

74S Series TTL (Ultra-High-Speed)

Series 74S Schottky TTL circuits are designed to achieve ultra-high speeds previously obtainable only with emitter coupled logic, yet they retain the desirable features of, and are completely compatible with, most of the popular saturated logic circuits. Series 74S circuits are completely compatible with the Series 74, Series 74H and Series 74L TTL logic families.

FEATURES

3ns typical gate propagation delay time.

19mW-per-gate power dissipation at 50% duty cycle—speed-power product=57 pJ.

125 MHz typical J-K flip-flop maximum input clock frequency (DC coupled).

Terminated, controlled-impedance lines not normally required.

Low output impedance; provides low AC noise susceptibility; drives highly capacitive loads.

Switching times virtually insensitive to power supply and/or temperature variations.

Power dissipation remains relatively low at operating frequencies up to 100 MHz.

High fan-out: 20 74S loads at the high logic level; 10 74S loads at the low logic level.

High DC noise margin—typically 1 volt.

Fully compatible with Series 74, 74H, and 74L TTL (including MSI/LSI), and most DTL.

REFERENCE TABLE See outline drawings Nos. 109, 111 and 114 for physical dimensions.

Code	Function	Stock No.	Connection Diagram No.
DM74S00N	Quad 2 NAND Gate	33056X	B1
DM74S03N	Quad 2 NAND Gate (Open Collector)	33057R	B4
DM74S04N	HEX Inverter	33058G	B5
DM74S05N	HEX Inverter (Open Collector)	33059E	B6
DM74S10N	Triple 3 NAND Gate	33060H	B11
DM74S11N	Triple 3 AND Gate	33061F	B12
DM74S15N	Triple 3 AND Gate (Open Collector)	33063B	B15
DM74S20N	Dual 4 NAND Gate	33064X	B18
DM74S22N	Dual 4 NAND Gate (Open Collector)	33066G	B21
*DM74S40N	Dual 4 NAND Buffer	33070D	B31
DM74S64N	(4-2-2-3) And-OR-Invert Gate	33072X	B49
DM74S65N	(4-2-2-3) And-OR-Invert Gate (Open Collector)	33073R	B50
*DM74S74N	Dual D Flip-Flop	33074G	B55
*DM74S86N	Quad Exclusive-OR Gate	33075E	B65
*DM74S112N	Dual J-K Flip-Flop	33077A	B83
*DM74S113N	Dual J-K Flip-Flop	33078X	B84
*DM74S114N	Dual J-K Flip-Flop	33079H	B85
*DM74S140N	Dual 4-NAND Line Driver	33080X	B99
*DM74S151N	Eight Input Multiplexer	33081R	B103
DM74S153N	Dual 4-Input Multiplexer	33083E	B105
*DM74S157N	Quad 2 Multiplexer	33084C	B109
*DM74S158N	Quad 2 Multiplexer	33085A	B110
*DM74S194N	4-Bit Bi-directional Shift Register	33088F	B136
DM74S200N	256 Bit Ram	34679X	B142
*DM74S251N	TRI-STATE 8-Input Multiplexer (TRI-STATE 74S151)	33090G	B143
*DM74S257N	TRI-STATE Quad 2-Input Multiplexer (TRI-STATE 74S157)	33091E	B144

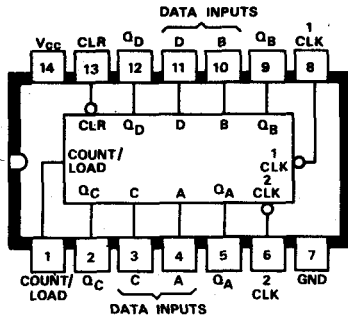
*NOTE: These items are new products—check on availability with our sales desk.

PLEASE QUOTE STOCK NO. AND MANUFACTURER'S CODE WHEN ORDERING

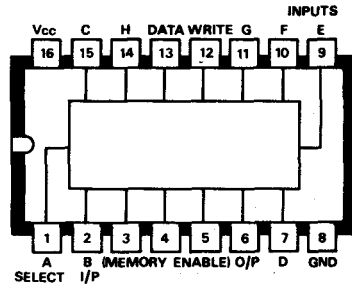
Semiconductors

Connection Diagrams

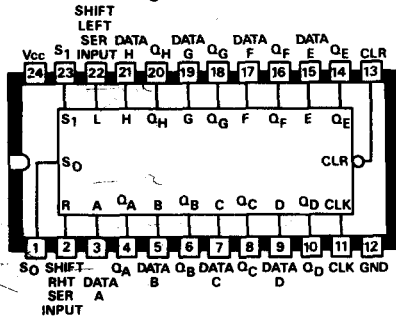
B139 **SN74197N**
50 MHz binary counter



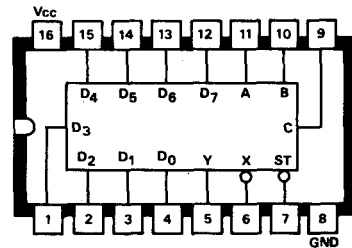
B142 **SN74200N**
SN74C200N
256-bit RAM



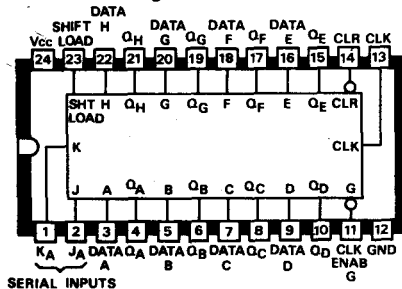
B140 **SN74198N**
SN74S198N
8-bit shift register



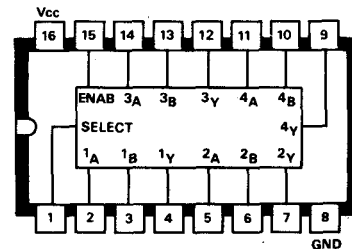
B143 **SN74S251N**
8-bit data selector/multiplexer



B141 **SN74199N**
8-bit shift register



B144 **SN74S257N**
Quad 2-input data selector



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