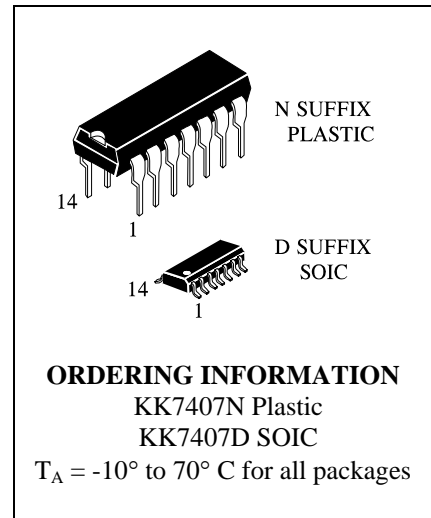
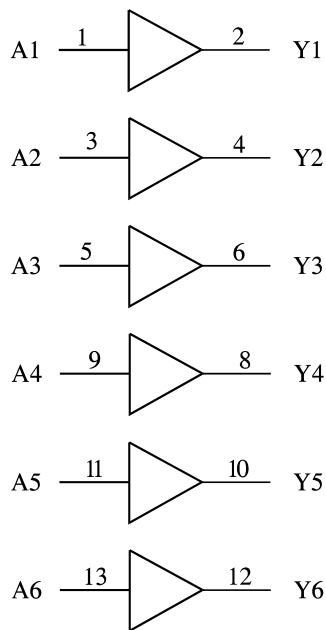


**KK7407**

**Hex Buffers/Drivers with Open-Collector High-Voltage Outputs**

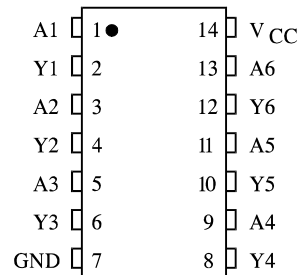


**LOGIC DIAGRAM**



PIN 14 = V<sub>CC</sub>  
 PIN 7 = GND

**PIN ASSIGNMENT**



**FUNCTION TABLE**

| Inputs | Output |
|--------|--------|
| A      | Y      |
| H      | Z      |
| L      | H      |

Z = High Impedance

**MAXIMUM RATINGS\***

| Symbol           | Parameter                 | Value       | Unit |
|------------------|---------------------------|-------------|------|
| V <sub>CC</sub>  | Supply Voltage            | 7.0         | V    |
| V <sub>IN</sub>  | Input Voltage             | 5.5         | V    |
| V <sub>OUT</sub> | Output Voltage            | 30          | V    |
| T <sub>stg</sub> | Storage Temperature Range | -65 to +150 | °C   |

\*Maximum Ratings are those values beyond which damage to the device may occur. Functional operation should be restricted to the Recommended Operating Conditions.

**RECOMMENDED OPERATING CONDITIONS**

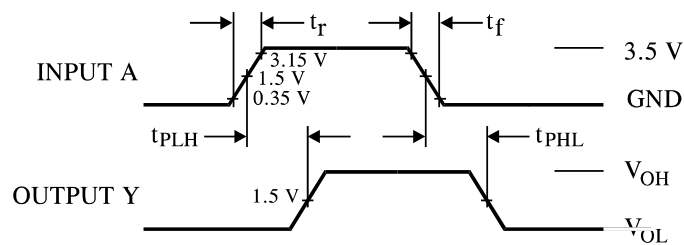
| Symbol          | Parameter                 | Min  | Max  | Unit |
|-----------------|---------------------------|------|------|------|
| V <sub>CC</sub> | Supply Voltage            | 4.75 | 5.25 | V    |
| V <sub>IH</sub> | High Level Input Voltage  | 2.0  |      | V    |
| V <sub>IL</sub> | Low Level Input Voltage   |      | 0.8  | V    |
| U <sub>OH</sub> | High Level Output Voltage |      | 30   | V    |
| I <sub>OL</sub> | Low Level Output Current  |      | 40   | mA   |
| T <sub>A</sub>  | Ambient Temperature Range | -10  | +70  | °C   |

**DC ELECTRICAL CHARACTERISTICS** over full operating conditions

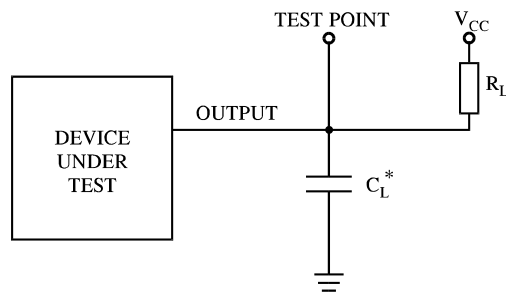
| Symbol          | Parameter                 | Test Conditions                                 | Guaranteed Limit |      | Unit |    |
|-----------------|---------------------------|---|------------------|------|------|----|
|                 |                           |   | Min              | Max  |      |    |
| V <sub>IK</sub> | Input Clamp Voltage       | V <sub>CC</sub> = min, I <sub>IN</sub> = -12 mA |                  | -1.5 | V    |    |
| I <sub>OH</sub> | High Level Output Current | V <sub>CC</sub> = min, V <sub>OH</sub> = max    |                  | 0.25 | mA   |    |
| V <sub>OL</sub> | Low Level Output Voltage  | V <sub>CC</sub> = min, I <sub>OL</sub> = 16 mA  |                  | 0.4  | V    |    |
|                 |                           | V <sub>CC</sub> = min, I <sub>OL</sub> = 40 mA  |                  | 0.7  |      |    |
| I <sub>IH</sub> | High Level Input Current  | V <sub>CC</sub> = max, V <sub>IN</sub> = 2.4 V  |                  | 0.04 | μA   |    |
|                 |                           | V <sub>CC</sub> = max, V <sub>IN</sub> = 5.5 V  |                  | 1.0  | mA   |    |
| I <sub>IL</sub> | Low Level Input Current   | V <sub>CC</sub> = max, V <sub>IN</sub> = 0.4 V  |                  | -1.6 | mA   |    |
| I <sub>CC</sub> | Supply Current            | V <sub>CC</sub> = max                           | Outputs High     |      | 41   | mA |
|                 |                           |   | Outputs Low      |      | 30   |    |

**AC ELECTRICAL CHARACTERISTICS** (T = 25°C, V<sub>CC</sub> = 5.0 V, C<sub>L</sub> = 15 pF,  
R<sub>L</sub> = 110 Ω, Input t<sub>r</sub> = t<sub>f</sub> = 10 ns)

| Symbol           | Parameter   | Min | Max | Unit |
|------------------|---|-----|-----|------|
| t <sub>PLH</sub> | Propagation Delay Time, Low to High Level Output (from Input to Output) |     | 10  | ns   |
| t <sub>PHL</sub> | Propagation Delay Time, High to Low Level Output (from Input to Output) |     | 35  | ns   |



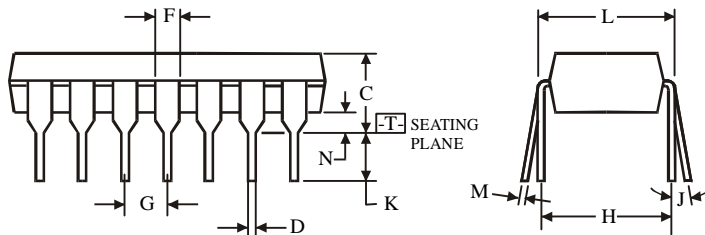
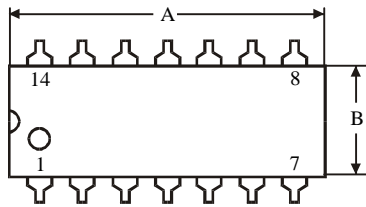
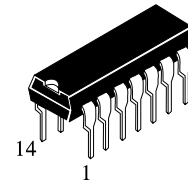
**Figure 1. Switching Waveforms**



\* Includes all probe and jig capacitance

**Figure 2. Test Circuit**

### N SUFFIX PLASTIC DIP (MS - 001AA)



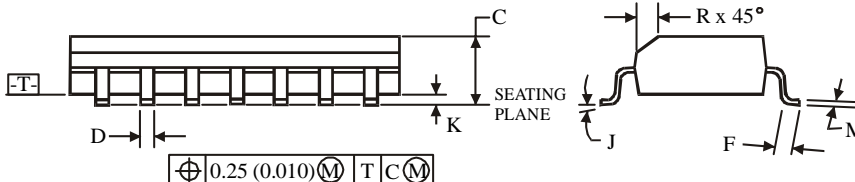
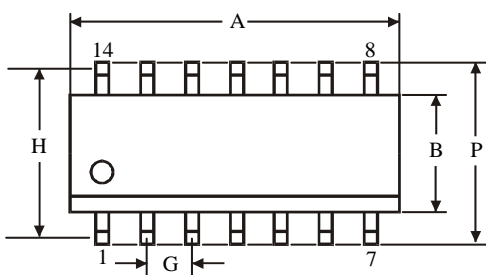
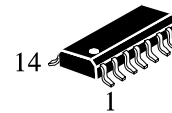
$\oplus 0.25 (0.010) \text{ (M) T}$

**NOTES:**

- Dimensions "A", "B" do not include mold flash or protrusions.  
Maximum mold flash or protrusions 0.25 mm (0.010) per side.

| Symbol | Dimension, mm |       |
|--------|---------------|-------|
|        | MIN           | MAX   |
| A      | 18.67         | 19.69 |
| B      | 6.1           | 7.11  |
| C      |               | 5.33  |
| D      | 0.36          | 0.56  |
| F      | 1.14          | 1.78  |
| G      | 2.54          |       |
| H      | 7.62          |       |
| J      | 0°            | 10°   |
| K      | 2.92          | 3.81  |
| L      | 7.62          | 8.26  |
| M      | 0.2           | 0.36  |
| N      | 0.38          |       |

### D SUFFIX SOIC (MS - 012AB)



$\oplus 0.25 (0.010) \text{ (M) T C (M)}$

**NOTES:**

- Dimensions A and B do not include mold flash or protrusion.
- Maximum mold flash or protrusion 0.15 mm (0.006) per side for A; for B - 0.25 mm (0.010) per side.

| Symbol | Dimension, mm |      |
|--------|---------------|------|
|        | MIN           | MAX  |
| A      | 8.55          | 8.75 |
| B      | 3.8           | 4    |
| C      | 1.35          | 1.75 |
| D      | 0.33          | 0.51 |
| F      | 0.4           | 1.27 |
| G      | 1.27          |      |
| H      | 5.27          |      |
| J      | 0°            | 8°   |
| K      | 0.1           | 0.25 |
| M      | 0.19          | 0.25 |
| P      | 5.8           | 6.2  |
| R      | 0.25          | 0.5  |