

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°C
Storage Temperature Range, T_{stg}	–55° to +100°C

Operating Conditions: ($V_{SS} = 0$, $T_A = -20^\circ$ to +70°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°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}	$V_{\text{DD}} = 5\text{V}, V_{\text{O}} = 3\text{V}$	–0.8	–	–	mA
Output Current Level, “L”	I_{OL}	$V_{\text{DD}} = 5\text{V}, V_{\text{O}} = 2\text{V}$	0.8	–	–	mA
Output Current (Open)	I_{O}	$V_{\text{DD}} = 5\text{V}, V_{\text{O}} = V_{\text{SS}}$ to V_{DD}	–	–	± 10	μA
CPO, QO						
Output Voltage Level, “H”	V_{OH}	$V_{\text{DD}} = 5\text{V}, I_{\text{OH}} = -100\mu\text{A}$	4.0	–	–	V
Output Voltage Level, “L”	V_{OL}	$V_{\text{DD}} = 5\text{V}, I_{\text{OL}} = 100\mu\text{A}$	–	–	0.4	V
Capacitance						
Input Capacitance	C_{I}	$V_{\text{I}} = 2\text{V}$	–	5	–	pF
Output Capacitance	C_{O}	$V_{\text{O}} = 2\text{V}$	–	7	–	pF

Pin Connection Diagram

