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NTE1849 Integrated Circuit Frequency Synthesizer for TV Tuning Systems

Description:

The NTE1849 is a CMOS frequency synthesizer for TV tuning systems consisting of a 13-bit programmable divider, 12-bit divider and phase comparator circuits.

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

Supply Voltage, V_{DD}	-0.3 to +9V
Input Voltage, V_I	-0.3 to $V_{DD} + 0.3V$
Output Voltage, V_O	-0.3 to $V_{DD} + 0.3V$
Operating Temperature Range, T_{opr}	-20° to $+70^\circ C$
Storage Temperature Range, T_{stg}	-55° to $+100^\circ C$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage	V_{DD}		6.5	7.0	7.5	V

Electrical Characteristics: ($V_{DD} = 7V$, $V_{SS} = 0V$, $T_A = 0^\circ$ to $+70^\circ C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Current	I_{DD}	$T_A = +25^\circ C$, $V_{DD} = 7V$, without load	-	-	15	mA
Total Power Dissipation	P_{tot}		-	-	105	mW
Input Terminal (LFI)						
Maximum Input Signal Frequency	$f_{i(max)}$	Input Sine Wave,	15.6	-	-	MHz
Input Voltage Swing	V_i	Free Running LFI	0.7	-	-	V_{p-p}
Input Current	$I_{I(1)}$	$V_I = V_{SS}$ to V_{DD}	-50	-	+50	μA
Input Terminal (PI0 to PI3, LDI)						
"H" Level Input Voltage	V_{IH}		3.4	-	V_{DD}	V
"L" Level Input Voltage	V_{IL}		V_{SS}	-	0.8	V
Input Current	$I_{I(2)}$	$V_I = V_{SS}$ to V_{DD}	-10	-	+10	μA

Electrical Characteristics (Cont'd): ($V_{DD} = 7V$, $V_{SS} = 0V$, $T_A = 0^\circ$ to $+70^\circ C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Terminal (PDO)						
"H" Level Output Current	$I_{OH(1)}$	$V_O = 5V$	-0.8	-	-	mA
"L" Level Output Current	$I_{OL(1)}$	$V_O = 2V$	0.8	-	-	mA
Output Leakage Current	I_{Leak}	$V_O = 1/2 V_{DD}$	-0.03	-	+0.03	μA
Output Terminal (TMO)						
"H" Level Output Voltage	$V_{OH(1)}$	$I_{OH} = -0.05mA$	6.0	-	-	V
"L" Level Output Voltage	$V_{OL(1)}$	$I_{OL} = 0.1mA$	-	-	0.4	V
Output Terminal (CKO)						
"H" Level Output Voltage	$V_{OH(2)}$	$I_{OH} = -0.4mA$	6.0	-	-	V
"L" Level Output Voltage	$V_{OL(2)}$	$I_{OL} = 0.16mA$	-	-	0.4	V
Oscillator Terminal (QI, QO)						
Oscillation Frequency	f_{OSC}		-	3.58	-	MHz
Capacitance						
Input Capacitance	C_I	$V_I = 2V$	-	5	-	pF
Output Capacitance	C_O	$V_O = 2V$	-	7	-	pF

Pin Connection Diagram

