $T_A = +25^\circ\text{C} \pm 2^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Circuit Current	I_7	Pin11: V_{CC}	30	–	60	mA
FM Demodulator Detection Sensitivity	S_{10}	$C = 47\text{pF}$, $R_{10} = 900\Omega$, $f_{IN} = 3.5$ to 4.5MHz	80	–	140	mV/MHz
FM Demodulator Detection Limit	$f_{(lim)}$	$C = 47\text{pF}$, $V_{IN} = 50\text{mV}_{P-P}$	7	–	–	MHz
FM Demodulator Carrier Leak	CL_{10}	$C = 47\text{pF}$, $R_{10} = 900\Omega$, $f_{IN} = 4\text{MHz}$, $V_{IN} = 50\text{mV}_{P-P}$	–	–	–30	dB
Differential Amp Gain	G_{V15}	Input: Pin17, $f_{IN} = 1\text{MHz}$, $V_{IN} = 100\text{mV}_{P-P}$	14.3	–	17.3	dB
		Input: Pin18, $f_{IN} = 1\text{MHz}$, $V_{IN} = 100\text{mV}_{P-P}$	12.8	–	15.8	dB
Main Signal Amp System Gain	G_{V22}	Input: Pin18, $f_{IN} = 1\text{MHz}$, $V_{IN} = 100\text{mV}_{P-P}$	10	–	13	dB
Mix Amp Gain	V_{G17}	Input: Pin14, $f_{IN} = 1\text{MHz}$, $V_{IN} = 500\text{mV}_{P-P}$	–4.5	–	–1.5	dB
Electronic SW Seelect Level Difference	$V_{O(offset)}$	Switching Pulse 30kHz	–	–	5	mV
Electronic SW Select Sensitivity	S_{11}	Switching Pin1 Output	–	–	3	V
Electronic SW Select Crosstalk	CT_1	Input: Pin14 $1V_{P-P}$	–	–	–40	dB
		Input: Pin16 $1V_{P-P}$	–	–	–40	dB
Line Noise Canceller Limiter Gain	G_{V12}	$f_{IN} = 1\text{MHz}$, $V_{IN} = 25\text{mV}_{P-P}$	13	–	17	dB

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

Pin Connection Diagram

Line Noise Canceller Output (Collector)	1	18	Diff Amp Input (2)
Line Noise Canceller Output (Emitter)	2	17	Diff Amp Input (1)
GND	3	16	Electric Sw Input (2)
IH Delay FM Input	4	15	Diff Amp Output
FM Limiter Capacitance (1)	5	14	Electric Sw Input (1)
FM Limiter Capacitance (2)	6	13	Line Noise Canceller Limiter Input
V _{CC}	7	12	Line Noise Canceller Limiter Output
FM Demod Capacitance (1)	8	11	DOC Pulse Input
FM Demod Capacitance (2)	9	10	FM Demod Output

