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## NTE1677 Integrated Circuit Frequency Synthesizer for TV/CATV

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

Supply Voltage, $V_{CC}$ .....	6.5V
Logic Input Voltage, $V_{IN1}$ .....	-0.3V to $V_{CC}$
ELC Input Voltage, $V_{IN2}$ .....	$2.0V_{P-P}$
Power Dissipation, $P_D$ .....	1.4W
Derate Above $25^\circ\text{C}$ .....	$11.2\text{mW}/^\circ\text{C}$
Operating Temperature Range, $T_{opr}$ .....	$-20^\circ$ to $+75^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	$-55^\circ$ to $+150^\circ\text{C}$

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$ ,  $V_{CC} = 5\text{V}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage	$V_{CC}$		4.5	5.0	5.5	V
Supply Current	$I_{CC}$		-	9.0	-	mA
DC Voltage Pin12	$V_{12}$		-	3.0	-	V
Pin13	$V_{13}$		-	3.0	-	V
Input Current, High Level	$I_{IH}$	$V_{IN} = 5\text{V}$	-	180	300	$\mu\text{A}$
Output Voltage High Level	$V_{OH}$		3.8	-	-	V
Low Level	$V_{OL}$		-	-	0.5	V
Input Voltage High Level	$V_{IH}$		3.0	-	-	V
Low level	$V_{IL}$		-	-	0.8	V
P/D Leak Current High Level	$I_L$	$V_{OUT} = 4.0\text{V}$	-200	0	+200	$\mu\text{A}$
Low Level		$V_{OUT} = 0.8\text{V}$	-200	0	+200	$\mu\text{A}$
P/D Output Current High Level	$I_{OH}$	$V_{OUT} = 2.0\text{V}$	-0.6	-10	-	mA
Low level	$I_{OL}$		0.6	6.0	-	mA
RF Input Sensitivity	$V_{IN}$	$f_{IN} = 0.1$ to $1\text{GHz}$	-27	-	+3	dBm
		$f_{IN} = 80$ to $100\text{MHz}$	-24	-	+3	dBm

**Electrical Characteristics (Cont'd):** ( $T_A = +25^\circ\text{C}$ ,  $V_{CC} = 5\text{V}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Setup Time	$T_S$		2	–	0	$\mu\text{s}$
Clock Width	$T_C$		2	–	–	$\mu\text{s}$
Data Hold Time	$T_H$		2	–	–	$\mu\text{s}$
Enable Hold Time	$T_{SL}$		2	–	–	$\mu\text{s}$
Enable Setup Time	$T_L$		2	–	–	$\mu\text{s}$

**Pin Connection Diagram**

