

Counter Single 4-Bit Sync Binary UP/Down 16-Pin PDIP Tube

Manufacturer: [Texas Instruments, Inc](#)

Package/Case: DIP16

Product Type: Logic ICs

RoHS: RoHS Compliant/Lead free 

Lifecycle: Active

CD4516BE Image

Images are for reference only

[Inquiry](#)

General Description

CD4510B Presettable BCD Up/Down Counter and the CD4516 Presettable Binary Up/Down Counter consist of four synchronously clocked D-type flip-flops (with a gating structure to provide T-type flip-flop capability) connected as counters. These counters can be cleared by a high level on the RESET line, and can be preset to any binary number present on the jam inputs by a high level on the PRESET ENABLE line. The CD4510B will count out of non-BCD counter states in a maximum of two clock pulses in the up mode, and a maximum of four clock pulses in the down mode.

If the CARRY-IN input is held low, the counter advances up or down on each positive-going clock transition. Synchronous cascading is accomplished by connecting all clock inputs in parallel and connecting the CARRY-OUT of a less significant stage to the CARRY-IN of a more significant stage.

The CD4510B and CD4516B can be cascaded in the ripple mode by connecting the CARRY-OUT to the clock of the next stage. If the UP/DOWN input changes during a terminal count, the CARRY-OUT must be gated with the clock, and the UP/DOWN input must change while the clock is high. This method provides a clean clock signal to the subsequent counting stage. (See Fig.15).

These devices are similar to types MC14510 and MC14516.

The CD4510B and CD4516B types are supplied in 16-lead dual-in-line plastic packages (E suffix), 16-lead small-outline packages (NSR suffix), and 16-lead thin shrink small-outline packages (PW and PWR suffixes). The CD4516B types also are supplied in 16-lead hermetic dual-in-line ceramic packages (F3A suffix).

Key Features

Medium-speed operation - $f_{CL} = 8 \text{ MHz typ. at } 10 \text{ V}$

Synchronous internal carry propagation

Reset and Preset capability

100% tested for quiescent current at 20 V

5-V, 10-V, and 15-V parametric ratings

Standardized, symmetrical output characteristics

Maximum input current of $1 \mu\text{A}$ at 18 V over full package-temperature range; 100 nA at 18 V and 25°C

Noise margin (full package-temperature range) = 1 V at $V_{DD} = 5 \text{ V}$ 2 V at $V_{DD} = 10 \text{ V}$ 2.5 V at $V_{DD} = 15 \text{ V}$

Meets all requirements of JEDEC Tentative Standard No. 13B, "Standard Specifications for Description of 'B' Series CMOS Devices"

Applications:

Up/Down difference counting

Multistage synchronous counting

Multistage ripple counting

Synchronous frequency dividers

CD4510B ---BCD Type CD4516B ---Binary Type

Description

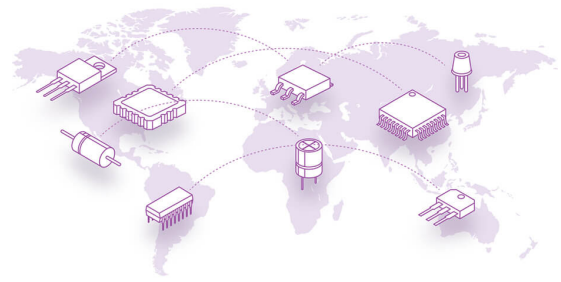
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Recommended For You

CD4017BE

Texas Instruments, Inc

DIP16

CD40193BE

Texas Instruments, Inc

DIP

CD4024BM

Texas Instruments, Inc

SOP14

CD74AC161M

Texas Instruments, Inc

SOP16

CD4060BM

Texas Instruments, Inc

SOP

CD4520BE

Texas Instruments, Inc

DIP16

CD4040BE

Texas Instruments, Inc

DIP16

CD4026BE

Texas Instruments, Inc

DIP

CD4060BE

Texas Instruments, Inc

DIP16

CD4020BE

Texas Instruments, Inc

DIP16

CD40110BE

Texas Instruments, Inc

DIP

CD74HCT193E

Texas Instruments, Inc

DIP

CD4510BNSR

Texas Instruments, Inc

SOP16

CD4022BE

Texas Instruments, Inc

DIP

CD74HC193E

Texas Instruments, Inc

DIP