HS-C²MOS™ INTEGRATED CIRCUITS

M54HC646
M74HC646

PRODUCT PREVIEW

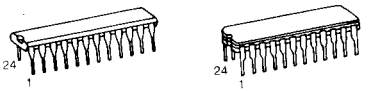
OCTAL BUS TRANSCEIVERS AND REGISTERS, (3 STATE)

DESCRIPTION

The M54/74HC646 is a high speed CMOS OCTAL BUS TRANSCEIVERS AND REGISTERS, (3 STATE) fabricated in silicon gate C²MOS technology. It has the same high speed performance of LSTTL combined with true CMOS low power consumption. This device consist of bus transceiver circuits with 3-state output, D-type flip-flops, and control circuitry arranged for multiplexed transmission of data directly from the input bus or from the internal registers. Data on the A or B bus will be clocked into the registers on the low-to-high transition of the appropriate clock pin (Clock AB - or Clock BA). Enable ($\overline{G}$) and direction (DIR) pins are provided to control the transceiver functions. In the transceiver mode, data present at the high-impedance port may be stored in either register or in both. The select controls (Select AB select BA) can multiplex stored and real-time (transparent mode) data. The direction control determines which bus will receive data when enable $\overline{G}$ is active (low). In the isolation mode (enable $\overline{G}$ high), "A" data may be stored in one register and/or "B" data may be stored in the other register. When an output function is disabled, the input function is still enabled and may be used to store and transmit data. Only one of the two buses, A or B, may be driven at a time. All inputs are equipped with protection circuits against static discharge or transient excess voltage.

FEATURES

- Low Power Dissipation
  I_{CC} = 4 μA (Max.) at T_A = 25°C
- High Noise Immunity
  $V_{NIH} = V_{NIL}$ = 28% V_{CC} (Min.)
- Output Drive Capability
  15 LSTTL Loads
- Symmetrical Output Impedance
  $|I_{OH}| = I_{OL}$ = 6 mA (Min.)
- Balanced Propagation Delays
  $t_{PLH} = t_{PHL}$
- Wide Operating Voltage Range
  V_{CC} (opr) = 2V to 6V
- Pin and Function compatible
  with 54/74LS646

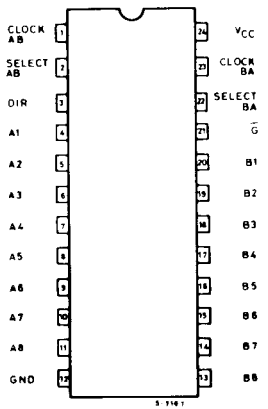


B1
Plastic Package

F1
Ceramic Package

ORDERING NUMBERS: M54HC646 F1
M74HC646 B1
M74HC646 F1

PIN CONNECTIONS
(top view)



Dual in line

INPUT AND OUTPUT EQUIVALENT CIRCUIT