LAMPIRAN

Data Sheet Komponen IC yang Terdapat pada Rangkaian:

1. IC 14024

7-Stage Ripple Counter

The MC14024B is a 7-stage ripple counter with short propagation delays and high maximum clock rates. The Reset input has standard noise immunity, however the Clock input has increased noise immunity due to Hysteresis. The output of each counter stage is buffered.

- Diode Protection on All Inputs
- Output Transitions Occur on the Falling Edge of the Clock Pulse
- Supply Voltage Range = 3.0 Vdc to 18 Vdc
- Capable of Driving Two Low-power TTL Loads or One Low-power Schottky TTL Load Over the Rated Temperature Range
- Pin-for-Pin Replacement for CD4024B

**MAXIMUM RATINGS** (Voltages Referenced to $V_{SS}$) (Note NO TAG)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Parameter</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_{DD}$</td>
<td>DC Supply Voltage Range</td>
<td>−0.5 to +18.0</td>
<td>V</td>
</tr>
<tr>
<td>$V_{in}, V_{out}$</td>
<td>Input or Output Voltage Range (DC or Transient)</td>
<td>−0.5 to $V_{DD} + 0.5$</td>
<td>V</td>
</tr>
<tr>
<td>$I_{in}, I_{out}$</td>
<td>Input or Output Current (DC or Transient) per Pin</td>
<td>±10</td>
<td>mA</td>
</tr>
<tr>
<td>$P_D$</td>
<td>Power Dissipation, per Package (Note NO TAG)</td>
<td>500</td>
<td>mW</td>
</tr>
<tr>
<td>$T_A$</td>
<td>Ambient Temperature Range</td>
<td>−55 to +125</td>
<td>°C</td>
</tr>
<tr>
<td>$T_{stg}$</td>
<td>Storage Temperature Range</td>
<td>−65 to +150</td>
<td>°C</td>
</tr>
<tr>
<td>$T_L$</td>
<td>Lead Temperature (8-Second Soldering)</td>
<td>260</td>
<td>°C</td>
</tr>
</tbody>
</table>
This device contains protection circuitry to guard against damage due to high static voltages or electric fields. However, precautions must be taken to avoid applications of any voltage higher than maximum rated voltages to this high-impedance circuit. For proper operation, Vin and Vout should be constrained to the range VSS _ (Vin or Vout) _ VDD. Unused inputs must always be tied to an appropriate logic voltage level (e.g., either VSS or VDD). Unused outputs must be left open.

**PIN ASSIGNMENT**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ck</td>
<td>1</td>
<td>14</td>
<td>Vdd</td>
<td></td>
</tr>
<tr>
<td>Res</td>
<td>2</td>
<td>13</td>
<td>NC</td>
<td></td>
</tr>
<tr>
<td>Q1</td>
<td>3</td>
<td>12</td>
<td>Q1</td>
<td></td>
</tr>
<tr>
<td>Q2</td>
<td>4</td>
<td>11</td>
<td>Q2</td>
<td></td>
</tr>
<tr>
<td>Q3</td>
<td>5</td>
<td>10</td>
<td>NC</td>
<td></td>
</tr>
<tr>
<td>Q4</td>
<td>6</td>
<td>9</td>
<td>Q3</td>
<td></td>
</tr>
<tr>
<td>VSS</td>
<td>7</td>
<td>8</td>
<td>NC</td>
<td></td>
</tr>
</tbody>
</table>

- Vdd = PIN 14
- VSS = PIN 7
- NC = NO CONNECTION

2. **IC 14042**

Quad Transparent Latch

The MC14042B Quad Transparent Latch is constructed with MOSP-channel and N-channel enhancement mode devices in a single monolithic structure. Each latch has a separate data input, but all four latches share a common clock. The clock polarity (high or low) used to strobe data through the latches can be reversed using the polarity input. Information present at the data input is transferred to outputs Q and Q during the clock level which is determined by the polarity input.
When the polarity input is in the logic "0" state, data is transferred during the low clock level, and when the polarity input is in the logic "1" state the transfer occurs during the high clock level.

- Buffered Data Inputs
- Common Clock
- Clock Polarity Control
- Q and Q Outputs
- Double Diode Input Protection
- Supply Voltage Range = 3.0 Vdc to 18 Vdc
- Capable of Driving Two Low-power TTL Loads or One Low-power Schottky TTL Load Over the Rated Temperature Range

**MAXIMUM RATINGS** (Voltages Referenced to $V_{SS}$) (Note 2.)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Parameter</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_{DD}$</td>
<td>DC Supply Voltage Range</td>
<td>$-0.5$ to $+18.0$</td>
<td>V</td>
</tr>
<tr>
<td>$V_{in, V_{out}}$</td>
<td>Input or Output Voltage Range (DC or Transient)</td>
<td>$-0.5$ to $V_{DD} + 0.5$</td>
<td>V</td>
</tr>
<tr>
<td>$I_{in, I_{out}}$</td>
<td>Input or Output Current (DC or Transient) per Pin</td>
<td>$\pm 10$</td>
<td>mA</td>
</tr>
<tr>
<td>$P_D$</td>
<td>Power Dissipation, per Package (Note 3.)</td>
<td>500</td>
<td>mW</td>
</tr>
<tr>
<td>$T_A$</td>
<td>Ambient Temperature Range</td>
<td>$-55$ to $+125$</td>
<td>°C</td>
</tr>
<tr>
<td>$T_{stg}$</td>
<td>Storage Temperature Range</td>
<td>$-65$ to $+150$</td>
<td>°C</td>
</tr>
<tr>
<td>$T_L$</td>
<td>Lead Temperature (8-Second Soldering)</td>
<td>260</td>
<td>°C</td>
</tr>
</tbody>
</table>

This device contains protection circuitry to guard against damage due to high static voltages or electric fields. However, precautions must be taken to avoid applications of any voltage higher than maximum rated voltages to this high-impedance circuit. For proper operation, $V_{in}$ and $V_{out}$ should
be constrained to the range VSS < (Vin or Vout) < VDD. Unused inputs must always be tied to an appropriate logic voltage level (e.g., either VSS or VDD). Unused outputs must be left open.

**PIN ASSIGNMENT**

<table>
<thead>
<tr>
<th>Pin</th>
<th>1 •</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q3</td>
<td>16</td>
<td>VDD</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Q0</td>
<td>15</td>
<td>Q3</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Q0</td>
<td>14</td>
<td>D3</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>DD</td>
<td>13</td>
<td>D2</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>CLOCK</td>
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<td>Q2</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLARITY</td>
<td>11</td>
<td>Q1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D1</td>
<td>10</td>
<td>Q1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VSS</td>
<td>9</td>
<td>Q1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TRUTH TABLE**

<table>
<thead>
<tr>
<th>Clock</th>
<th>Polarity</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>Data</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>Latch</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>Data</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>Latch</td>
</tr>
</tbody>
</table>

3. IC 14001

**B-Suffix Series CMOS Gate**

The B series logic gates are constructed with P and N channel enhancement mode device in a single monolithic structure. The primary use is where low power dissipation and high noise immunity is desired.

- Supply voltage range = 3.0 Vdc to 18 Vdc
- All outputs buffered
- Capable of driving two low-power TTL loads or one low-power schottky TTL load over the rated temperature range
- Double diode protection on all inputs except: triple diode protection on MC14011B and MC 14081B
- Pin-for-pin replacements for corresponding CD4000 series B suffix device (exceptions: MC14068B and MC 14078B)
LOGIC DIAGRAMS

NOR
MC14001B
Quad 2-Input NOR Gate
1 2
5 6
8 9
12 13
2 INPUT
3 4
10 11

MC14025B
Triple 3-Input NOR Gate

NAND
MC14011B
Quad 2-Input NAND Gate
1 2
5 6
8 9
12 13
3 4
10 11

MC14023B
Triple 3-Input NAND Gate

OR
MC14071B
Quad 2-Input OR Gate
1 2
5 6
8 9
12 13
3 4
10 11

MC14075B
Triple 3-Input OR Gate

AND
MC14081B
Quad 2-Input AND Gate
1 2
5 6
8 9
12 13
3 4
10 11

MC14073B
Triple 3-Input AND Gate

PIN ASSIGNMENTS

MC14001B
Quad 2-Input NOR Gate
IN 1A 1 IN 2A 2
OUTA 3
OUTB 4
IN 1B 5
IN 2B 6
VSS 7

14 VDD

MC14002B
Dual 4-Input NOR Gate
IN 1A 1 IN 2A 2
IN 3A 3
IN 4A 4
IN 1B 5
IN 2B 6
VSS 7

14 VDD

MC14011B
Quad 2-Input NAND Gate
IN 1A 1 IN 2A 2
IN 3A 3
IN 4A 4
IN 1B 5
IN 2B 6
VSS 7

14 VDD

MC14023B
Triple 3-Input NAND Gate
IN 1A 1 IN 2A 2
IN 3A 3
IN 1B 5
IN 2B 6
VSS 7

14 VDD

Specification Pemancar Kamera CCTV (Video Sender):

VIDEO SENDER
OPERATING INSTRUCTIONS

Thank you for using Wireless VIDEO SENDER. This leaflet contains complete instructions for the installation and operation of VIDEO SENDER. It describes features and the location and use of controls. Read all materials enclosed before attempting to operate the unit.

GENERAL INFORMATION

VIDEO SENDER wirelessly transmits Video/Audio signals over-the-air to the receiving TV within a range more than 100 ft. It eliminates the problems of extending or re-connecting cables. It is just like a microwave station.

To transmit recorded pictures from your VCR, you simply connect the Video/Audio output connections on your VCR directly to the Video/Audio input connections on the VIDEO SENDER.

To transmit live video pictures, you plug in any standard Video Camera (color or B/W) to the Video/Audio input connections on VIDEO SENDER.

Now, the pictures (live or recorded) can be viewed on any television tuned to the indicated channel.

FEATURES

1. Ensure the stability and accuracy of the frequency transmission by crystal oscillator.
2. Uses low-level radio waves, no radio license is needed.
3. Uses a power supply: AC power adaptor 10V to 13.8V DC.
4. Versatile application: Can be applied to (1) VCR (2) Video Camera (3) Video Computer:TV game (4) TV monitoring system.

Location and Use of Controls

A. Power on/off switch
B. 12 Volts DC socket for AC adaptor
C. Audio in
D. Video in
E. Power on lamp
F. Antenna
G. Video control
H. Audio control
I. Sound frequency control

Antenna for Receiving TV Set

20 ft—50 ft use rod antenna
50—100 use UHF indoor antenna
100 ft onwards use UHF outdoor antenna

Operating Procedure and Caution

1. Tune receiving TV set to the indicated channel.
2. Insert antenna to VIDEO SENDER until a click is heard; with flexible antenna model, extend antenna to full length.
3. Connect VIDEO SENDER either to Video Camera or VCR by enclosed cables as illustrated.
4. If you plug one end of the cables into Audio (Video) jack of your VCR or Video Camera, the other end for VIDEO SENDER. Audio (Video) jack must be of the same color.
5. Switch on the power switch on VIDEO SENDER.
6. Switch on your VCR or Video Camera.
7. Fine tune your TV set or adjust TV antenna to optimize sharp picture and clear sound.

B. In a few cases, it may be necessary to adjust Audio/Video controls of VIDEO SENDER to optimize picture display.

9. Remove AC adaptor from wall outlet and VIDEO SENDER which is not in use for a prolonged period.

SPECIFICATION

1. Frequency Range: Standard Channel
2. Number of Channels: Single Channel
3. Power Input: AC adaptor (10V to 13.8V DC)
4. Power Consumption: 10mA maximum
5. Antenna Impedance: 50 Ohms
6. Video Input: 1.0 Volt peak to peak/75 Ohms
7. Audio Input: 0.1—1.0 Volts RMS/600 Ohms
8. Weight: 0.45 lb
9. Dimensions: 70mm x 20mm x 123mm

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Bentuk Robot: