

# Product Preview

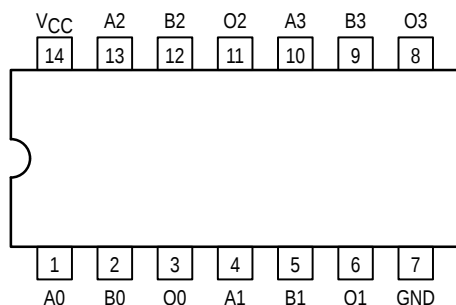
## Low-Voltage CMOS Quad 2-Input XOR Gate With 5V-Tolerant Inputs

The MC74LCX86 is a high performance, quad 2-input XOR gate operating from a 2.7 to 3.6V supply. High impedance TTL compatible inputs significantly reduce current loading to input drivers while TTL compatible outputs offer improved switching noise performance. A  $V_I$  specification of 5.5V allows MC74LCX86 inputs to be safely driven from 5V devices.

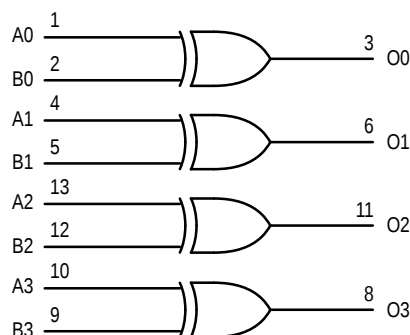
Current drive capability is 24mA at the outputs.

- Designed for 2.7 to 3.6V  $V_{CC}$  Operation
- 5V Tolerant Inputs — Interface Capability With 5V TTL Logic
- LVTTL Compatible
- LVCMOS Compatible
- 24mA Balanced Output Sink and Source Capability
- Near Zero Static Supply Current (10 $\mu$ A) Substantially Reduces System Power Requirements
- Latchup Performance Exceeds 500mA
- ESD Performance: Human Body Model >2000V; Machine Model >200V

Pinout: 14-Lead (Top View)



LOGIC DIAGRAM

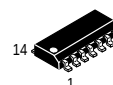


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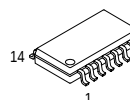
# MC74LCX86

# LCX

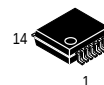
## LOW-VOLTAGE CMOS QUAD 2-INPUT XOR GATE



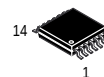
**D SUFFIX**  
PLASTIC SOIC  
CASE 751A-03



**M SUFFIX**  
PLASTIC SOIC EIAJ  
CASE 965-01



**SD SUFFIX**  
PLASTIC SSOP  
CASE 940A-03



**DT SUFFIX**  
PLASTIC TSSOP  
CASE 948G-01

### PIN NAMES

| Pins         | Function               |
|--------------|------------------------|
| An, Bn<br>On | Data Inputs<br>Outputs |

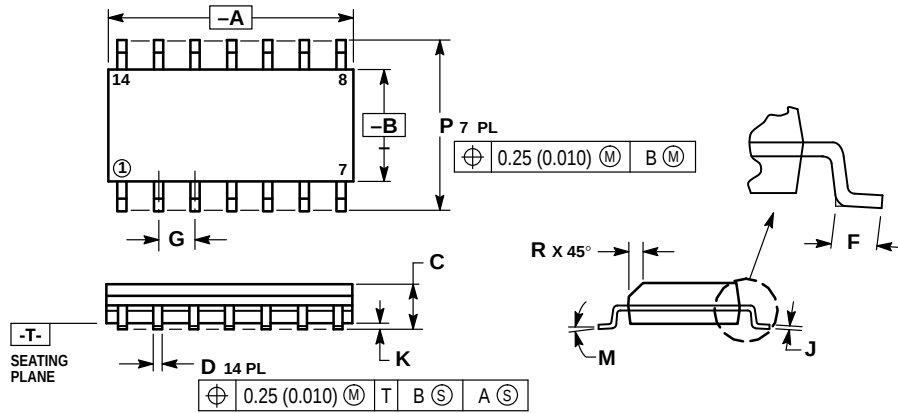
### FUNCTION TABLE

| Inputs |    | Outputs |
|--------|----|---------|
| An     | Bn | On      |
| L      | L  | L       |
| L      | H  | H       |
| H      | L  | H       |
| H      | H  | L       |



## OUTLINE DIMENSIONS

**D SUFFIX**  
**PLASTIC SOIC PACKAGE**  
CASE 751A-03  
ISSUE F

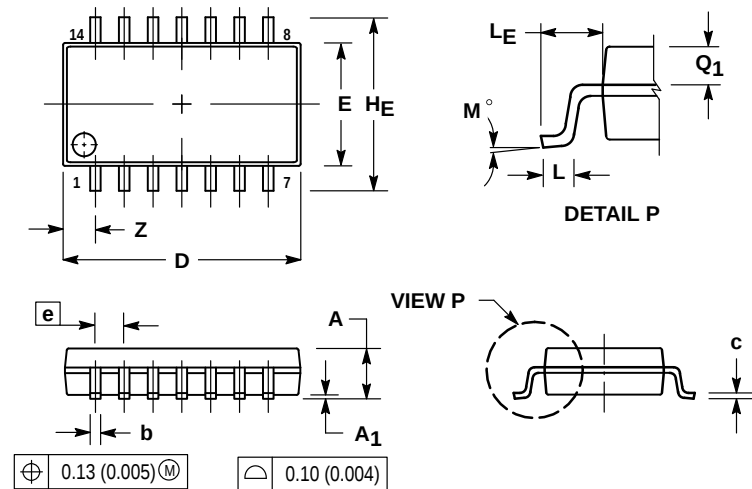


## NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.
3. DIMENSIONS A AND B DO NOT INCLUDE MOLD PROTRUSION.
4. MAXIMUM MOLD PROTRUSION 0.15 (0.006) PER SIDE.
5. DIMENSION D DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.127 (0.005) TOTAL IN EXCESS OF THE D DIMENSION AT MAXIMUM MATERIAL CONDITION.

| DIM | MILLIMETERS |      | INCHES    |       |
|-----|-------------|------|-----------|-------|
|     | MIN         | MAX  | MIN       | MAX   |
| A   | 8.55        | 8.75 | 0.337     | 0.344 |
| B   | 3.80        | 4.00 | 0.150     | 0.157 |
| C   | 1.35        | 1.75 | 0.054     | 0.068 |
| D   | 0.35        | 0.49 | 0.014     | 0.019 |
| F   | 0.40        | 1.25 | 0.016     | 0.049 |
| G   | 1.27 BSC    |      | 0.050 BSC |       |
| J   | 0.19        | 0.25 | 0.008     | 0.009 |
| K   | 0.10        | 0.25 | 0.004     | 0.009 |
| M   | 0°          | 7°   | 0°        | 7°    |
| P   | 5.80        | 6.20 | 0.228     | 0.244 |
| R   | 0.25        | 0.50 | 0.010     | 0.019 |

**M SUFFIX**  
**PLASTIC SOIC EIAJ PACKAGE**  
CASE 965-01  
ISSUE O



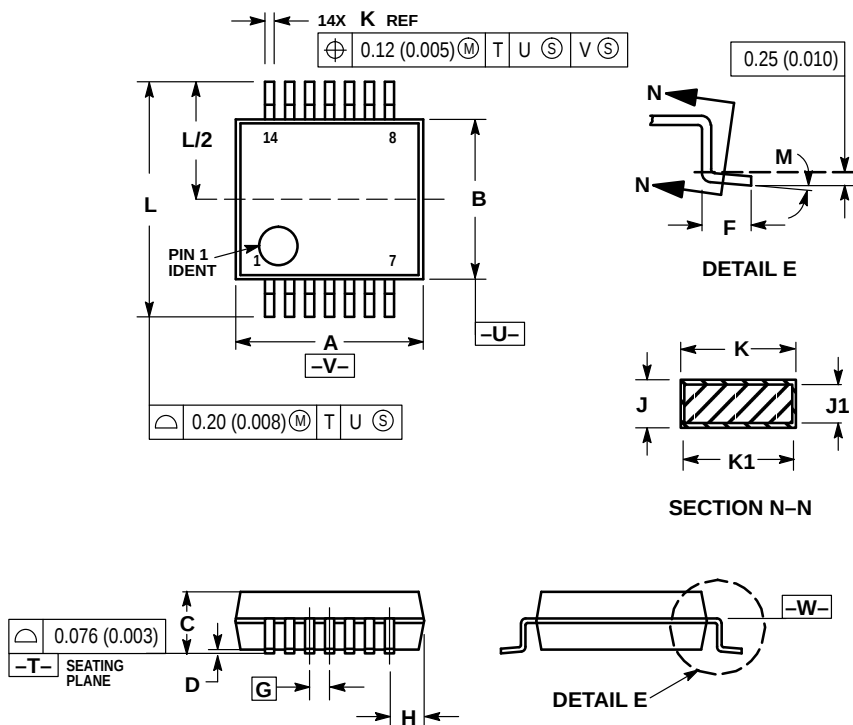
## NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.
3. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH OR PROTRUSIONS AND ARE MEASURED AT THE PARTING LINE. MOLD FLASH OR PROTRUSIONS SHALL NOT EXCEED 0.15 (0.006) PER SIDE.
4. TERMINAL NUMBERS ARE SHOWN FOR REFERENCE ONLY.
5. THE LEAD WIDTH DIMENSION (b) DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.08 (0.003) TOTAL IN EXCESS OF THE LEAD WIDTH DIMENSION AT MAXIMUM MATERIAL CONDITION. DAMBAR CANNOT BE LOCATED ON THE LOWER RADIUS OR THE FOOT. MINIMUM SPACE BETWEEN PROTRUSIONS AND ADJACENT LEAD TO BE 0.46 (0.018).

| DIM | MILLIMETERS |       | INCHES    |       |
|-----|-------------|-------|-----------|-------|
|     | MIN         | MAX   | MIN       | MAX   |
| A   | ---         | 2.05  | ---       | 0.081 |
| A_1 | 0.05        | 0.20  | 0.002     | 0.008 |
| b   | 0.35        | 0.50  | 0.014     | 0.020 |
| c   | 0.18        | 0.27  | 0.007     | 0.011 |
| D   | 9.90        | 10.50 | 0.390     | 0.413 |
| E   | 5.10        | 5.45  | 0.201     | 0.215 |
| e   | 1.27 BSC    |       | 0.050 BSC |       |
| H_E | 7.40        | 8.20  | 0.291     | 0.323 |
| L   | 0.50        | 0.85  | 0.020     | 0.033 |
| L_E | 1.10        | 1.50  | 0.043     | 0.059 |
| M   | 0°          | 10°   | 0°        | 10°   |
| Q_1 | 0.70        | 0.90  | 0.028     | 0.035 |
| Z   | ---         | 1.42  | ---       | 0.056 |

## OUTLINE DIMENSIONS

**SD SUFFIX**  
**PLASTIC SSOP PACKAGE**  
CASE 940A-03  
ISSUE B

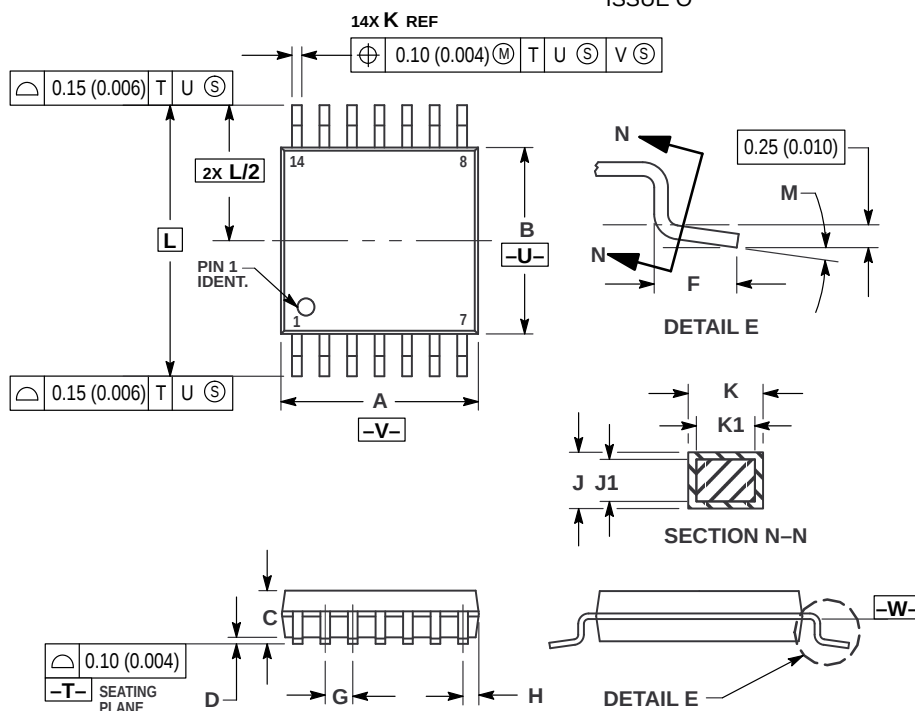


## NOTES:

- DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
- CONTROLLING DIMENSION: MILLIMETER.
- 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.
- DIMENSION B DOES NOT INCLUDE INTERLEAD FLASH OR PROTRUSION. INTERLEAD FLASH OR PROTRUSION SHALL NOT EXCEED 0.15 (0.006) PER SIDE.
- DIMENSION K DOES NOT INCLUDE DAMBAR PROTRUSION/INTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.13 (0.005) TOTAL IN EXCESS OF K DIMENSION AT MAXIMUM MATERIAL CONDITION. DAMBAR INTRUSION SHALL NOT REDUCE DIMENSION K BY MORE THAN 0.07 (0.002) AT LEAST MATERIAL CONDITION.
- TERMINAL NUMBERS ARE SHOWN FOR REFERENCE ONLY.
- DIMENSION A AND B ARE TO BE DETERMINED AT DATUM PLANE -W-.

| DIM | MILLIMETERS |      | INCHES    |       |
|-----|-------------|------|-----------|-------|
|     | MIN         | MAX  | MIN       | MAX   |
| A   | 6.07        | 6.33 | 0.238     | 0.249 |
| B   | 5.20        | 5.38 | 0.205     | 0.212 |
| C   | 1.73        | 1.99 | 0.068     | 0.078 |
| D   | 0.05        | 0.21 | 0.002     | 0.008 |
| F   | 0.63        | 0.95 | 0.024     | 0.037 |
| G   | 0.65 BSC    |      | 0.026 BSC |       |
| H   | 1.08        | 1.22 | 0.042     | 0.048 |
| J   | 0.09        | 0.20 | 0.003     | 0.008 |
| J1  | 0.09        | 0.16 | 0.003     | 0.006 |
| K   | 0.25        | 0.38 | 0.010     | 0.015 |
| K1  | 0.25        | 0.33 | 0.010     | 0.013 |
| L   | 7.65        | 7.90 | 0.301     | 0.311 |
| M   | 0°          | 8°   | 0°        | 8°    |

**DT SUFFIX**  
**PLASTIC TSSOP PACKAGE**  
CASE 948G-01  
ISSUE O



## NOTES:

- DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
- CONTROLLING DIMENSION: MILLIMETER.
- 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.
- DIMENSION B DOES NOT INCLUDE INTERLEAD FLASH OR PROTRUSION. INTERLEAD FLASH OR PROTRUSION SHALL NOT EXCEED 0.25 (0.010) PER SIDE.
- 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.
- TERMINAL NUMBERS ARE SHOWN FOR REFERENCE ONLY.
- 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°    |

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