

# SN54ALS874B, SN74ALS874B, SN74ALS876A SN74AS874, SN74AS876 DUAL 4-BIT D-TYPE EDGE-TRIGGERED FLIP-FLOPS

SDAS061C – APRIL 1982 – REVISED JANUARY 1995

- 3-State Buffer-Type Outputs Drive Bus Lines Directly
- Bus-Structured Pinout
- Choice of True or Inverting Logic
  - SN54ALS874B, SN74ALS874B, SN74AS874 Have True Outputs
  - SN74ALS876A, SN74AS876 Have Inverting Outputs
- Asynchronous Clear
- Package Options Include Plastic Small-Outline (DW) Packages, Plastic (FN) and Ceramic (FK) Chip Carriers, and Standard Plastic (NT) and Ceramic (JT) 300-mil DIPs

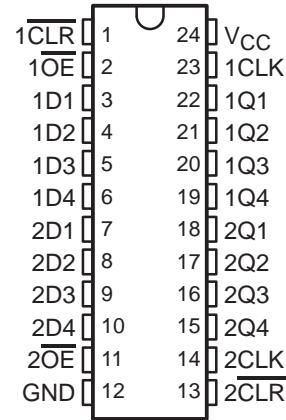
## description

These dual 4-bit D-type edge-triggered flip-flops feature 3-state outputs designed specifically as bus drivers. They are particularly suitable for implementing buffer registers, I/O ports, bidirectional bus drivers, and working registers.

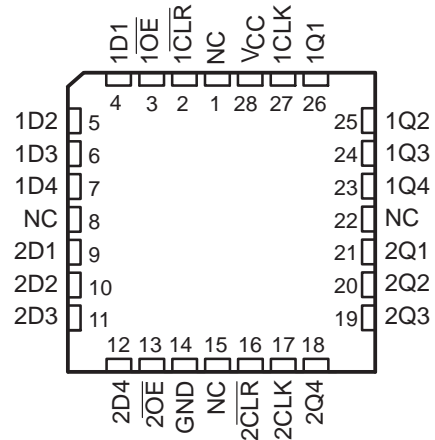
The edge-triggered flip-flops enter data on the low-to-high transition of the clock (CLK) input. The SN54ALS874B, SN74ALS874B, and SN74AS874 have clear ( $\overline{\text{CLR}}$ ) inputs and noninverting Q outputs. The SN74ALS876A and SN74AS876 have preset ( $\overline{\text{PRE}}$ ) inputs and inverting  $\overline{\text{Q}}$  outputs; taking  $\overline{\text{PRE}}$  low causes the four Q or  $\overline{\text{Q}}$  outputs to go low independently of the clock.

The SN54ALS874B is characterized for operation over the full military temperature range of  $-55^{\circ}\text{C}$  to  $125^{\circ}\text{C}$ . The SN74ALS874B, SN74ALS876A, SN74AS874, and SN74AS876 devices are characterized for operation from  $0^{\circ}\text{C}$  to  $70^{\circ}\text{C}$ .

SN54ALS874B . . . JT PACKAGE  
SN74ALS874B, SN74AS874 . . . DW OR NT PACKAGE  
(TOP VIEW)

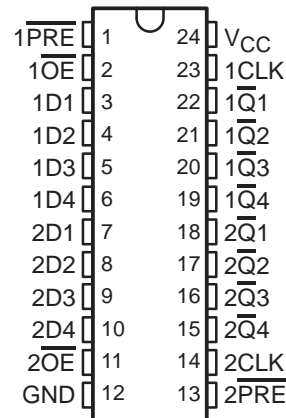


SN54ALS874B . . . FK PACKAGE  
(TOP VIEW)



NC – No internal connection

SN74ALS876A, SN74AS876 . . . DW OR NT PACKAGE  
(TOP VIEW)



**PACKAGING INFORMATION**

Orderable Device	Status <sup>(1)</sup>	Package Type	Package Drawing	Pins	Package Qty	Eco Plan <sup>(2)</sup>	Lead/Ball Finish	MSL Peak Temp <sup>(3)</sup>
84010013A	ACTIVE	LCCC	FK	28	1	TBD	Call TI	Level-NC-NC-NC
8401001KA	OBSOLETE	CFP	W	24		TBD	Call TI	Call TI
8401001LA	ACTIVE	CDIP	JT	24	1	TBD	Call TI	Level-NC-NC-NC
SN54ALS874BJT	ACTIVE	CDIP	JT	24	1	TBD	Call TI	Level-NC-NC-NC
SN74ALS874BDW	ACTIVE	SOIC	DW	24	25	Pb-Free (RoHS)	CU NIPDAU	Level-2-250C-1 YEAR/ Level-1-235C-UNLIM
SN74ALS874BDWR	ACTIVE	SOIC	DW	24	2000	Pb-Free (RoHS)	CU NIPDAU	Level-2-250C-1 YEAR/ Level-1-235C-UNLIM
SN74ALS874BNSR	ACTIVE	SO	NS	24	2000	Pb-Free (RoHS)	CU NIPDAU	Level-2-260C-1 YEAR/ Level-1-235C-UNLIM
SN74ALS874BNT	ACTIVE	PDIP	NT	24	15	Pb-Free (RoHS)	CU NIPDAU	Level-NC-NC-NC
SN74ALS876ADW	ACTIVE	SOIC	DW	24	25	Pb-Free (RoHS)	CU NIPDAU	Level-2-250C-1 YEAR/ Level-1-235C-UNLIM
SN74ALS876ADWR	ACTIVE	SOIC	DW	24	2000	Pb-Free (RoHS)	CU NIPDAU	Level-2-250C-1 YEAR/ Level-1-235C-UNLIM
SN74ALS876ANT	ACTIVE	PDIP	NT	24	15	Pb-Free (RoHS)	CU NIPDAU	Level-NC-NC-NC
SN74AS874DW	ACTIVE	SOIC	DW	24	25	Pb-Free (RoHS)	CU NIPDAU	Level-2-250C-1 YEAR/ Level-1-235C-UNLIM
SN74AS874DWR	ACTIVE	SOIC	DW	24	2000	Pb-Free (RoHS)	CU NIPDAU	Level-2-250C-1 YEAR/ Level-1-235C-UNLIM
SN74AS874NT	ACTIVE	PDIP	NT	24	15	Pb-Free (RoHS)	CU NIPDAU	Level-NC-NC-NC
SN74AS876DW	ACTIVE	SOIC	DW	24	25	Pb-Free (RoHS)	CU NIPDAU	Level-2-250C-1 YEAR/ Level-1-235C-UNLIM
SN74AS876DWR	ACTIVE	SOIC	DW	24	2000	Pb-Free (RoHS)	CU NIPDAU	Level-2-250C-1 YEAR/ Level-1-235C-UNLIM
SN74AS876NT	ACTIVE	PDIP	NT	24	15	Pb-Free (RoHS)	CU NIPDAU	Level-NC-NC-NC
SNJ54ALS874BFB	ACTIVE	LCCC	FK	28	1	TBD	Call TI	Level-NC-NC-NC
SNJ54ALS874BJT	ACTIVE	CDIP	JT	24	1	TBD	Call TI	Level-NC-NC-NC

<sup>(1)</sup> The marketing status values are defined as follows:

**ACTIVE:** Product device recommended for new designs.

**LIFEBUY:** TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.

**NRND:** Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new design.

**PREVIEW:** Device has been announced but is not in production. Samples may or may not be available.

**OBSOLETE:** TI has discontinued the production of the device.

<sup>(2)</sup> Eco Plan - The planned eco-friendly classification: Pb-Free (RoHS) or Green (RoHS & no Sb/Br) - please check <http://www.ti.com/productcontent> for the latest availability information and additional product content details.

**TBD:** The Pb-Free/Green conversion plan has not been defined.

**Pb-Free (RoHS):** TI's terms "Lead-Free" or "Pb-Free" mean semiconductor products that are compatible with the current RoHS requirements for all 6 substances, including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI Pb-Free products are suitable for use in specified lead-free processes.

**Green (RoHS & no Sb/Br):** TI defines "Green" to mean Pb-Free (RoHS compatible), and free of Bromine (Br) and Antimony (Sb) based flame retardants (Br or Sb do not exceed 0.1% by weight in homogeneous material)

<sup>(3)</sup> MSL, Peak Temp. -- The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder