

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

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Current	I _{DD}	T _A = +25°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

