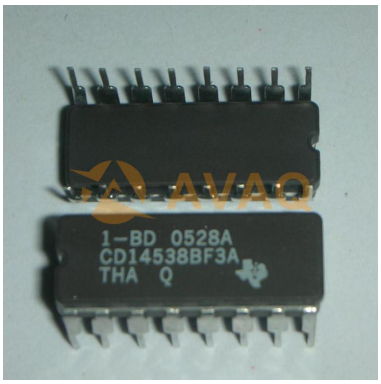
CD14538BF3A

Monostable Multivibrator Dual-Element -55°C 125°C 16-Pin CDIP Tube

Manufacturer:	Texas Instruments, Inc
Package/Case:	DIP
Product Type:	Logic ICs
Lifecycle:	Active



Images are for reference only

Inquiry

General Description

CD14538B dual precision monostable multivibrator provides stable retriggerable/resettable one-shot operation for any fixed-voltage timing application.
An external resistor (RX) and an external capacitor (CX) control the timing and accuracy for the circuit. Adjustment of RX and CX provides a wide range of output pulse widths from the Q and Q\ terminals. The time delay from trigger input to output transition (trigger propagation delay) and the time delay from reset input to output transition (reset propagation delay) are independent of RX and CX. Precision control of output pulse widths is achieved through linear CMOS techniques.
Leading-edge-triggering (+TR) and trailing-edge-triggering (-TR) inputs are provided for triggering from either edge of an input pulse. An unused +TR input should be tied to VSS. An unused -TR input should be tied to VDD. A RESET (on low level) is provided for immediate termination of the output pulse or to prevent output pulses when power is turned on. An unused RESET input should be tied to VDD. However, if an entire section of the CD14538B is not used, its inputs must be tied to either VDD or VSS. See Table 1.
In normal operation the circuit retriggers (extends the output pulse one period) on the application of each new trigger pulse. For operation in the non-retriggerable mode, Q\ is connected to -TR when leading-edge triggering (+TR) is used or Q is connected to +TR when trailing-edge triggering (-TR) is used. The time period (T) for this multivibrator can be calculated by: T = RXCX.
The minimum value of external resistance, RX, is 4 K. The minimum and maximum values of external capacitance, CX are 0 pF and 100µF, respectively.
The CD14538B is interchangeable with type MC14538 and is similar to and pin-compatible with the CD4098B* and CD4538B. It can replace the CD4538B which type is not recommended for new designs.
The CD14538B types are supplied in 16-lead hermetic dual-in-line ceramic packages (F3A suffix), 16-lead dual-in-lineplastic packages (E suffix), 16-lead small-outline packages (M, M96, MT, and NSR suffixes), and 16-lead thin shrinksmall-outline packages (PW and PWR suffixes).

Key Features

Retriggerable/resettable capability

Trigger and reset propagation delays independent of RX, CX

Triggering from leading or trailing edge

Q and Q\ buffered outputs available

Separate resets

Replaces CD4538B Type

Wide range of output-pulse widths

Schmitt-trigger input allows unlimited rise and fall times on +TR and -TR inputs

100% tested for maximum quiescent current at 20 V

Maximum input current of 1 µA 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 VDD = 5 V

2 V at VDD = 10 V

2.5 V at VDD = 15 V

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

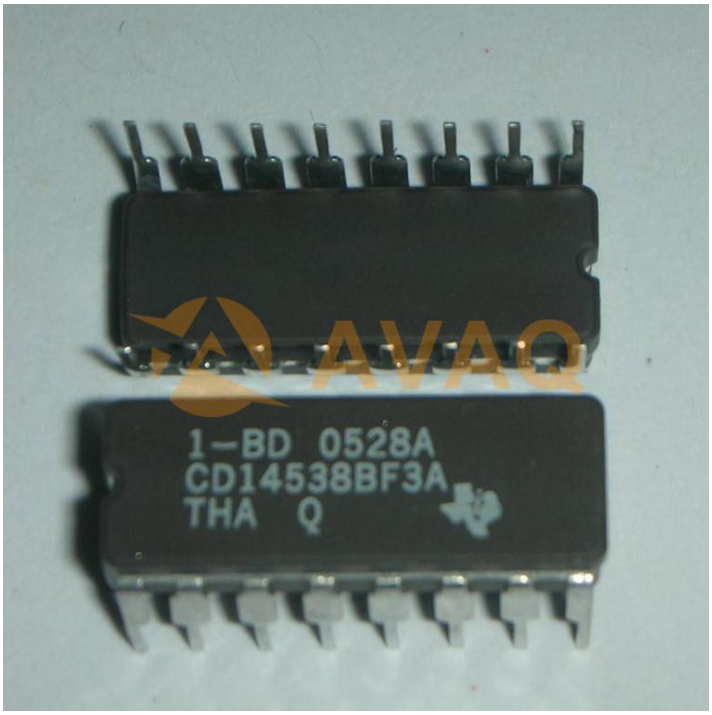
Standardized, symmetrical output characteristics

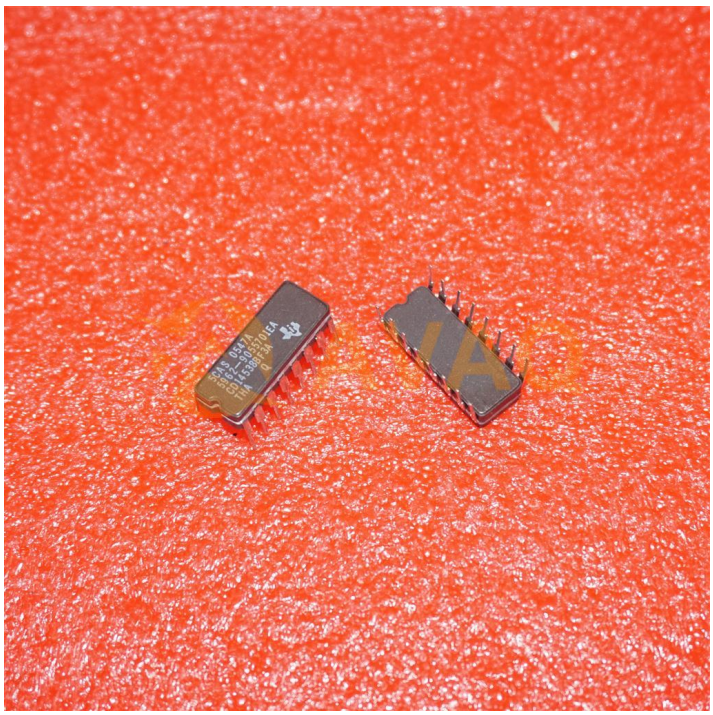
Meets all requirements of JEDEC Tentative Standard No. 13B, "Standard Specifications for Description of 'B' Series CMOS Devices"

Applications:

Pulse delay and timing

Pulse shaping





Recommended For You

CD4070BE

Texas Instruments, Inc

DIP14

CD74HCT138E

Texas Instruments, Inc

DIP16

CD4098BE

Texas Instruments, Inc

DIP

CD74HC08E

Texas Instruments, Inc

DIP

CD74HC4075E

Texas Instruments, Inc

DIP

CD74ACT74E

Texas Instruments, Inc

DIP-14

CD74HC75E

Texas Instruments, Inc

DIP

CD4504BE

Texas Instruments, Inc

DIP16

CD4068BE

Texas Instruments, Inc

DIP

CD4081BE

Texas Instruments, Inc

DIP14

CD4001BE

Texas Instruments, Inc

DIP14

CD4512BE

Texas Instruments, Inc

DIP16

CD4069UBE

Texas Instruments, Inc

DIP14

CD74HCT151E

Texas Instruments, Inc

DIP

CD74HC04M

Texas Instruments, Inc

SOP14