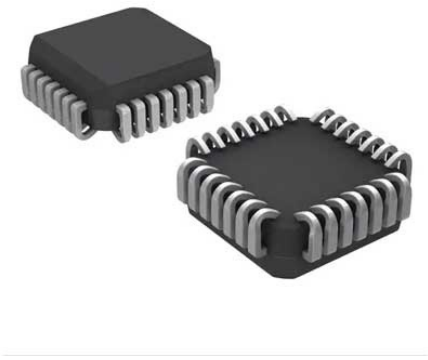
TL16C750FN

UART 1-CH 64byte FIFO 3.3V/5V 44-Pin PLCC Tube

Manufacturer:	Texas Instruments, Inc
Package/Case:	PLCC
Product Type:	Drivers
RoHS:	RoHS Compliant/Lead free
Lifecycle:	Active



Images are for reference only

Inquiry

General Description

The TL16C750 is a functional upgrade of the TL16C550C asynchronous communications element (ACE), which in turn is a functional upgrade of the TL16C450. Functionally equivalent to the TL16C450 on power up (character or TL16C450 mode), the TL16C750, like the TL16C550C, can be placed in an alternate mode (FIFO mode). This relieves the CPU of excessive software overhead by buffering received and transmitted characters. The receiver and transmitter FIFOs store up to 64 bytes including three additional bits of error status per byte for the receiver FIFO. The user can choose between a 16-byte FIFO mode or an extended 64-byte FIFO mode. In the FIFO mode, there is a selectable autoflow control feature that can significantly reduce software overload and increase system efficiency by automatically controlling serial data flow through the RTS\ output and the CTS\ input signals (see Figure 1).
The TL16C750 performs serial-to-parallel conversion on data received from a peripheral device or modem and parallel-to-serial conversion on data received from its CPU. The CPU can read the ACE status at any time. The ACE includes complete modem control capability and a processor interrupt system that can be tailored to minimize software management of the communications link.
The TL16C750 ACE includes a programmable baud rate generator capable of dividing a reference clock by divisors from 1 to (216 - 1) and producing a 16× reference clock for the internal transmitter logic. Provisions are also included to use this 16× clock for the receiver logic. The ACE accommodates a 1-Mbaud serial rate (16-MHz input clock) so a bit time is 1 us and a typical character time is 10 us (start bit, 8 data bits, stop bit).
Two of the TL16C450 terminal functions have been changed to TXRDY\ and RXRDY\, which provide signaling to a direct memory access (DMA) controller.

Key Features

Pin-to-Pin Compatible With the Existing TL16C550B/C

Programmable 16- or 64-Byte FIFOs to Reduce CPU Interrupts

Programmable Auto- RTS\ and Auto- CTS\

In Auto- CTS\ Mode,CTS\ Controls Transmitter

In Auto- RTS\ Mode, Receiver FIFO Contents and Threshold ControlRTS\

Serial and Modem Control Outputs Drive a RJ11 Cable Directly When Equipment Is on the Same Power Drop

Capable of Running With All Existing TL16C450 Software

After Reset, All Registers Are Identical to the TL16C450 Register Set

Up to 16-MHz Clock Rate for Up to 1-Mbaud Operation

In the TL16C450 Mode, Hold and Shift Registers Eliminate the Need for Precise Synchronization Between the CPU and Serial Data

Programmable Baud Rate Generator Allows Division of Any Input Reference Clock by 1 to (216-1) and Generates an Internal 16 × Clock

Standard Asynchronous Communication Bits (Start, Stop, and Parity) Added or Deleted to or From the Serial Data Stream

5-V and 3-V Operation

Register Selectable Sleep Mode and Low-Power Mode

Independent Receiver Clock Input

Independently Controlled Transmit, Receive, Line Status, and Data Set Interrupts

Fully Programmable Serial Interface Characteristics:
5-, 6-, 7-, or 8-Bit Characters

Even-, Odd-, or No-Parity Bit Generation and Detection

1-, 11/2-, or 2-Stop Bit Generation

Baud Generation (DC to 1 Mbits Per Second)

False Start Bit Detection

Complete Status Reporting Capabilities

3-State Output CMOS Drive Capabilities for Bidirectional Data Bus and Control Bus

Line Break Generation and Detection

Internal Diagnostic Capabilities:
Loopback Controls for Communications Link Fault Isolation

Break, Parity, Overrun, Framing Error Simulation

Fully Prioritized Interrupt System Controls

Modem Control Functions (CTS\,RTS\,DSR\,DTR\,RI\, andDCD\)

Available in 44-Pin PLCC and 64-Pin SQFP

Industrial Temperature Range Available for 64-Pin SQFP

TL16C750 ASYNCHRONOUS COMMUNICATIONS ELEMENT WITH 64-BYTE FIFOs AND AUTOFLOW CONTROL
SLLS191C - JANUARY 1995 - REVISED DECEMBER 1997

Recommended For You

TLV320AIC23BIPWR

Texas Instruments, Inc

TSSOP28

TLV320AIC3104IRHBR

Texas Instruments, Inc

QFN32

TL16C554AIPN

Texas Instruments, Inc

LQFP80

TLV320AIC3101IRHBR

Texas Instruments, Inc

QFN32

TL16C554APN

Texas Instruments, Inc

LQFP80

TLV320AIC24KIPFBR

Texas Instruments, Inc

TQFP-48

TL16C554PN

Texas Instruments, Inc

QFP

TLV320AIC24KIPFB

Texas Instruments, Inc

TQFP-48

TL16C752BLPTREP

Texas Instruments, Inc

LQFP-48

TL16C550DIPFBR

Texas Instruments, Inc

48-TQFP

TLC320AC01CFN

Texas Instruments, Inc

PLCC28

TL16C552AFN

Texas Instruments, Inc

PLCC

TL16C450FN

Texas Instruments, Inc

PLCC44

TL16C554FN

Texas Instruments, Inc

PLCC

TLV320AIC31IRHBR

Texas Instruments, Inc

VQFN32