

**KS54AHCT 05**  
**KS74AHCT**

**Hex Inverters with Open-Drain Outputs**

**FEATURES**

- Function, pin-out, speed and drive compatibility with 54/74ALS logic family
- Low power consumption characteristic of CMOS
- High-Drive-Current outputs:  
I<sub>OL</sub> = 8 mA @ V<sub>OL</sub> = 0.5V
- Inputs and outputs interface directly with TTL, NMOS and CMOS devices
- Wide operating voltage range: 4.5V to 5.5V
- Characterized for operation over industrial and military temperature ranges:  
KS74AHCT: -40°C to +85°C  
KS54AHCT: -55°C to +125°C
- Package options include plastic "small outline" packages, standard plastic and ceramic 300-mil DIPs

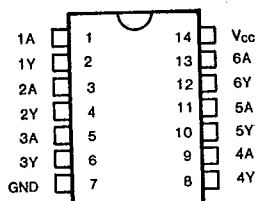
**DESCRIPTION**

These devices contain six independent inverters with open-drain outputs. Using a suitable pull-up resistor, these outputs may be connected to other open-drain outputs to implement wired-AND functions.

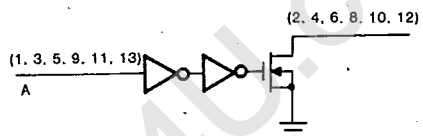
These devices provide speeds and drive capability equivalent to their ALSTTL counterparts and yet maintain CMOS power levels. The input and output voltage levels allow direct interface with TTL, NMOS and CMOS devices without any external components.

All inputs and outputs are protected from damage due to static discharge by internal diode clamps to V<sub>CC</sub> and ground.

**PIN CONFIGURATION**



**LOGIC DIAGRAM**



**FUNCTION TABLE**

(Each Inverter)

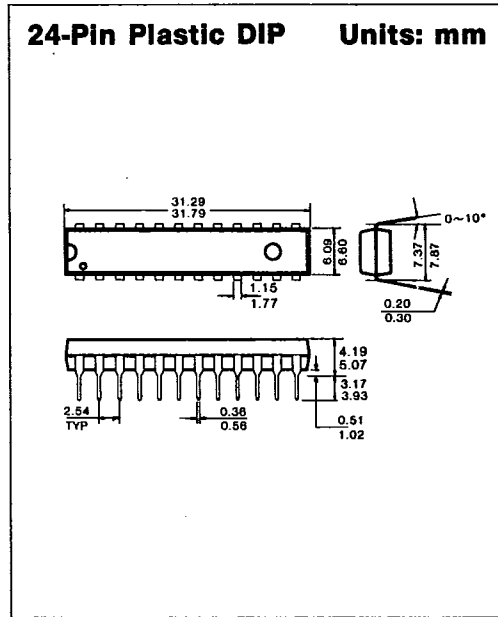
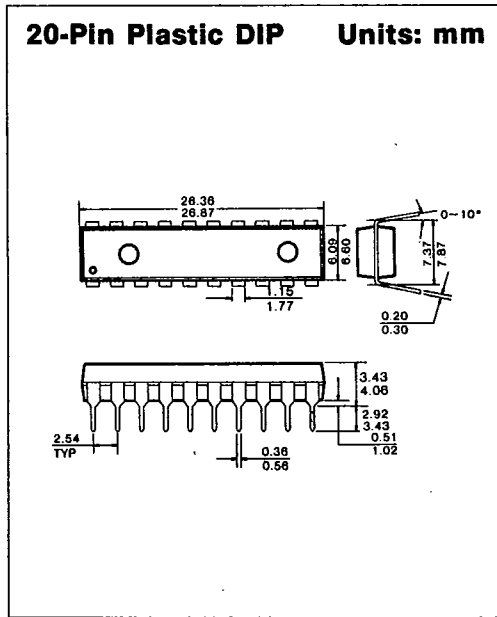
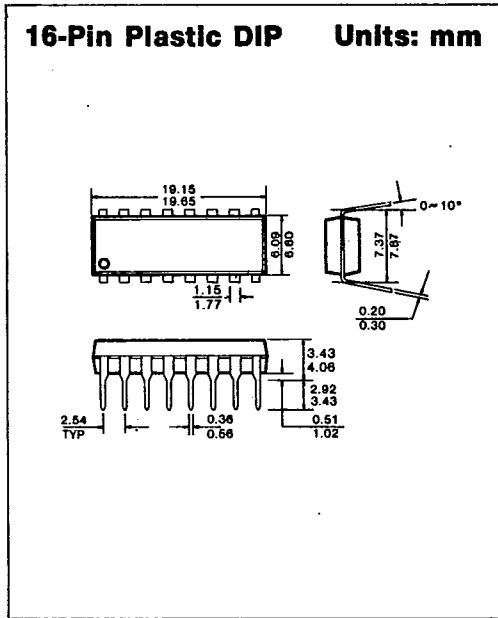
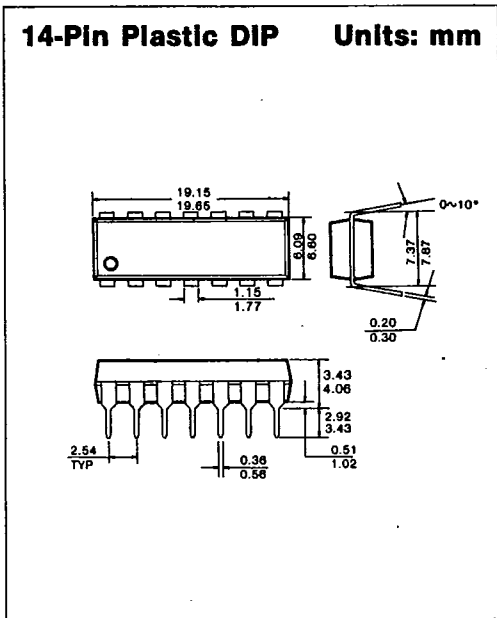
| Input | Output |
|-------|--------|
| A     | Y      |
| H     | L      |
| L     | H      |



**PACKAGE DIMENSIONS**

T-90-20

**1. PLASTIC PACKAGES**



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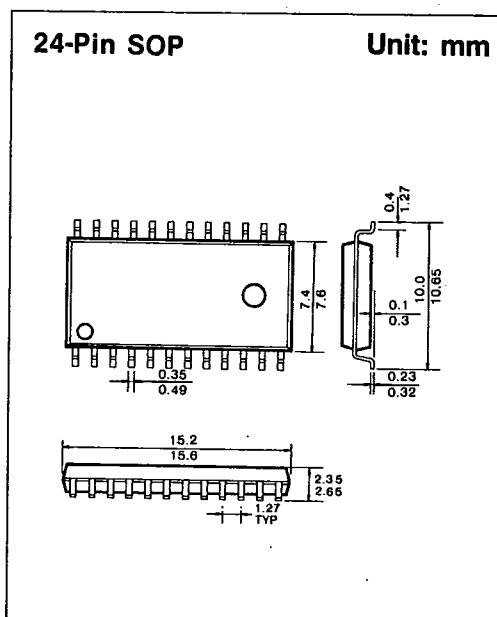
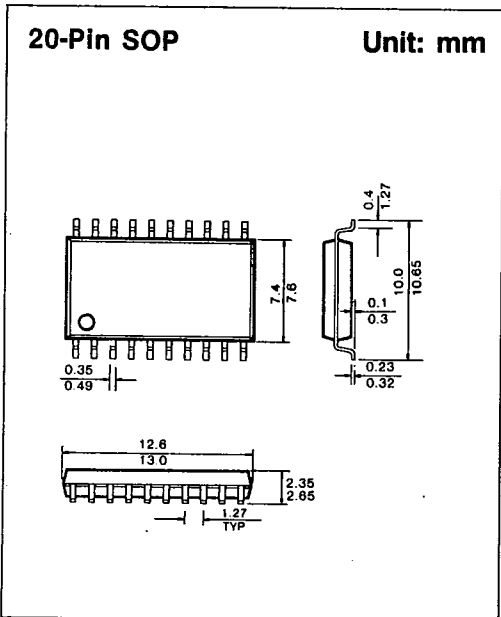
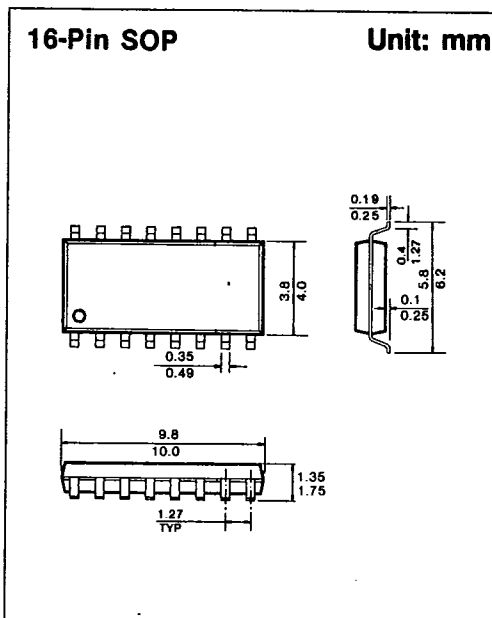
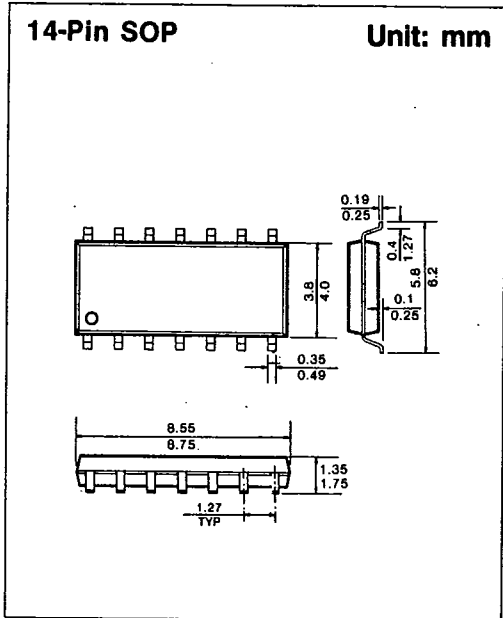
SAMSUNG SEMICONDUCTOR

1675

A-04

**PACKAGE DIMENSIONS**

T-90-20



**PACKAGE DIMENSIONS**

T-90-20

**2. CERAMIC PACKAGES**

**14-Pin Ceramic DIP Units: mm**

| Dim            | Millimeters |       |
|----------------|-------------|-------|
|                | Min         | Max   |
| A              | —           | 5.08  |
| B              | 0.38        | 0.58  |
| B <sub>1</sub> | 1.40        | 1.78  |
| C              | 0.20        | 0.38  |
| D              | 18.16       | 19.58 |
| E              | 8.10        | 7.49  |
| E <sub>1</sub> | 7.62        | 10.03 |
| F              | 2.54        |       |
| L              | 3.18        | 4.19  |
| Q              | 0.51        | 1.02  |
| S              | 1.91        | 2.29  |

**16-Pin Ceramic DIP Units: mm**

| Dim            | Millimeters |       |
|----------------|-------------|-------|
|                | Min         | Max   |
| A              | —           | 5.08  |
| B              | 0.38        | 0.58  |
| B <sub>1</sub> | 1.40        | 1.78  |
| C              | 0.20        | 0.38  |
| D              | 19.05       | 19.94 |
| E              | 8.10        | 7.49  |
| E <sub>1</sub> | 7.62        | 10.03 |
| F              | 2.54        |       |
| L              | 3.18        | 4.19  |
| Q              | 0.51        | 1.02  |
| S              | 0.51        | 1.14  |

**20-Pin Ceramic DIP Units: mm**

| Dim            | Millimeters |       |
|----------------|-------------|-------|
|                | Min         | Max   |
| A              | 4.06        | 5.08  |
| B              | 0.38        | 0.53  |
| B <sub>1</sub> | 1.14        | 1.52  |
| C              | 0.20        | 0.38  |
| D              | 25.78       | 26.93 |
| E              | 8.10        | 8.60  |
| E <sub>1</sub> | 7.77        | 7.88  |
| F              | 2.54        |       |
| L              | 3.73        | 4.01  |
| Q              | 0.38        | 0.89  |
| S              | 0.51        | 1.14  |

**24-Pin Ceramic DIP Units: mm**

| Dim            | Millimeters |       |
|----------------|-------------|-------|
|                | Min         | Max   |
| A              | 4.06        | 5.08  |
| B              | 0.38        | 0.53  |
| B <sub>1</sub> | 1.14        | 1.52  |
| C              | 0.20        | 0.38  |
| D              | 31.50       | 32.84 |
| E              | 7.24        | 7.75  |
| E <sub>1</sub> | 7.77        | 7.98  |
| F              | 2.54        |       |
| L              | 3.73        | 4.01  |
| Q              | 0.508       | 1.778 |
| S              | 1.85        | 1.93  |

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