

APPENDIX I

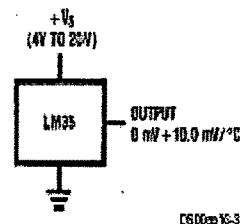
CIRCUIT SPECIFICATIONS BHPT

LM 35

The LM35 series are precision integrated-circuit temperature sensors, whose output voltage is linearly proportional to the Celsius (Centigrade) temperature. The LM35 thus has an advantage over linear temperature sensors calibrated in° Kelvin, as the user is not required to subtract a large constant voltage from its output to obtain convenient Centigrade scaling. The LM35 does not require any external calibration or trimming. The LM35's low output impedance, linear output, and precise inherent calibration make interfacing to readout or control circuitry especially easy. It can be used with single power supplies, or with plus and minus supplies. As it draws only 60 μ A from its supply, it has very low self-heating, less than 0.1°C in still air.

FEATURES

- * Calibrated directly in ° Celsius (Centigrade)
- * Linear + 10.0 mV/°C scale factor * 0.5°C accuracy guarantee able (at +25°C)
- * Rated for full -55° to +150°C range * Suitable for remote applications
- * Low cost due to wafer-level trimming
- * Operates from 4 to 30 volts
- * Less than 60 μ A current drain
- * Low self-heating, 0.08°C in still air
- * Non linearity only $\pm 1/4^\circ\text{C}$ typical
- * Low impedance output, 0.1 W for 1 mA loa.



IC 74573

The 74HC/HCT573 are high-speed Si-gate CMOS devices and are pin compatible with low power Schottky TTL (LSTTL). They are specified in compliance with JEDEC standard no.7A. The 74HC/HCT573 are octal D-type transparent latches featuring separate D-type inputs for each latch and 3-state outputs for bus oriented applications. The "573" consists of eight D-type transparent latches with 3-state true outputs. When LE is HIGH, data at the D_n inputs enter the latches. In this condition the latches are transparent, i.e. a latch output would change state each time it's corresponding D-input

changes. When LE is LOW the latches store the information that was present at the D-inputs a set-up time preceding the HIGH-to-LOW transition of LE. When OE is LOW, the contents of the 8 latches are available at the outputs. When OE is HIGH, the outputs go to the high impedance OFF-state. Operation of the OE input does not affect the state of the latches.

Pin Description

PIN NO. SYMBOL NAME AND FUNCTION

2, 3, 4, 5, 6, 7, 8, 9 D0 to D7 data inputs

11 LE latch enable input (active HIGH)

1 OE 3-state output enable input (active LOW)

10 GND ground (0 V)

19, 18, 17, 16, 15, 14, 13, 12 Q0 to Q7 3-state latch outp

20 VCC positive supply voltage

Inputs and outputs on opposite sides of package allowin

Interface with microprocessors

Useful as input or output port for microprocessors/microcomputers

3-state non-inverting outputs for bus oriented applications

Common 3-state output enables input

Output capability: bus driver.

ICC category: MSI

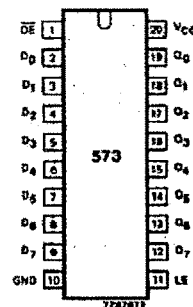


Fig.1 Pin configuration.

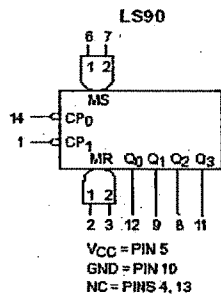
IC 7490

The SN54/74LS90, SN54/74LS92 and SN54/74LS93 are high-speed 4-bit ripple type counters partitioned into two sections. Each counter has a divide-by-two section and either a divide-by-five (LS90), divide-by-six (LS92) or divide-by-eight (LS93) section which are triggered by a HIGH-to-LOW transition on the clock inputs. Each section can be used separately or tied together (Q to CP) to form BCD, bi-quinary, modulo-12, or modulo-16 counters. All of the counters have a 2-input gated Master Reset (Clear), and the LS90 also has a 2-input gated Master Set (Preset 9)

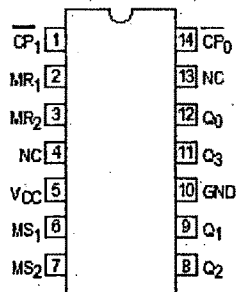
- Low Power Consumption . . . Typically 45 mW
- High Count Rates . . . Typically 42 MHz

Binary

- Input Clamp Diodes Limit High Speed Termination Effects 5-3
- Choice of Counting Modes . . . BCD, Bi-Quinary, Divide-by-Twelve



CONNECTION DIAGRAM
DIP (TOP VIEW)



NC = NO INTERNAL CONNECTION

NOTE:
The Flatpak version has the same
pinouts (Connection Diagram) as
the Dual In-Line Package.

IC ADC 0809

General Description

The ADC0809 data acquisition component is a monolithic CMOS device with an 8-bit analog-to-digital converter, 8-channel multiplexer and microprocessor compatible control logic. The 8-bit A/D converter uses successive approximations the conversion technique. The 8-channel multiplexer can directly access any of 8-single-ended analog signals. The device eliminates the need for external zero and full-scale adjustments. Easy interfacing to microprocessor provided by the latched

The ADC0809 offers high speed, high accuracy, minimal temperature dependence, excellent long-term accuracy and repeatability, and consumes minimal power. These features make this device ideally suited to applications from process and machine control to consumer and automotive applications.

