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NTE1534 Integrated Circuit CMOS, Phase Lock Loop (PLL) Frequency Synthesizer for AM/FM Radio

Description:

The NTE1534 is a CMOS PLL frequency synthesizer in a 16-Lead DIP type package designed for FM-AM radios. This device contains a reference counter, programmable counter, and phase comparator circuits.

Absolute Maximum Ratings: ($V_{SS} = 0$, $T_A = +25^\circ\text{C}$ unless otherwise specified)

Supply Voltage, V_{DD}	-0.3 to +10V
Input Voltage, V_I	-0.3 to $V_{DD}+0.3\text{V}$
Output Voltage, V_O	-0.3 to $V_{DD}+0.3\text{V}$
Power Dissipation, P_D	50mW
Operating Temperature Range, T_{opr}	-20° to $+70^\circ\text{C}$
Storage Temperature Range, T_{stg}	-55° to $+100^\circ\text{C}$

Operating Conditions: ($V_{SS} = 0$, $T_A = -20^\circ$ to $+70^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage	V_{DD}		5.5	6.0	6.5	V

Electrical Characteristics: ($T_A = -20^\circ$ to $+70^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Current	I_{DD}	$V_{DD} = 5\text{V}$, $T_A = +25^\circ\text{C}$	-	3	5	mA
Total Power Dissipation	P_{tot}	$V_{DD} = 5\text{V}$, $T_A = +25^\circ\text{C}$	-	15	25	mW
P0 to P3, C0 to C2, LD						
Input Voltage Level, "H"	V_{IH}	$V_{DD} = 5\text{V}$	2.4	-	V_{DD}	V
Input Voltage Level, "L"	V_{IL}		V_{SS}	-	0.8	V
Input Current	$I_{I(1)}$	$V_I = V_{SS}$ to V_{DD}	-	-	± 10	μA
PI						
Input Voltage	V_I		1.0	-	-	V_{P-P}
Input Current	$I_{I(2)}$	$V_I = 0$	± 1	± 5	± 25	V_{P-P}
Input Frequency	f_i	$V_{DD} = 5.5\text{V}$ to 6.5V	6	-	-	MHz

Electrical Characteristics (Cont'd): ($T_A = -20^\circ$ to $+70^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OSC 1, OSC 2						
Oscillator Frequency	f_{OSC}		–	11.52	–	MHz
PD						
Output Current Level, "H"	I_{OH}	$V_{DD} = 5V, V_O = 3V$	–0.8	–	–	mA
Output Current Level, "L"	I_{OL}	$V_{DD} = 5V, V_O = 2V$	0.8	–	–	mA
Output Current (Open)	I_O	$V_{DD} = 5V, V_O = V_{SS}$ to V_{DD}	–	–	± 10	μA
CPO, QO						
Output Voltage Level, "H"	V_{OH}	$V_{DD} = 5V, I_{OH} = -100\mu\text{A}$	4.0	–	–	V
Output Voltage Level, "L"	V_{OL}	$V_{DD} = 5V, I_{OL} = 100\mu\text{A}$	–	–	0.4	V
Capacitance						
Input Capacitance	C_I	$V_I = 2V$	–	5	–	pF
Output Capacitance	C_O	$V_O = 2V$	–	7	–	pF

Pin Connection Diagram

