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NTE1484 Integrated Circuit Phase Lock Loop (PLL) Stereo Demod

Features:

- High-Quality FM Stereo Demodulator using PLL Technique for Separating L and R Signals from Composite Signal
- Less Peripheral Components; No Coils
- Total System – Including Stereo Demodulator, Automatic Stereo-Monaural Switching Circuit, and Stereo Indicator Lamp Driver
- Separation Controllable, Plus Very High Separation (Sep; 55dB Typ. at f = 1kHz)
- Low Total Harmonic Distortion during Stereo and Monaural Operation by using New Circuit (Mono; 0.05%, Stereo; 0.1% at f = 1kHz, $V_{in} = 200mV$)
- Fully Synchronized Stereo Indicator Lamp
- High-Output Voltage Level ($V_{out} = 1.2V$ at $V_{in} = 200mV$)
- Low Total Harmonic Distortion at High Frequency; (Main; 0.4%, L or R; 0.15%, Sub; 0.3% at f = 10kHz)
- Low Shock Noise during Stereo-Monaural Switching

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

Supply Voltage, V_{CC}	15V
Lamp Current, I_L	75mA
Power Dissipation ($T_A = +70^{\circ}C$), P_T	490mW
Operating Temperature Range, T_{opr}	-20° to $+70^{\circ}C$
Storage Temperature Range, T_{stg}	-55° to $+125^{\circ}C$

Electrical Characteristics: ($V_{CC} = 12V$, f = 1kHz, $T_A = +25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Input Impedance	Z_{in}		-	75	-	k Ω	
Channel Separation	Sep	P = 20mV, L + R = 180mV, VCO freq = 76kHz	f = 100Hz	-	42	-	dB
			f = 1kHz	40	55	-	dB
			f = 10kHz	-	42	-	dB
Stereo Total Harmonic Distortion	ST THD	P = 20mV, L + R = 180mV, (L + R = 45%, L - R = 45%, P = 10%)	f = 100Hz	-	0.1	-	%
			f = 10kHz	-	0.1	0.3	%
			f = 10kHz	-	0.15	-	%

Electrical Characteristics (Cont'd): ($V_{CC} = 12V$, $f = 1kHz$, $T_A = +25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Output Voltage	V_{out}	$V_{in} = 200mV$	-	1.2	-	V	
Channel Balance	CB	$V_{in} = 200mV$	-1.5	-	+1.5	dB	
Monaural Total Harmonic Distortion	MONO THD	$V_{in} = 200mV$	-	0.05	0.25	%	
Carrier Lock	CL	P = 20mV, L = R = 180mV, Note 1	f = 19kHz	-	30	-	dB
			f = 38kHz	-	30	-	dB
SCA Rejection Ratio	SCA Rej	P = 20mA, L + R = 180mV, SCA = 20mV, $f_{SCA} = 67kHz$	-	75	-	dB	
Pilot Level for Lamp ON	$L_{(ON)}$		4	7	13	mV	
Stereo Lamp Hysteresis			-	6	-	dB	
Capture Range	CR	P = 14mV	-	± 3	-	%	
Signal-To-Noise Ratio	S/N						
Total Current Drain	I_T	lamp OFF	-	17.5	-	mA	
Maximum Input Signal	V_{in}	Monaural THD = 1%	-	400	-	mV	
Threshold Voltage Stereo-Monaural Switching		Pin12 Voltage for Lamp OFF	-	0.55	-	V	

Note 1. Output terminal of IC



