

74C90
276-2315

FOUR-BIT DECADE COUNTER

GENERAL DESCRIPTION

The 74C90 decade counter is constructed with N and P-channel enhancement mode transistors. The 4-bit decade counter can be reset to zero or preset to nine by applying appropriate logic level on the R_{01} , R_{02} , R_1 and R_2 inputs, also a separate flip-flop on the A-bit enables the user to operate it as a divide-by-2, 5 or 10 frequency counter. All inputs are protected against static discharge damage.

FEATURES

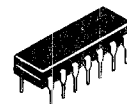
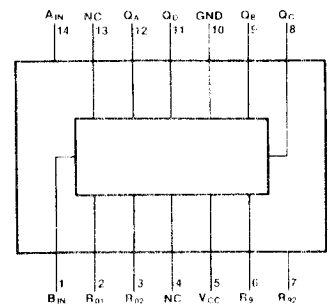
- Wide supply voltage range 3V to 15V
- Guaranteed noise margin 1V
- High noise immunity 0.45 V_{CC} (typ)
- Low power TTL compatibility fan out of 2 driving 74L

ABSOLUTE MAXIMUM RATINGS

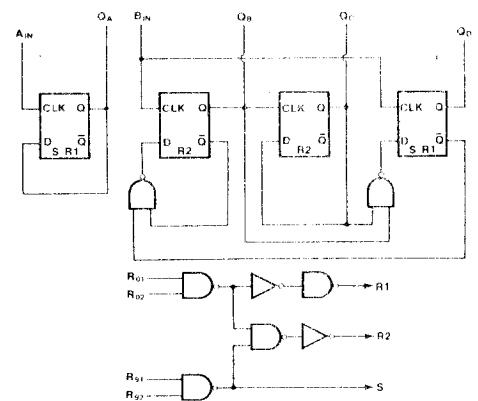
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|--|-------------------------|
| Voltage at Any Pin | -0.3V to V_{CC} +0.3V |
| Operating Temperature Range | -40°C to +85°C |
| Package Dissipation | 500 mW |
| Operating V_{CC} Range | 3V to 15V |
| Absolute Maximum V_{CC} | 16V |
| Storage Temperature Range | -65°C to +150°C |
| Lead Temperature (Soldering, 10 seconds) | 300°C |

PIN CONNECTION

TOP VIEW



LOGIC DIAGRAM



74C192
276-2321
74C193
276-2322

SYNCHRONOUS FOUR-BIT UP/DOWN DECADE
SYNCHRONOUS FOUR-BIT UP/DOWN BINARY

GENERAL DESCRIPTION

These up/down counters are monolithic complementary MOS (CMOS) integrated circuits. The 74C192 is a BCD counter. While the 74C193 is a binary counter.

Counting up and counting down is performed by two count inputs, one being held high while the other is clocked. The outputs change on the positive going transition of this clock.

These counters feature preset inputs that are set when load is a logical "0" and a clear which forces all outputs to "0" when it is at logical "1". The counters also have carry and borrow outputs so that they can be cascaded using no external circuitry.

FEATURES

- High noise margin 1V guaranteed
- Tenth power TTL compatible drive 2 LPTTL loads
- Wide supply range 3V to 15V
- Carry and borrow outputs for N-bit cascading
- Asynchronous clear
- High noise immunity 0.45 V_{CC} typ

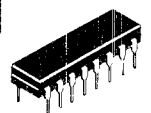
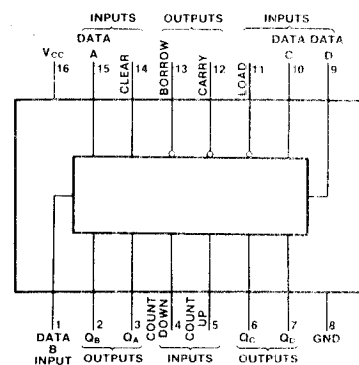
ABSOLUTE MAXIMUM RATINGS

| | |
|---|-------------------------|
| Voltage at Any Pin (Note 1) | -0.3V to V_{CC} +0.3V |
| Operating Temperature Range | -40°C to +85°C |
| Storage Temperature Range | -65°C to +150°C |
| Maximum V_{CC} Voltage | 16V |
| Package Dissipation | 500 mW |
| Operating V_{CC} Range | +3V to +15V |
| Lead Temperature (Soldering, 10 sec.) | 300°C |

Note 1: This device should not be connected to circuits with the power on because high transient voltage may cause permanent damage.

PIN CONNECTION

TOP VIEW



CASCADING PACKAGES

TOP VIEW

