

# Hex Inverter

## 74AC04, 74ACT04

### General Description

The AC/ACT04 contains six inverters.

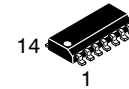
### Features

- $I_{CC}$  Reduced by 50% On 74AC Only
- Outputs Source/Sink 24 mA
- ACT04 has TTL-Compatible Inputs
- These are Pb-Free Devices

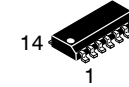
### ABSOLUTE MAXIMUM RATINGS

| Parameter                                                           | Symbol                | Value                     | Unit |
|---------------------------------------------------------------------|-----------------------|---------------------------|------|
| Supply Voltage                                                      | $V_{CC}$              | -0.5 to +7.0              | V    |
| DC Input Diode Current<br>$V_I = -0.5$ V<br>$V_I = V_{CC} + 0.5$ V  | $I_{IK}$              | -20<br>+20                | mA   |
| DC Input Voltage                                                    | $V_I$                 | -0.5 to<br>$V_{CC} + 0.5$ | V    |
| DC Output Diode Current<br>$V_O = -0.5$ V<br>$V_O = V_{CC} + 0.5$ V | $I_{OK}$              | -20<br>+20                | mA   |
| DC Output Voltage                                                   | $V_O$                 | -0.5 to<br>$V_{CC} + 0.5$ | V    |
| DC Output Source or Sink Current                                    | $I_O$                 | $\pm 50$                  | mA   |
| DC $V_{CC}$ or Ground Current<br>per Output Pin                     | $I_{CC}$ or $I_{GND}$ | $\pm 50$                  | mA   |
| Storage Temperature                                                 | $T_{STG}$             | -65 to +150               | °C   |
| Junction Temperature<br>PDIP                                        | $T_J$                 | 140                       | °C   |

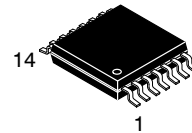
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.



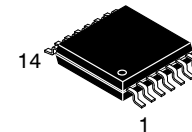
SOIC-14 NB  
CASE 751A-03



SOIC14  
CASE 751EF

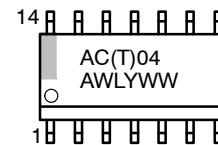


TSSOP-14 WB  
CASE 948G



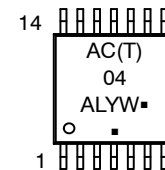
TSSOP-14 WB  
CASE 948G-01

### MARKING DIAGRAM



AC04, ACT04 = Specific Device Code  
A = Assembly Location  
WL = Wafer Lot  
Y = Year  
WW = Work Week

### MARKING DIAGRAM



AC04, ACT04 = Specific Device Code  
A = Assembly Location  
L = Wafer Lot  
Y = Year  
W = Work Week  
▪ = Pb-Free Package

(Note: Microdot may be in either location)

### ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

# 74AC04, 74ACT04

## ORDERING INFORMATION

| Order Number | Package Number | Package Description                                                          |
|--------------|----------------|------------------------------------------------------------------------------|
| 74AC04SC     | M14A           | 14-Lead Small Outline Integrated Circuit (SOIC), JEDEC MS-012, 0.150" Narrow |
| 74AC04MTC    | MTC14          | 14-Lead Thin Shrink Small Outline Package (TSSOP), JEDEC MO-153, 4.4 mm Wide |
| 74ACT04SC    | M14A           | 14-Lead Small Outline Integrated Circuit (SOIC), JEDEC MS-012, 0.150" Narrow |
| 74ACT04MTC   | MTC14          | 14-Lead Thin Shrink Small Outline Package (TSSOP), JEDEC MO-153, 4.4 mm Wide |

NOTES: Device also available in Tape and Reel. Specify by appending suffix letter "X" to the ordering code. All packages are lead free per JEDEC: J-STD-020B standard.

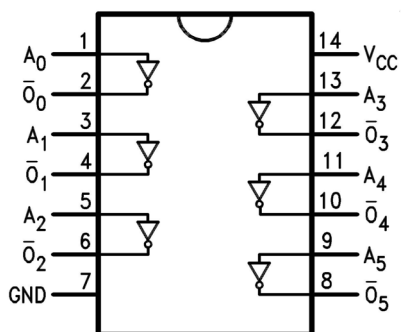


Figure 1. Connection Diagram

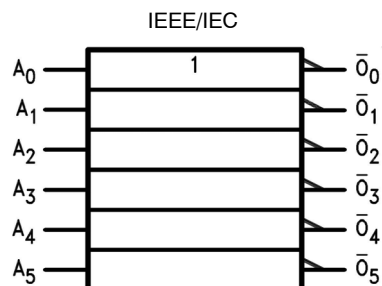


Figure 2. Logic Symbol

## PIN DESCRIPTION

| Pin         | Description |
|-------------|-------------|
| $A_n$       | Inputs      |
| $\bar{O}_n$ | Outputs     |

## RECOMMENDED OPERATING CONDITIONS

| Symbol                | Parameter                                                                                                      | Min        | Max        | Unit  |
|-----------------------|----------------------------------------------------------------------------------------------------------------|------------|------------|-------|
| $V_{CC}$              | Supply Voltage<br>AC<br>ACT                                                                                    | 2.0<br>4.5 | 6.0<br>5.5 | V     |
| $V_I$                 | Input Voltage                                                                                                  | 0          | $V_{CC}$   | V     |
| $V_O$                 | Output Voltage                                                                                                 | 0          | $V_{CC}$   | V     |
| $T_A$                 | Operating Temperature                                                                                          | -40        | +85        | °C    |
| $\Delta V / \Delta t$ | Minimum Input Edge Rate, AC Devices:<br>$V_{IN}$ from 30% to 70% of $V_{CC}$ , $V_{CC}$ at 3.3 V, 4.5 V, 5.5 V | 125        |            | mV/ns |
| $\Delta V / \Delta t$ | Minimum Input Edge Rate, ACT Devices:<br>$V_{IN}$ from 0.8 V to 2.0 V, $V_{CC}$ at 4.5 V, 5.5 V                | 125        |            | mV/ns |

Functional operation above the stresses listed in the Recommended Operating Ranges is not implied. Extended exposure to stresses beyond the Recommended Operating Ranges limits may affect device reliability.

# 74AC04, 74ACT04

## DC ELECTRICAL CHARACTERISTICS FOR AC

| Symbol                   | Parameter                               | V <sub>CC</sub> (V) | Conditions                                                                      | T <sub>A</sub> = +25°C |                   | T <sub>A</sub> = -40°C to +85°C | Unit |
|--------------------------|-----------------------------------------|---------------------|---------------------------------------------------------------------------------|------------------------|-------------------|---------------------------------|------|
|                          |                                         |                     |                                                                                 | Typ                    | Guaranteed Limits |                                 |      |
| V <sub>IH</sub>          | Minimum HIGH Level Input Voltage        | 3.0                 | V <sub>OUT</sub> = 0.1 V or V <sub>CC</sub> - 0.1 V                             | 1.5                    | 2.1               | 2.1                             | V    |
|                          |                                         | 4.5                 |                                                                                 | 2.25                   | 3.15              | 3.15                            |      |
|                          |                                         | 5.5                 |                                                                                 | 2.75                   | 3.85              | 3.85                            |      |
| V <sub>IL</sub>          | Maximum LOW Level Input Voltage         | 3.0                 | V <sub>OUT</sub> = 0.1 V or V <sub>CC</sub> - 0.1 V                             | 1.5                    | 0.9               | 0.9                             | V    |
|                          |                                         | 4.5                 |                                                                                 | 2.25                   | 1.35              | 1.35                            |      |
|                          |                                         | 5.5                 |                                                                                 | 2.75                   | 1.65              | 1.65                            |      |
| V <sub>OH</sub>          | Minimum HIGH Level Output Voltage       | 3.0                 | I <sub>OUT</sub> = -50 μA                                                       | 2.99                   | 2.9               | 2.9                             | V    |
|                          |                                         | 4.5                 |                                                                                 | 4.49                   | 4.4               | 4.4                             |      |
|                          |                                         | 5.5                 |                                                                                 | 5.49                   | 5.4               | 5.4                             |      |
|                          |                                         | 3.0                 | V <sub>IN</sub> = V <sub>IL</sub> or V <sub>IH</sub> , I <sub>OH</sub> = -12 mA | -                      | 2.56              | 2.46                            |      |
|                          |                                         | 4.5                 | I <sub>OH</sub> = -24 mA                                                        | -                      | 3.86              | 3.76                            |      |
|                          |                                         | 5.5                 | I <sub>OH</sub> = -24 mA (Note 1)                                               | -                      | 4.86              | 4.76                            |      |
| V <sub>OL</sub>          | Maximum LOW Level Output Voltage        | 3.0                 | I <sub>OUT</sub> = 50 μA                                                        | 0.002                  | 0.1               | 0.1                             | V    |
|                          |                                         | 4.5                 |                                                                                 | 0.001                  | 0.1               | 0.1                             |      |
|                          |                                         | 5.5                 |                                                                                 | 0.001                  | 0.1               | 0.1                             |      |
|                          |                                         | 3.0                 | V <sub>IN</sub> = V <sub>IL</sub> or V <sub>IH</sub> , I <sub>OL</sub> = 12 mA  | -                      | 0.36              | 0.44                            |      |
|                          |                                         | 4.5                 | I <sub>OL</sub> = 24 mA                                                         | -                      | 0.36              | 0.44                            |      |
|                          |                                         | 5.5                 | I <sub>OL</sub> = 24 mA (Note 1)                                                | -                      | 0.36              | 0.44                            |      |
| I <sub>IN</sub> (Note 3) | Maximum Input Leakage Current           | 5.5                 | V <sub>I</sub> = V <sub>CC</sub> , GND                                          | -                      | ±0.1              | ±1.0                            | μA   |
| I <sub>OLD</sub>         | Minimum Dynamic Output Current (Note 2) | 5.5                 | V <sub>OLD</sub> = 1.65 V Max.                                                  | -                      | -                 | 75                              | mA   |
| I <sub>OHD</sub>         |                                         | 5.5                 | V <sub>OHD</sub> = 3.85 V Min.                                                  | -                      | -                 | -75                             | mA   |
| I <sub>CC</sub> (Note 3) | Maximum Quiescent Supply Current        | 5.5                 | V <sub>IN</sub> = V <sub>CC</sub> or GND                                        | -                      | 2.0               | 20.0                            | μA   |

1. All outputs loaded; thresholds on input associated with output under test.
2. Maximum test duration 2.0 ms, one output loaded at a time.
3. I<sub>IN</sub> and I<sub>CC</sub> at 3.0 V are guaranteed to be less than or equal to the respective limit at 5.5 V V<sub>CC</sub>.

# 74AC04, 74ACT04

## DC ELECTRICAL CHARACTERISTICS FOR ACT

| Symbol           | Parameter                               | V <sub>CC</sub> (V) | Conditions                                                                       | T <sub>A</sub> = +25°C |                   | T <sub>A</sub> = -40°C to +85°C | Unit |
|------------------|-----------------------------------------|---------------------|----------------------------------------------------------------------------------|------------------------|-------------------|---------------------------------|------|
|                  |                                         |                     |                                                                                  | Typ                    | Guaranteed Limits |                                 |      |
| V <sub>IH</sub>  | Minimum HIGH Level Input Voltage        | 4.5                 | V <sub>OUT</sub> = 0.1 V or V <sub>CC</sub> - 0.1 V                              | 1.5                    | 2.0               | 2.0                             | V    |
|                  |                                         | 5.5                 |                                                                                  | 1.5                    | 2.0               | 2.0                             |      |
| V <sub>IL</sub>  | Maximum LOW Level Input Voltage         | 4.5                 | V <sub>OUT</sub> = 0.1 V or V <sub>CC</sub> - 0.1 V                              | 1.5                    | 0.8               | 0.8                             | V    |
|                  |                                         | 5.5                 |                                                                                  | 1.5                    | 0.8               | 0.8                             |      |
| V <sub>OH</sub>  | Minimum HIGH Level Output Voltage       | 4.5                 | I <sub>OUT</sub> = -50 μA                                                        | 4.49                   | 4.4               | 4.4                             | V    |
|                  |                                         | 5.5                 |                                                                                  | 5.49                   | 5.4               | 5.4                             |      |
|                  |                                         | 4.5                 | V <sub>IN</sub> = V <sub>IL</sub> or V <sub>IH</sub><br>I <sub>OH</sub> = -24 mA | -                      | 3.86              | 3.76                            |      |
|                  |                                         | 5.5                 | I <sub>OH</sub> = -24 mA (Note 4)                                                | -                      | 4.86              | 4.76                            |      |
| V <sub>OL</sub>  | Maximum LOW Level Output Voltage        | 4.5                 | I <sub>OUT</sub> = 50 μA                                                         | 0.001                  | 0.1               | 0.1                             | V    |
|                  |                                         | 5.5                 |                                                                                  | 0.001                  | 0.1               | 0.1                             |      |
|                  |                                         | 4.5                 | V <sub>IN</sub> = V <sub>IL</sub> or V <sub>IH</sub><br>I <sub>OL</sub> = 24 mA  | -                      | 0.36              | 0.44                            |      |
|                  |                                         | 5.5                 | I <sub>OL</sub> = 24 mA (Note 4)                                                 | -                      | 0.36              | 0.44                            |      |
| I <sub>IN</sub>  | Maximum Input Leakage Current           | 5.5                 | V <sub>I</sub> = V <sub>CC</sub> , GND                                           | -                      | ±0.1              | ±1.0                            | μA   |
| I <sub>CCT</sub> | Maximum I <sub>CC</sub> /Input          | 5.5                 | V <sub>I</sub> = V <sub>CC</sub> - 2.1 V                                         | 0.6                    | -                 | 1.5                             | mA   |
| I <sub>OLD</sub> | Minimum Dynamic Output Current (Note 5) | 5.5                 | V <sub>OLD</sub> = 1.65 V Max.                                                   | -                      | -                 | 75                              | mA   |
| I <sub>OHD</sub> |                                         | 5.5                 | V <sub>OHD</sub> = 3.85 V Min.                                                   | -                      | -                 | -75                             | mA   |
| I <sub>CC</sub>  | Maximum Quiescent Supply Current        | 5.5                 | V <sub>IN</sub> = V <sub>CC</sub> or GND                                         | -                      | 4.0               | 40.0                            | μA   |

4. All outputs loaded; thresholds on input associated with output under test.

5. Maximum test duration 2.0 ms, one output loaded at a time.

## 74AC04, 74ACT04

### AC ELECTRICAL CHARACTERISTICS FOR AC

| Symbol           | Parameter         | V <sub>CC</sub> (V) (Note 6) | T <sub>A</sub> = +25°C, C <sub>L</sub> = 50 pF |     |     | T <sub>A</sub> = -40°C to +85°C, C <sub>L</sub> = 50 pF |      | Unit |
|------------------|-------------------|------------------------------|------------------------------------------------|-----|-----|---------------------------------------------------------|------|------|
|                  |                   |                              | Min                                            | Typ | Max | Min                                                     | Max  |      |
| t <sub>PLH</sub> | Propagation Delay | 3.3                          | 1.5                                            | 4.5 | 9.0 | 1.0                                                     | 10.0 | ns   |
|                  |                   | 5.0                          | 1.5                                            | 4.0 | 7.0 | 1.0                                                     | 7.5  |      |
| t <sub>PHL</sub> | Propagation Delay | 3.3                          | 1.5                                            | 4.5 | 8.5 | 1.0                                                     | 9.5  | ns   |
|                  |                   | 5.0                          | 1.5                                            | 3.5 | 6.5 | 1.0                                                     | 7.0  |      |

6. Voltage range 3.3 is 3.3 V + 0.3 V. Voltage range 5.0 is 5.0 V + 0.5 V.

### AC ELECTRICAL CHARACTERISTICS FOR ACT

| Symbol           | Parameter         | V <sub>CC</sub> (V) (Note 7) | T <sub>A</sub> = +25°C, C <sub>L</sub> = 50 pF |     |     | T <sub>A</sub> = -40°C to +85°C, C <sub>L</sub> = 50 pF |     | Unit |
|------------------|-------------------|------------------------------|------------------------------------------------|-----|-----|---------------------------------------------------------|-----|------|
|                  |                   |                              | Min                                            | Typ | Max | Min                                                     | Max |      |
| t <sub>PLH</sub> | Propagation Delay | 5.0                          | 1.0                                            | 6.0 | 8.5 | 1.0                                                     | 9.0 | ns   |
| t <sub>PLH</sub> | Propagation Delay | 5.0                          | 1.0                                            | 5.5 | 8.0 | 1.0                                                     | 8.5 | ns   |

7. Voltage range 5.0 is 5.0 V + 0.5 V.

### CAPACITANCE

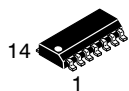
| Symbol          | Parameter                     | Conditions              | Typ  | Unit |
|-----------------|-------------------------------|-------------------------|------|------|
| C <sub>IN</sub> | Input Capacitance             | V <sub>CC</sub> = OPEN  | 4.5  | pF   |
| V <sub>CC</sub> | Power Dissipation Capacitance | V <sub>CC</sub> = 5.0 V | 30.0 | pF   |

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# MECHANICAL CASE OUTLINE PACKAGE DIMENSIONS

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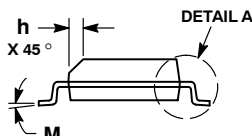
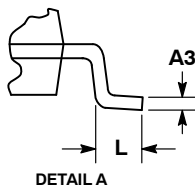
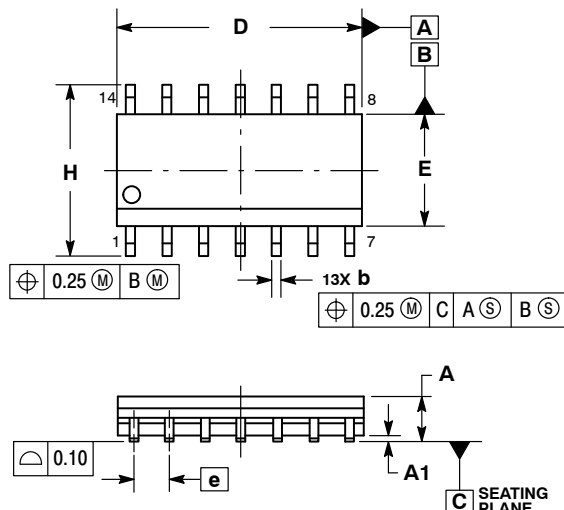
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SCALE 1:1

SOIC-14 NB  
CASE 751A-03  
ISSUE L

DATE 03 FEB 2016

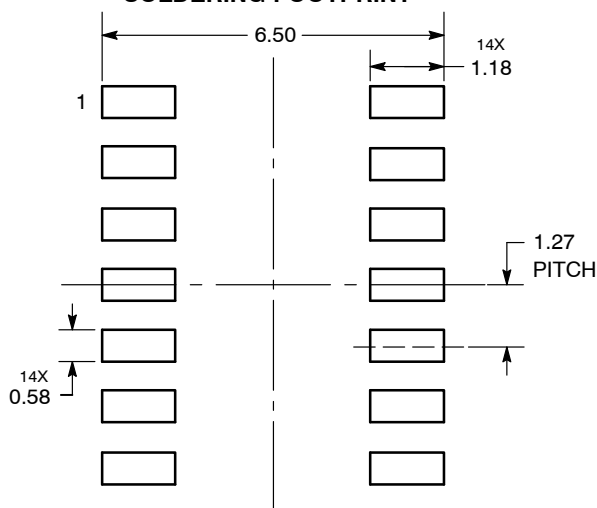


## NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. DIMENSION b DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE PROTRUSION SHALL BE 0.13 TOTAL IN EXCESS OF AT MAXIMUM MATERIAL CONDITION.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD PROTRUSIONS.
5. MAXIMUM MOLD PROTRUSION 0.15 PER SIDE.

| DIM | MILLIMETERS |      | INCHES    |       |
|-----|-------------|------|-----------|-------|
|     | MIN         | MAX  | MIN       | MAX   |
| A   | 1.35        | 1.75 | 0.054     | 0.068 |
| A1  | 0.10        | 0.25 | 0.004     | 0.010 |
| A3  | 0.19        | 0.25 | 0.008     | 0.010 |
| b   | 0.35        | 0.49 | 0.014     | 0.019 |
| D   | 8.55        | 8.75 | 0.337     | 0.344 |
| E   | 3.80        | 4.00 | 0.150     | 0.157 |
| e   | 1.27 BSC    |      | 0.050 BSC |       |
| H   | 5.80        | 6.20 | 0.228     | 0.244 |
| h   | 0.25        | 0.50 | 0.010     | 0.019 |
| L   | 0.40        | 1.25 | 0.016     | 0.049 |
| M   | 0°          | 7°   | 0°        | 7°    |

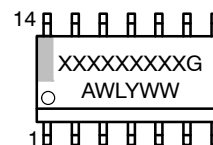
## SOLDERING FOOTPRINT\*



DIMENSIONS: MILLIMETERS

\*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

## GENERIC MARKING DIAGRAM\*



XXXXXX = Specific Device Code  
A = Assembly Location  
WL = Wafer Lot  
Y = Year  
WW = Work Week  
G = Pb-Free Package

\*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present.

STYLES ON PAGE 2

|                  |             |                                                                                                                                                                                     |
|------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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| DESCRIPTION:     | SOIC-14 NB  | PAGE 1 OF 2                                                                                                                                                                         |

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**SOIC-14**  
**CASE 751A-03**  
**ISSUE L**

**DATE 03 FEB 2016**

**STYLE 1:**  
PIN 1. COMMON CATHODE  
2. ANODE/CATHODE  
3. ANODE/CATHODE  
4. NO CONNECTION  
5. ANODE/CATHODE  
6. NO CONNECTION  
7. ANODE/CATHODE  
8. ANODE/CATHODE  
9. ANODE/CATHODE  
10. NO CONNECTION  
11. ANODE/CATHODE  
12. ANODE/CATHODE  
13. NO CONNECTION  
14. COMMON ANODE

**STYLE 2:**  
CANCELLED

**STYLE 3:**  
PIN 1. NO CONNECTION  
2. ANODE  
3. ANODE  
4. NO CONNECTION  
5. ANODE  
6. NO CONNECTION  
7. ANODE  
8. ANODE  
9. ANODE  
10. NO CONNECTION  
11. ANODE  
12. ANODE  
13. NO CONNECTION  
14. COMMON CATHODE

**STYLE 4:**  
PIN 1. NO CONNECTION  
2. CATHODE  
3. CATHODE  
4. NO CONNECTION  
5. CATHODE  
6. NO CONNECTION  
7. CATHODE  
8. CATHODE  
9. CATHODE  
10. NO CONNECTION  
11. CATHODE  
12. CATHODE  
13. NO CONNECTION  
14. COMMON ANODE

**STYLE 5:**  
PIN 1. COMMON CATHODE  
2. ANODE/CATHODE  
3. ANODE/CATHODE  
4. ANODE/CATHODE  
5. ANODE/CATHODE  
6. NO CONNECTION  
7. COMMON ANODE  
8. COMMON CATHODE  
9. ANODE/CATHODE  
10. ANODE/CATHODE  
11. ANODE/CATHODE  
12. ANODE/CATHODE  
13. NO CONNECTION  
14. COMMON ANODE

**STYLE 6:**  
PIN 1. CATHODE  
2. CATHODE  
3. CATHODE  
4. CATHODE  
5. CATHODE  
6. CATHODE  
7. CATHODE  
8. ANODE  
9. ANODE  
10. ANODE  
11. ANODE  
12. ANODE  
13. ANODE  
14. ANODE

**STYLE 7:**  
PIN 1. ANODE/CATHODE  
2. COMMON ANODE  
3. COMMON CATHODE  
4. ANODE/CATHODE  
5. ANODE/CATHODE  
6. ANODE/CATHODE  
7. ANODE/CATHODE  
8. ANODE/CATHODE  
9. ANODE/CATHODE  
10. ANODE/CATHODE  
11. COMMON CATHODE  
12. COMMON ANODE  
13. ANODE/CATHODE  
14. ANODE/CATHODE

**STYLE 8:**  
PIN 1. COMMON CATHODE  
2. ANODE/CATHODE  
3. ANODE/CATHODE  
4. NO CONNECTION  
5. ANODE/CATHODE  
6. ANODE/CATHODE  
7. COMMON ANODE  
8. COMMON ANODE  
9. ANODE/CATHODE  
10. ANODE/CATHODE  
11. NO CONNECTION  
12. ANODE/CATHODE  
13. ANODE/CATHODE  
14. COMMON CATHODE

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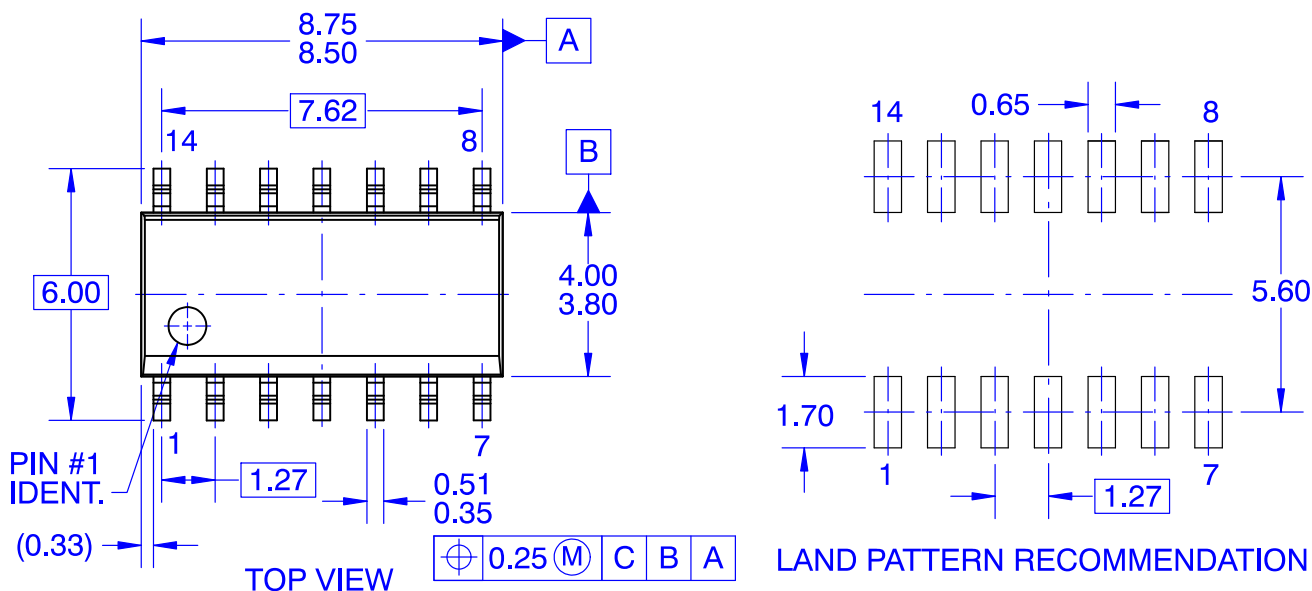
**DESCRIPTION:** SOIC-14 NB

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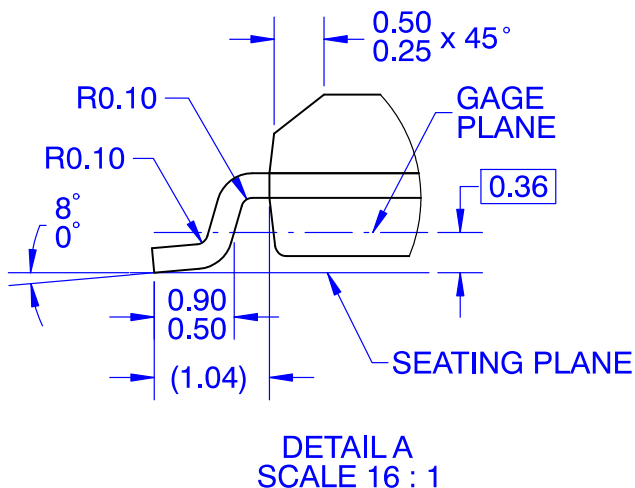
**SOIC14**  
**CASE 751EF**  
**ISSUE O**

DATE 30 SEP 2016



**NOTES:**

- A. CONFORMS TO JEDEC MS-012, VARIATION AB, ISSUE C
- B. ALL DIMENSIONS ARE IN MILLIMETERS
- C. DIMENSIONS DO NOT INCLUDE MOLD FLASH OR BURRS
- D. LAND PATTERN STANDARD: SOIC127P600X145-14M
- E. CONFORMS TO ASME Y14.5M, 2009

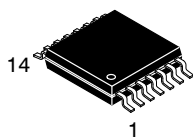


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# MECHANICAL CASE OUTLINE PACKAGE DIMENSIONS

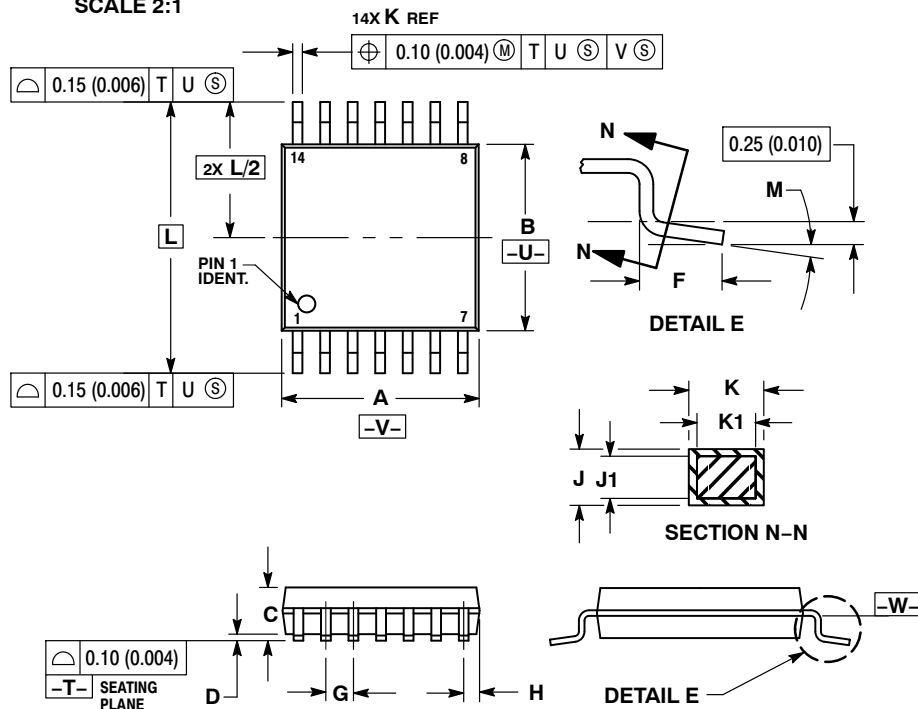
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## TSSOP-14 WB CASE 948G ISSUE C

DATE 17 FEB 2016

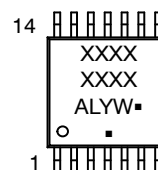


### NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.
3. DIMENSION A DOES NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS. MOLD FLASH OR GATE BURRS SHALL NOT EXCEED 0.15 (0.006) PER SIDE.
4. DIMENSION B DOES NOT INCLUDE INTERLEAD FLASH OR PROTRUSION. INTERLEAD FLASH OR PROTRUSION SHALL NOT EXCEED 0.25 (0.010) PER SIDE.
5. DIMENSION K DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.08 (0.003) TOTAL IN EXCESS OF THE K DIMENSION AT MAXIMUM MATERIAL CONDITION.
6. TERMINAL NUMBERS ARE SHOWN FOR REFERENCE ONLY.
7. DIMENSION A AND B ARE TO BE DETERMINED AT DATUM PLANE -W-.

| DIM | MILLIMETERS |      | INCHES    |       |
|-----|-------------|------|-----------|-------|
|     | MIN         | MAX  | MIN       | MAX   |
| A   | 4.90        | 5.10 | 0.193     | 0.200 |
| B   | 4.30        | 4.50 | 0.169     | 0.177 |
| C   | ---         | 1.20 | ---       | 0.047 |
| D   | 0.05        | 0.15 | 0.002     | 0.006 |
| F   | 0.50        | 0.75 | 0.020     | 0.030 |
| G   | 0.65 BSC    |      | 0.026 BSC |       |
| H   | 0.50        | 0.60 | 0.020     | 0.024 |
| J   | 0.09        | 0.20 | 0.004     | 0.008 |
| J1  | 0.09        | 0.16 | 0.004     | 0.006 |
| K   | 0.19        | 0.30 | 0.007     | 0.012 |
| K1  | 0.19        | 0.25 | 0.007     | 0.010 |
| L   | 6.40 BSC    |      | 0.252 BSC |       |
| M   | 0°          | 8°   | 0°        | 8°    |

### GENERIC MARKING DIAGRAM\*

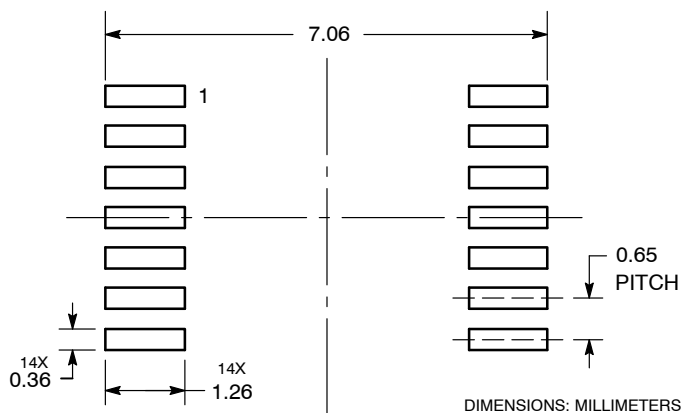


- A = Assembly Location  
L = Wafer Lot  
Y = Year  
W = Work Week  
▪ = Pb-Free Package

(Note: Microdot may be in either location)

\*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present.

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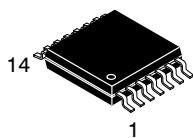
DESCRIPTION: TSSOP-14 WB

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# MECHANICAL CASE OUTLINE PACKAGE DIMENSIONS

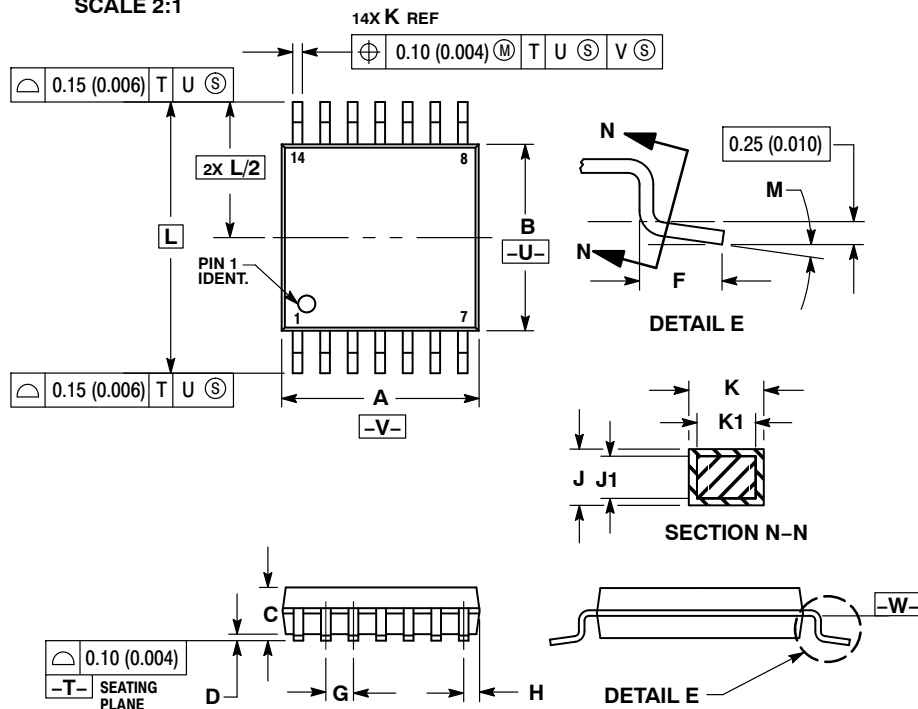
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## TSSOP-14 WB CASE 948G ISSUE C

DATE 17 FEB 2016

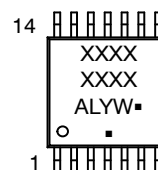


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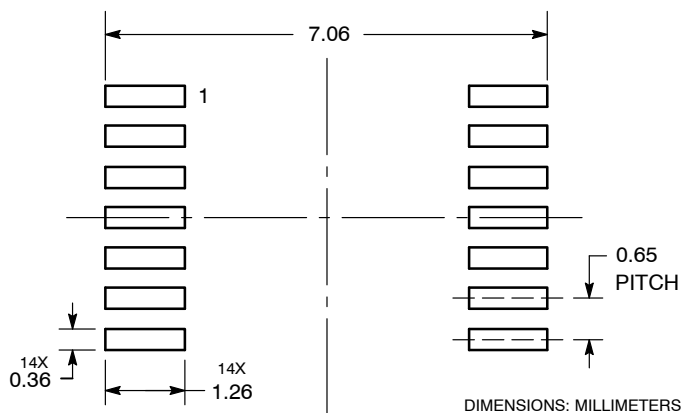


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DESCRIPTION: TSSOP-14 WB

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