

**MSL918**

OKI SEMICONDUCTOR GROUP

**8-BIT PARALLEL-IN PARALLEL-OUT****GENERAL DESCRIPTION**

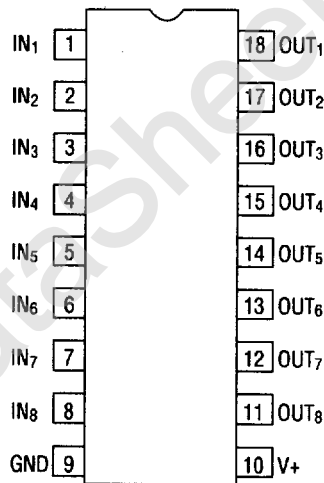
The MSL918 is a high voltage vacuum fluorescent display tube driver, which uses positive voltage and contains eight circuits. Each output does not contain a pull-down resistor, hence it should be connected to an external resistor (about 150k $\Omega$ )

Input may be driven directly by the TTL or CMOS. The vacuum fluorescent display tube driver may also be used as a high voltage and current driver.

- 18-pin Plastic DIP (DIP 18-P-300)

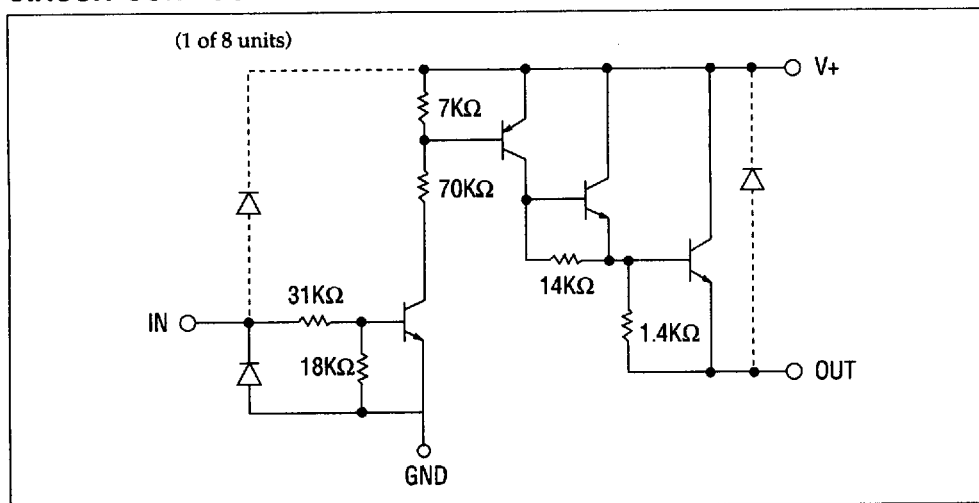
**PIN CONFIGURATION**

(Top View) 18-pin Plastic DIP



## CIRCUIT CONFIGURATION

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## ELECTRICAL CHARACTERISTICS

## • Absolute Maximum Ratings

| Parameter           | Symbol           | Condition                    | Limits     | Unit |
|---------------------|------------------|------------------------------|------------|------|
| Supply voltage      | V+               | Ta=25°C                      | -0.3 ~ +35 | V    |
| Input voltage       | V <sub>i</sub>   | Ta=25°C                      | -0.5 ~ +10 | V    |
| Output voltage      | V <sub>o</sub>   | Ta=25°C                      | -0.3 ~ V+  | V    |
| Output current      | I <sub>o</sub>   | Ta=25°C, only one circuit ON | -45        | mA   |
| Storage temperature | T <sub>stg</sub> | -                            | -55 ~ +150 | °C   |

## • Recommended Operating Conditions

| Parameter             | Symbol          | Condition                             | Limits    | Unit |
|-----------------------|-----------------|---------------------------------------|-----------|------|
| Supply voltage        | V+              | -                                     | +15 ~ +30 | V    |
| Input voltage         | V <sub>i</sub>  | -                                     | 0 ~ +7    | V    |
| Output current        | I <sub>o</sub>  | Only one circuit ON*                  | 0 ~ -40   | mA   |
|                       |                 | Per circuit when all circuits are ON* | 0 ~ -11   | mA   |
|                       |                 | Total output current*                 | 0 ~ -90   | mA   |
| Operating temperature | T <sub>op</sub> | -                                     | -30 ~ +75 | °C   |

\* Duty: 50% max.

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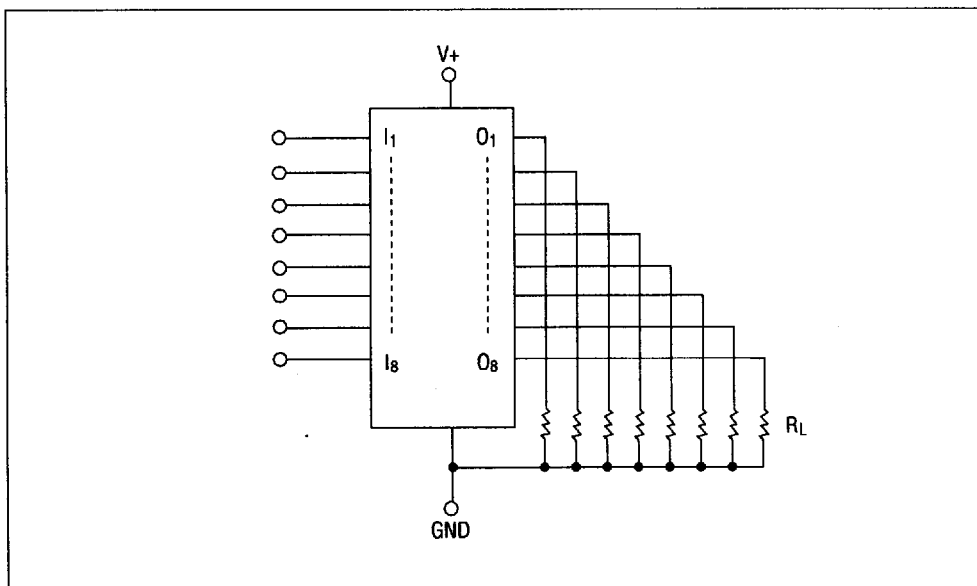
## • DC Characteristics

(Ta = -30 ~ +75°C, TYP: Ta = 25°C)

| Parameter           | Symbol              | Condition |                   |         |                 | Specification |     |      | Unit    |
|---------------------|---------------------|-----------|-------------------|---------|-----------------|---------------|-----|------|---------|
|                     |                     | V+ (V)    | Vi (V)            | Io (mA) | RL ( $\Omega$ ) | MIN           | TYP | MAX  |         |
| High input voltage  | V <sub>IH</sub>     | +30       | -                 | -       | -               | 2.5           | -   | -    | V       |
| Low input voltage   | V <sub>IL</sub>     | +30       | -                 | -       | -               | -             | -   | 1.0  | V       |
| Low input current   | I <sub>IL</sub>     | +30       | 1.0               | -       | -               | -             | -20 | -80  | $\mu$ A |
| High input current  | I <sub>IH1</sub>    | +30       | 2.5               | -       | -               | -             | -   | 0.15 | mA      |
|                     | I <sub>IH2</sub>    | +30       | 7                 | -       | -               | -             | -   | 0.5  | mA      |
| High output voltage | V <sub>OH</sub>     | +30       | 2.5               | -40     | -               | 27            | -   | -    | V       |
| Low output voltage  | V <sub>OL</sub>     | +30       | 1.0               | 0       | 150K            | -             | -   | 3.0  | V       |
| Supply current      | I <sub>CC OFF</sub> | +30       | ALL INPUTS<br>1.0 | -       | 150K            | -             | -   | 0.4  | mA      |
|                     | I <sub>CC ON</sub>  | +30       | ALL INPUTS<br>2.5 | -       | 150K            | -             | 9.5 | 14   | mA      |

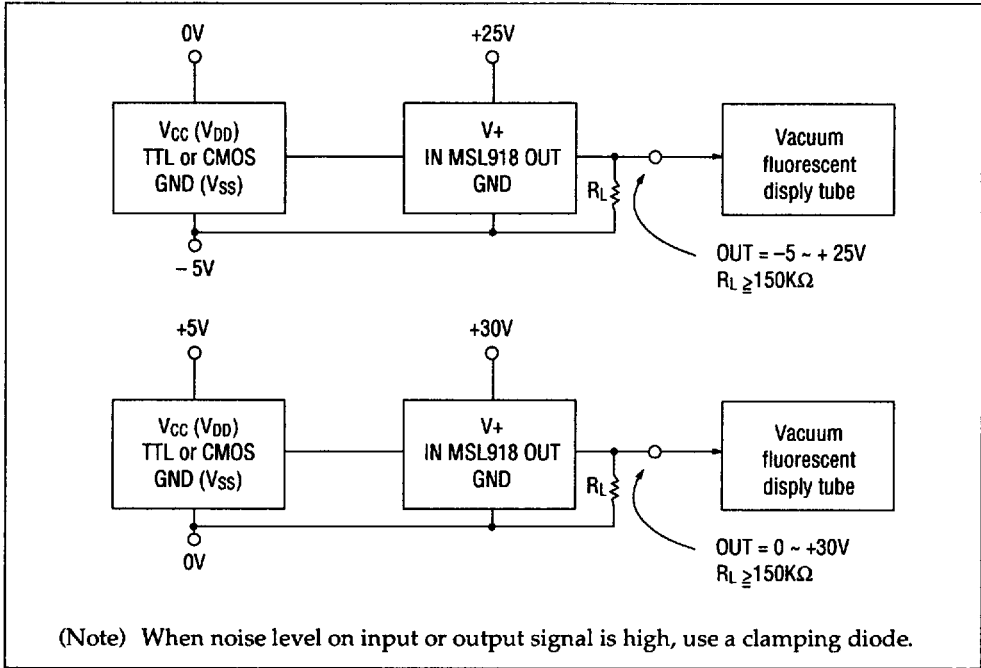
\*1 RL connection method

## RL CONNECTION METHOD



## APPLICATION NOTE

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