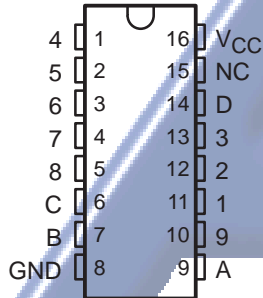# SN54147, SN54148, SN54LS147, SN54LS148
SN74147, SN74148 (TIM9907), SN74LS147, SN74LS148
10-LINE TO 4-LINE AND 8-LINE TO 3-LINE PRIORITY ENCODERS
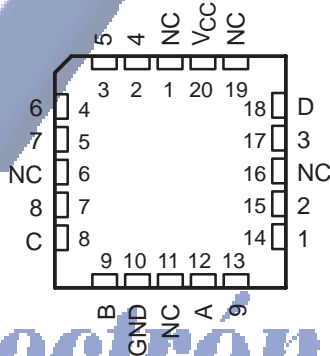
SDLS053B – OCTOBER 1976 – REVISED MAY 2004

'147, 'LS147

- Encode 10-Line Decimal to 4-Line BCD
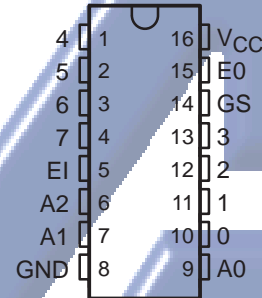- Applications Include:
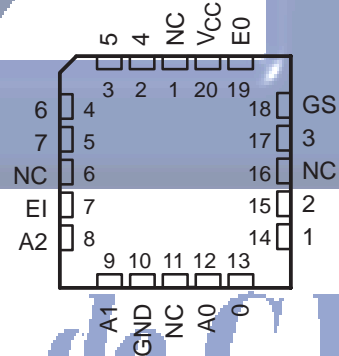 - Keyboard Encoding
  - Range Selection

'148, 'LS148

- Encode 8 Data Lines to 3-Line Binary (Octal)
- Applications Include:
  - n-Bit Encoding
  - Code Converters and Generators

SN54147, SN54LS147 . . . J OR W PACKAGE
SN74147, SN74LS147 . . . D OR N PACKAGE
(TOP VIEW)

```
        4 [ 1      16 ] VCC
        5 [ 2      15 ] NC
        6 [ 3      14 ] D
        7 [ 4      13 ] 3
        8 [ 5      12 ] 2
        C [ 6      11 ] 1
        B [ 7      10 ] 9
      GND [ 8       9 ] A
```

SN54148, SN54LS148 . . . J OR W PACKAGE
SN74148, SN74LS148 . . . D, N, OR NS PACKAGE
(TOP VIEW)

```
        4 [ 1      16 ] VCC
        5 [ 2      15 ] E0
        6 [ 3      14 ] GS
        7 [ 4      13 ] 3
       EI [ 5      12 ] 2
       A2 [ 6      11 ] 1
       A1 [ 7      10 ] 0
      GND [ 8       9 ] A0
```

SN54LS147 . . . FK PACKAGE
(TOP VIEW)

```
             NC  VCC  NC
          5   4   1   20  19
       6 [ 4              18 ] D
       7 [ 5              17 ] 3
      NC [ 6              16 ] NC
       8 [ 7              15 ] 2
       C [ 8              14 ] 1
          9  10  11  12  13
          B  GND  NC  A   9
```

SN54LS148 . . . FK PACKAGE
(TOP VIEW)

```
             NC  VCC  E0
          5   4   1   20  19
       6 [ 4              18 ] GS
       7 [ 5              17 ] 3
      NC [ 6              16 ] NC
      EI [ 7              15 ] 2
      A2 [ 8              14 ] 1
          9  10  11  12  13
          A1 GND  NC  A0  0
```

NC – No internal connection

TYPE	TYPICAL DATA DELAY	TYPICAL POWER DISSIPATION
'147	10 ns	225 mW
'148	10 ns	190 mW
'LS147	15 ns	60 mW
'LS148	15 ns	60 mW

NOTE: The SN54147, SN54LS147, SN54148, SN74147, SN74LS147, and SN74148 are obsolete and are no longer supplied.

Please be aware that an important notice concerning availability, standard warranty, and use in critical applications of Texas Instruments semiconductor products and disclaimers thereto appears at the end of this data sheet.

TEXAS INSTRUMENTS

POST OFFICE BOX 655303 ● DALLAS, TEXAS 75265

SN54147, SN54148, SN54LS147, SN54LS148
SN74147, SN74148 (TIM9907), SN74LS147, SN74LS148
10-LINE TO 4-LINE AND 8-LINE TO 3-LINE PRIORITY ENCODERS

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'148, 'LS148 logic diagram (positive logic)
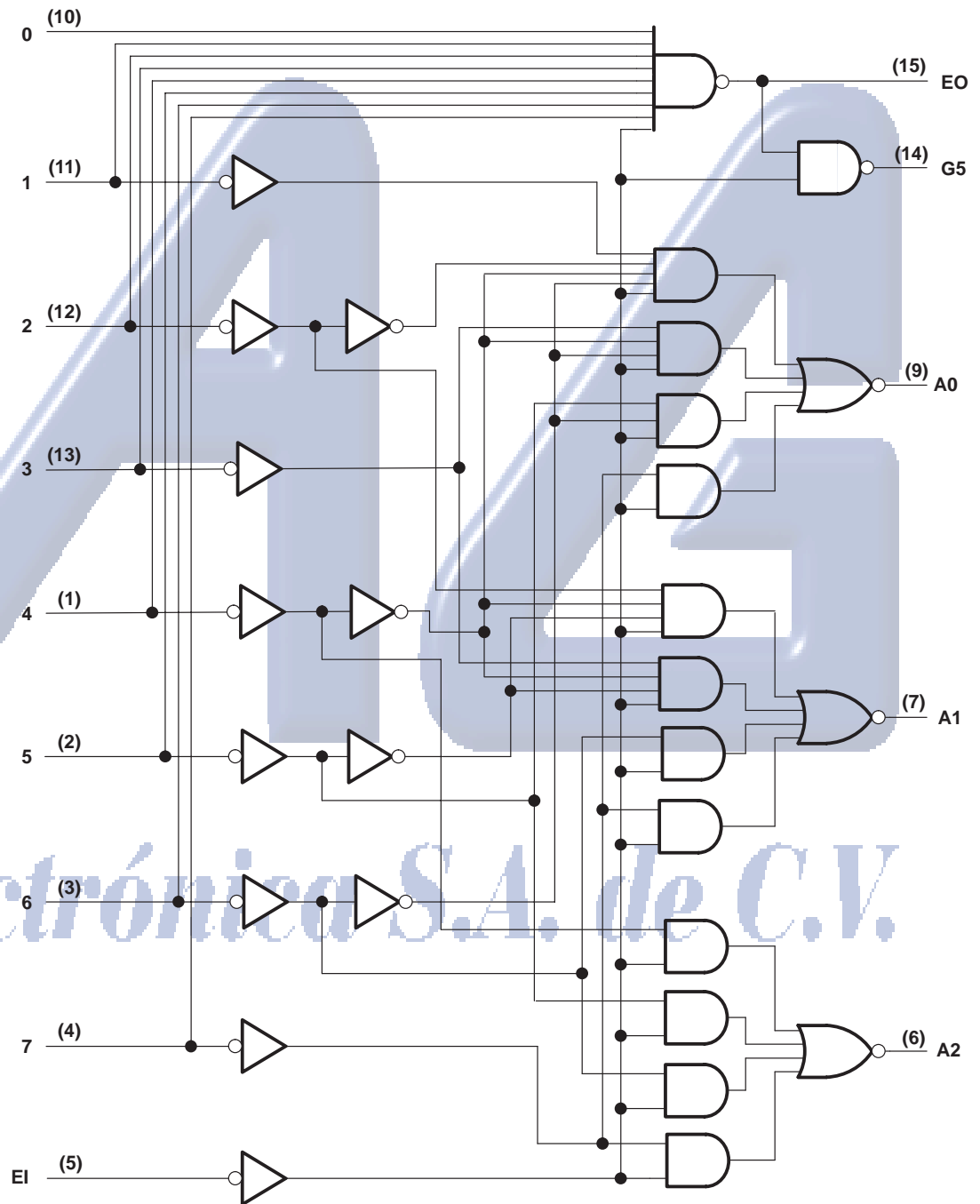
Pin numbers shown are for D, J, N, NS, and W packages.