



CY74FCT16652T CY74FCT162652T

16-Bit Registered Transceivers

Features

- Low power, pin-compatible replacement for ABT functions
- FCT-C speed at 5.4 ns
- Power-off disable outputs permits live insertion
- Edge-rate control circuitry for significantly improved noise characteristics
- Typical output skew < 250 ps
- ESD > 2000 V
- TSSOP (19.6-mil pitch) and SSOP (25-mil pitch) packages
- Extended commercial range of -40°C to +85°C
- V_{CC} = 5V ± 10%

CY74FCT16652T Features:

- 64 mA sink current (Com¹), 32 mA source current (Com¹)
- Typical V_{OLP} (ground bounce) < 1.0V at V_{CC} = 5V, T_A = 25°C

CY74FCT162652T Features:

- Balanced output drivers: 24 mA
- Reduced system switching noise
- Typical V_{OLP} (ground bounce) < 0.6V at V_{CC} = 5V, T_A = 25°C

Functional Description

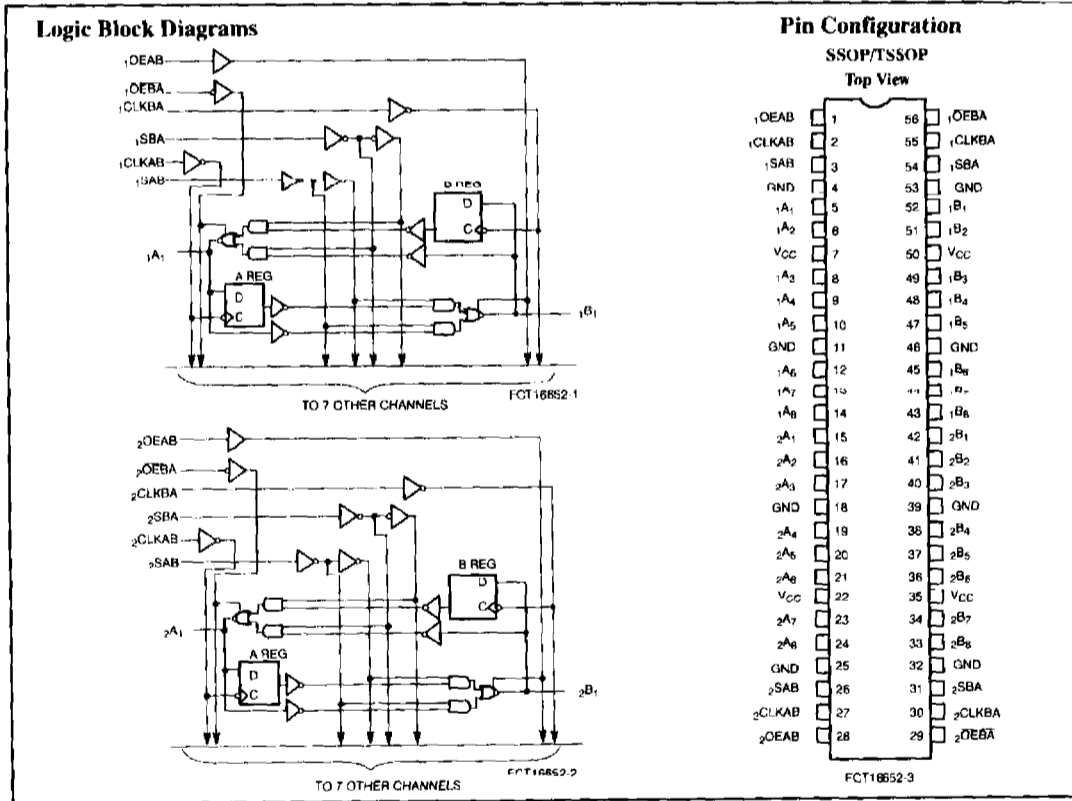
These 16-bit, high-speed, low-power, registered transceivers that are organized as two independent 8-bit bus transceivers with three-state D-type registers and control circuitry arranged for multiplexed transmission of data directly from the input bus or from the internal storage registers. OEAB and OEBA control pins are provided to control the transceiver functions. SAB and SBA control pins are provided to select either real-time or stored data transfer.

Data on the A or B data bus, or both, can be stored in the internal D flip-flops by LOW-to-HIGH transitions at the appropriate clock pins (CLKAB or CLKBA), regardless of the select or en-

able control pins. When SAB and SBA are in the real-time transfer mode, it is also possible to store data without using the internal D-type flip-flops by simultaneously enabling OEAB and OEBA. In this configuration, each output reinforces its input. Thus, when all other data sources to the two sets of bus lines are at high impedance, each set of bus lines will remain at its last state. The output buffers are designed with a power-off disable feature that allows live insertion of boards.

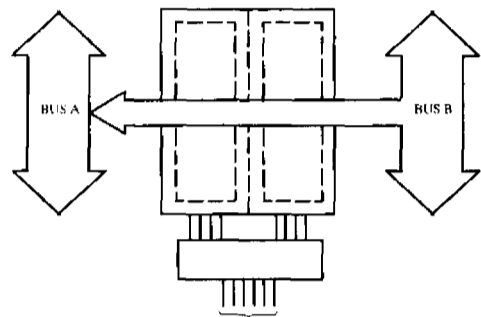
The CY74FCT16652T is ideally suited for driving high-capacitance loads and low-impedance backplanes.

The CY74FCT162652T has 24-mA balanced output drivers with current-limiting resistors in the outputs. This reduces the need for external terminating resistors and provides for minimal undershoot and reduced ground bounce. The CY74FCT162652T is ideal for driving transmission lines.



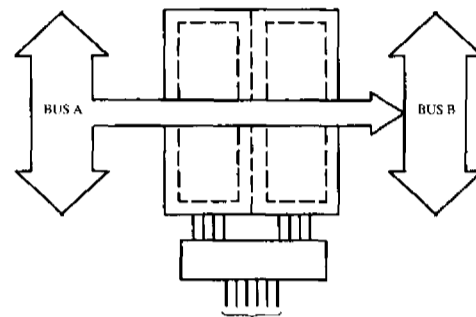


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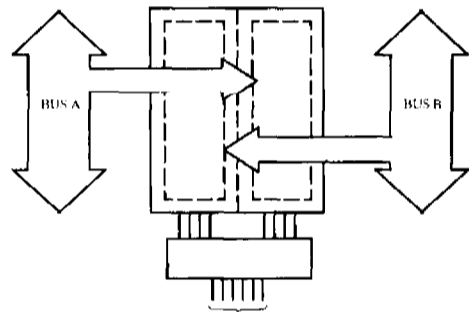
OEAB L OEBA L CLKAB X CLKBA X SAB X SBA L

Real-Time Transfer
Bus B to Bus A



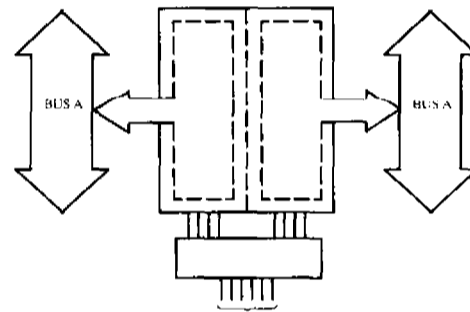
OEAB H OEBA L CLKAB X CLKBA X SAB L SBA H

Real-Time Transfer
Bus A to Bus B



OEAB X OEBA H CLKAB L CLKBA X SAB X SBA X
L L X H

Storage from
A and/or B



OEAB H OEBA L CLKAB H or L CLKBA H or L SAB H SBA H

Transfer Stored Data
to A and/or B

9

Maximum Ratings:¹

(Above which the useful life may be impaired. For user guidelines, not tested.)

- Storage Temperature Com'l -55°C to +125°C
- Ambient Temperature with Power Applied Com'l -55°C to +125°C
- DC Input Voltage -0.5V to +7.0V
- DC Output Voltage -0.5V to +7.0V
- DC Output Current (Maximum Sink Current/Pin) -60 to +120 mA

Note:

4. Stresses greater than those listed under Maximum Ratings may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect reliability.

- Power Dissipation 1.0W
- Static Discharge Voltage >2001V (per MIL-STD-883, Method 3015)

Operating Range

Range	Ambient Temperature	V _{CC}
Commercial	-40°C to +85°C	5V ± 10%



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Ordering Information CY74FCT16652

Speed (ns)	Ordering Code	Package Name	Package Type	Operating Range
5.4	CY74FCT16652CTPAC	Z56	56-Lead (240-Mil) TSSOP	Commercial
	CY74FCT16652CTPVC	O56	56-Lead (300-Mil) SSOP	
6.3	CY74FCT16652ATPAC	Z56	56-Lead (240-Mil) TSSOP	Commercial
	CY74FCT16652ATPVC	O56	56-Lead (300-Mil) SSOP	
9.0	CY74FCT16652TPAC	Z56	56-Lead (240-Mil) TSSOP	Commercial
	CY74FCT16652TPVC	O56	56-Lead (300-Mil) SSOP	

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	CY74FCT162652CTPVC	O56	56-Lead (300-Mil) SSOP	
6.3	CY74FCT162652ATPAC	Z56	56-Lead (240-Mil) TSSOP	Commercial
	CY74FCT162652ATPVC	O56	56-Lead (300-Mil) SSOP	
9.0	CY74FCT162652TPAC	Z56	56-Lead (240-Mil) TSSOP	Commercial
	CY74FCT162652TPVC	O56	56-Lead (300-Mil) SSOP	

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