

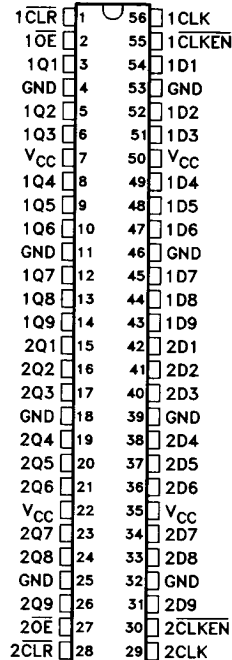
**54AC16823, 54ACT16823**  
**74AC16823, 74ACT16823**  
**18-BIT D-TYPE FLIP-FLOPS WITH 3-STATE OUTPUTS**

T10254—D3577, JUNE 1990

- **Members of Texas Instruments Widebus™ Family**
- **Packaged in Shrink Small-Outline 300-mil Packages (SSOP) and 380-mil Fine-Pitch Ceramic Flat Packages Using 25-mil Center-to-Center Pin Spacings**
- **Inputs are TTL- or CMOS-Voltage Compatible**
- **3-State Outputs Drive Bus Lines Directly**
- **Flow-Through Architecture Optimizes PCB Layout**
- **Distributed V<sub>CC</sub> and GND Pin Configuration Minimizes High-Speed Switching Noise**
- **EPIC™ (Enhanced-Performance Implanted CMOS) 1-μm Process**
- **500-mA Typical Latch-Up Immunity at 125°C**

54AC16823, 54ACT16823 ... WD PACKAGE  
 74AC16823, 74ACT16823 ... DL PACKAGE

(TOP VIEW)



**description**

The 'AC16823 and 'ACT16823 are noninverting 18-bit D-type flip-flops composed of two 9-bit sections with separate control signals. For either 9-bit flip-flop section, if the clock enable (1CLKEN or 2CLKEN) is low, the data present at the corresponding D inputs is stored in the flip-flops on the rising edge of 1CLK (or 2CLK). When 1CLKEN (or 2CLKEN) is high, the flip-flops retain their previously stored values. Taking 1CLR (or 2CLR) low asynchronously clears the corresponding flip-flops.

When the output enable (1OE or 2OE) is low, the corresponding Q outputs are active (high or low logic levels). When 1OE (or 2OE) is high, the corresponding outputs are in the high-impedance state. 1OE (or 2OE) does not affect the internal operation of the flip-flops: previously stored data can be retained or new data can be entered while the outputs are in the high-impedance state.

**FUNCTION TABLE, EACH SECTION**

INPUTS				FLIP-FLOP DATA	Q OUTPUTS
CLR	CLKEN	CLK	OE		
L	X	X	L	L	L
H	H	X	L	Previous D Data	Previous D Data
H	X	L	L	Previous D Data	Previous D Data
H	L	↑	L	Current D Data	Current D Data
H	H	X	H	Previous D Data	Z
H	X	L	H	Previous D Data	Z
H	L	↑	H	Current D Data	Z

EPIC and Widebus are trademarks of Texas Instruments Incorporated.

PRODUCT PREVIEW documents contain information on products in the formative or design phase of development. Characteristic data and other specifications are design goals. Texas Instruments reserves the right to change or discontinue these products without notice.

**TEXAS**  
**INSTRUMENTS**  
 POST OFFICE BOX 655303 • DALLAS, TEXAS 75265

Copyright © 1990, Texas Instruments Incorporated

**PRODUCT PREVIEW**

3-133

## D3577 JUNE 1990—T10254

The 54AC16823 and 54ACT16823 are characterized over the full military temperature range of  $-55^{\circ}\text{C}$  to  $125^{\circ}\text{C}$ . The 74AC16823 and 74ACT16823 are characterized for operation from  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$ .

TEXAS  
INSTRUMENTS

POST OFFICE BOX 655303 • DALLAS, TEXAS 75265