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NTE1581

Integrated Circuit

CMOS, Frequency Divider/Counter for VCR

Description:

The NTE1581 is a frequency divider manufactured by aluminum CMOS technology. It produces a frequency of 1/59719 or 1/88672 of the input frequency (3.58MHz to 60Hz or 4.43MHz to 50Hz).

Features:

- Makes Possible a Crystal Oscillator Circuit
- Capable of Handling Small-Amplitude Input Signals as low as 0.3V_{pp}
- Frequency-Dividing Ratio Selected Through Terminal N
- Reset Function
- Produces a Shaped-Waveform Output of the same Frequency as the Input Signal or Oscillation Output
- Derives a Vertical Scanning Frequency from TV Color Subcarrier

Applications:

- Frequency Divider for VTR

Absolute Maximum Ratings:

Supply Voltage, V_{CC} -0.3V to 9V
 Input Voltage, V_I V_{SS} ≤ V_I ≤ V_{DD}
 Power Dissipation (T_A = +25°C), P_T 250W
 Operating Free-Air Temperature Range, T_{opt} -30° to +70°C
 Storage Temperature Range, T_{stg} -40° to +125°C

Recommended Operating Conditions: (T_A = -30° to +70°C, unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit
Supply Voltage	V _{DD}	4.75	–	8.5	V
Supply Voltage	V _{SS}	–	0	–	V
High-Level Input Voltage	V _{IH}	V _{DD} to 0.5			V
Low-Level Input Voltage	V _{IL}	–	–	0.5	V
Oscillation Input Amplitude Voltage	V _I	0.3	–	–	V _{PP}
Input frequency with the terminal N in High-Level	f	–	3.58	5.5	MHz
Input frequency with the terminal N in Low-Level	f	–	4.43	5.5	MHz

Electrical Characteristics: ($T_A = +25^{\circ}\text{C}$, $V_{DD} = 6.5\text{V}$, $V_{SS} = 0\text{V}$, $f_{IN} = 4.5\text{MHz}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Operational Supply Voltage	V_{DD}	$T_A = -30^{\circ}$ to $+70^{\circ}\text{C}$	4.75	–	8.5	V
Supply Current	I_{DD}	N. RESET Input/Output Open	–	–	5	mA
High-Level Input Voltage	V_{IH}		V_{DD} to 0.5	–	–	V
Low-Level Input Voltage	V_{IL}		–	–	0.5	V
High-Level Output Voltage	V_{OH}		V_{DD} to 0.5	–	–	V
Low-Level Output Voltage	V_{OL}		–	–	0.5	V
High-Level Output Current	I_{OH}	$V_D = V_{SS}$	–2	–	–	mA
Low-Level Output Current	I_{OL}	$V_O = V_{DD}$	2	–	–	mA
Pull-Up Resistance	R_I		–	20	–	k Ω
N. RESET Inputs			–	20	–	k Ω
Oscillation Input Amplitude Voltage	V_I	$V_{DD} = 4.75\text{V}$	0.3	–	–	V_{PP}
Max. Operating Frequency	f_{MAX}		5.5	–	–	MHz

Pin Connection Diagram

