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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 Vertial 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 . . . . . $V_{SS} \le V_I \le V_{DD}$
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 requency with the terminal N in High–Level	f	–	3.58	5.5	MHz
Input requency with the terminal N in Low–Level	f	–	4.43	5.5	MHz

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Operational Supply Voltage	V_{DD}	T_A = −30° to +70°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	–	kΩ
N. RESET Inputs			–	20	–	kΩ
Oscillation Input Amplitude Voltage	V_I	V_{DD} = 4.75V	0.3	–	–	V_{PP}
Max. Operating Frequency	f_{MAX}		5.5	–	–	MHz

Pin Connection Diagram