

Low Voltage Quad Buffer with 5 V Tolerant Inputs and Outputs

74LCX125

Description

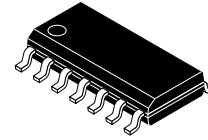
The LCX125 contains four independent non-inverting buffers with 3-STATE outputs. The inputs tolerate Voltages up to 5.5 V Allowing the interface of 5 V Systems to 3 V Systems.

The 74LCX125 is fabricated with an advanced CMOS technology to achieve high Speed operation while Maintaining CMOS Low Power Dissipation.

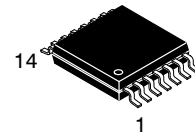
Features

- 5 V Tolerant Inputs and Outputs
- 1.65 V–5.5 V V_{CC} Specifications Provided
- 6.0 ns t_{PD} max. ($V_{CC} = 3.3$ V), 10 μ A I_{CC} max.
- Power Down High Impedance Inputs and Outputs
- Supports Live Insertion/Withdrawal*
- ± 24 mA Output Drive ($V_{CC} = 3.0$ V)
- Latch-up Performance Exceeds JEDEC 78 Conditions
- ESD Performance:
 - ◆ Human body model > 2000 V
- Pb-Free DQFN Package
- These are Pb-Free Devices

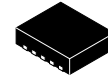
*To ensure the High-Impedance State During Power up or down, OE Should be tied to V_{CC} through a pull-up resistor: the minimum value of the resistor is determined by the current-sourcing capability of the driver.



SOIC14,
CASE 751EF



TSSOP-14, WB
CASE 948G



QFN14, 3.0X2.5, 0.5P
CASE 510CB

MARKING DIAGRAM



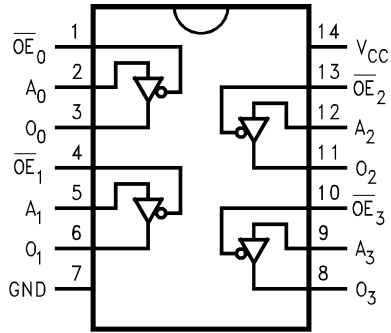
Z = Assembly Plan Code
 XY = Date Code (Year & Week)
 KK = Lot Run Traceability Code
 XXXXXX = Specific Device Code

ORDERING INFORMATION

See detailed ordering and shipping information on page 7 of this data sheet.

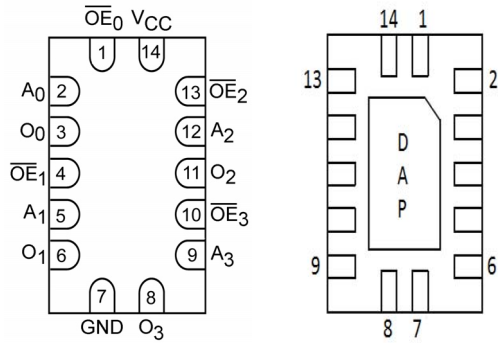
Connection Diagrams

Pin Assignments for SOIC, SOP, and TSSOP



(Top View)
Figure 1.

Pad Assignments for DQFN



(Top Through View)

(Bottom View)

Figure 3.

Table 1. PIN DESCRIPTION

| Pin Names | Description |
|-------------------|----------------------|
| A_n | Inputs |
| \overline{OE}_n | Output Enable Inputs |
| O_n | Outputs |
| DAP | No Connect |

NOTE: Die Attach Pad (DIE)

IEEE/IEC

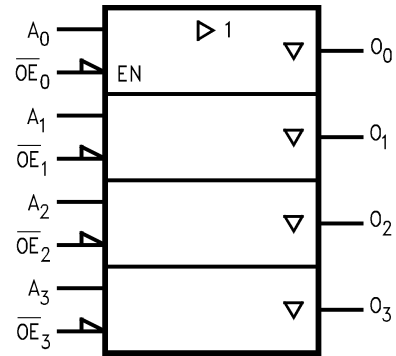


Figure 2. Logic Symbol

TRUTH TABLE

| Inputs | | Outputs |
|-------------------|-------|---------|
| \overline{OE}_n | A_n | O_n |
| L | L | L |
| L | H | H |
| H | X | Z |

H = HIGH Voltage Level
L = HIGH Voltage Level
Z = HIGH Impedance
X = Immaterial

74LCX125

MAXIMUM RATINGS

| Symbol | Parameter | Value | Unit |
|-----------------------|--|--|------|
| V_{CC} | DC Supply Voltage | -0.5 to +6.5 | V |
| V_I | DC Input Voltage (Note 1) | -0.5 to +6.5 | V |
| V_O | DC Output Voltage (Note 1) Active-Mode (High or Low State) Tri-State Mode Power-Down Mode ($V_{CC} = 0$ V) | -0.5 to $V_{CC} + 0.5$ -0.5 to +6.5 -0.5 to +6.5 | V |
| I_{IK} | DC Input Diode Current $V_I < GND$ | -50 | mA |
| I_{OK} | DC Output Diode Current $V_O < GND$ | -50 | mA |
| I_O | DC Output Source/Sink Current | ± 50 | mA |
| I_{CC} or I_{GND} | DC Supply Current per Supply Pin or Ground Pin | ± 100 | mA |
| T_{STG} | Storage Temperature Range | -65 to +150 | °C |
| T_L | Lead Temperature, 1 mm from Case for 10 secs | 260 | °C |
| T_J | Junction Temperature Under Bias | +150 | °C |
| θ_{JA} | Thermal Resistance (Note 1) SOIC-14 QFN14 TSSOP-14 | 116 130 150 | °C/W |
| P_D | Power Dissipation in Still Air at 125°C SOIC-14 QFN14 TSSOP-14 | 1077 962 833 | mW |
| MSL | Moisture Sensitivity | Level 1 | - |
| F_R | Flammability Rating Oxygen Index: 28 to 34 | UL 94 V-0 @ 0.125 in | - |
| V_{ESD} | ESD Withstand Voltage (Note 3) Human Body Model Charged Device Model | 2000 N/A | V |

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.

1. I_O absolute maximum rating must be observed.
2. Measured with minimum pad spacing on an FR4 board, using 76 mm-by-114 mm, 2-ounce copper trace no air flow per JESD51-7.
3. HBM tested to EIA / JESD22-A114-A. CDM tested to JESD22-C101-A. JEDEC recommends that ESD qualification to EIA/JESD22-A115A (Machine Model) be discontinued.

RECOMMENDED OPERATING CONDITIONS

| Symbol | Parameter | Min | Typ | Max | Unit |
|------------|---|------------------|------------------|------------------------|------|
| V_{CC} | Supply Voltage Operating Data Retention Only | 1.65 1.5 | 3.3 3.3 | 5.5 5.5 | V |
| V_I | Digital Input Voltage | 0 | - | 5.5 | V |
| V_O | Output Voltage Active Mode (High or Low State) Tri-State Mode Power Down Mode ($V_{CC} = 0$ V) | 0 0 0 | - - - | V_{CC} 5.5 5.5 | V |
| T_A | Operating Free-Air Temperature | -40 | - | +125 | °C |
| t_r, t_f | Input Rise or Fall Rate $V_{CC} = 1.65$ V to 1.95 V $V_{CC} = 2.3$ V to 2.7 V V_I from 0.8 V to 2.0 V, $V_{CC} = 3.0$ V $V_{CC} = 4.5$ V to 5.5 V | 0 0 0 0 | - - - - | 20 20 10 5 | nS/V |

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.

4. Unused inputs must always be tied to an appropriate logic voltage level (e.g., either GND or V_{CC}). Unused outputs must be left open.

74LCX125

DC ELECTRICAL CHARACTERISTICS

| Symbol | Parameter | Conditions | V _{CC} (V) | T _A = -40 °C to +85 °C | | T _A = -40 °C to +125 °C | | Unit |
|------------------|---------------------------------------|--|---------------------|-----------------------------------|------------------------|------------------------------------|------------------------|------|
| | | | | Min | Max | Min | Max | |
| V _{IH} | HIGH Level Input Voltage | | 1.65 – 1.95 | 0.65 x V _{CC} | – | 0.65 x V _{CC} | – | V |
| | | | 2.3 – 2.7 | 1.7 | – | 1.7 | – | |
| | | | 3.0 – 3.6 | 2.0 | – | 2.0 | – | |
| | | | 4.5 – 5.5 | 0.70 x V _{CC} | – | 0.70 x V _{CC} | – | |
| V _{IL} | LOW Level Input Voltage | | 1.65 – 1.95 | – | 0.35 x V _{CC} | – | 0.35 x V _{CC} | V |
| | | | 2.3 – 2.7 | – | 0.7 | – | 0.7 | |
| | | | 3.0 – 3.6 | – | 0.8 | – | 0.8 | |
| | | | 4.5 – 5.5 | – | 0.30 x V _{CC} | – | 0.30 x V _{CC} | |
| V _{OH} | High-Level Output Voltage | V _I = V _{IH} or V _{IL} I _{OH} = -100 µA I _{OH} = -4 mA I _{OH} = -8 mA I _{OH} = -12 mA I _{OH} = -16 mA I _{OH} = -24 mA I _{OH} = -32 mA | 1.65 to 5.5 | V _{CC} - 0.1 | – | V _{CC} - 0.1 | – | V |
| | | | 1.65 | 1.29 | – | 1.29 | – | |
| | | | 2.3 | 1.8 | – | 1.8 | – | |
| | | | 2.7 | 2.2 | – | 2.2 | – | |
| | | | 3.0 | 2.4 | – | 2.4 | – | |
| | | | 3.0 | 2.2 | – | 2.2 | – | |
| | | | 4.5 | 3.7 | – | 3.7 | – | |
| V _{OL} | Low-Level Output Voltage | V _I = V _{IH} or V _{IL} I _{OL} = 100 µA I _{OL} = 4 mA I _{OL} = 8 mA I _{OL} = 12 mA I _{OL} = 16 mA I _{OL} = 24 mA I _{OL} = 32 mA | 1.65 to 5.5 | – | 0.1 | – | 0.1 | V |
| | | | 1.65 | – | 0.24 | – | 0.24 | |
| | | | 2.3 | – | 0.3 | – | 0.3 | |
| | | | 2.7 | – | 0.4 | – | 0.4 | |
| | | | 3.0 | – | 0.4 | – | 0.4 | |
| | | | 3.0 | – | 0.55 | – | 0.55 | |
| | | | 4.5 | – | 0.6 | – | 0.6 | |
| I _{OZ} | 3-State Output Leakage Current | V _I = V _{IH} or V _{IL} , V _O = 0 to 5.5 V | 3.6 | – | ±5.0 | – | ±5.0 | µA |
| I _I | Input Leakage Current | V _I = 0 to 5.5 V | 3.6 | – | ±5.0 | – | ±5.0 | µA |
| I _{OFF} | Power Off Leakage Current | V _I = 5.5 V or V _O = 5.5 V | 0 | – | 10 | – | 10 | µA |
| I _{CC} | Quiescent Supply Current | V _I = 5.5 V or GND | 3.6 | – | 10 | – | 10 | µA |
| ΔI _{CC} | Increase in I _{CC} per Input | V _{IH} = V _{CC} - 0.6 V | 2.3 to 3.6 | – | 500 | – | 500 | µA |

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

AC ELECTRICAL CHARACTERISTICS

| Symbol | Parameter | Test Condition | V _{CC} (V) | T _A = -40 °C to +85 °C | | T _A = -40 °C to +125 °C | | Unit |
|--|---------------------------------------|------------------------|---------------------|-----------------------------------|------|------------------------------------|------|------|
| | | | | Min | Max | Min | Max | |
| t _{PLH} , t _{PHL} | Propagation Delay, Input to Output | See Figures 4 and 5 | 1.65 to 1.95 | – | 11.0 | – | 11.0 | ns |
| | | | 2.3 to 2.7 | – | 7.2 | – | 7.2 | |
| | | | 2.7 | – | 6.5 | – | 6.5 | |
| | | | 3.0 to 3.6 | – | 6.0 | – | 6.0 | |
| | | | 4.5 to 5.5 | – | 4.7 | – | 4.7 | |

74LCX125

AC ELECTRICAL CHARACTERISTICS

| Symbol | Parameter | Test Condition | V _{CC} (V) | T _A = -40 °C to +85 °C | | T _A = -40 °C to +125 °C | | Unit |
|---------------------------------------|-----------------------|---------------------|---------------------|-----------------------------------|------|------------------------------------|------|------|
| | | | | Min | Max | Min | Max | |
| t _{pZH} , t _{pZL} | Output Enable Time | See Figures 4 and 5 | 1.65 to 1.95 | – | 11.3 | – | 11.3 | ns |
| | | | 2.3 to 2.7 | – | 9.1 | – | 9.1 | |
| | | | 2.7 | – | 8.0 | – | 8.0 | |
| | | | 3.0 to 3.6 | – | 7.0 | – | 7.0 | |
| | | | 4.5 to 5.5 | – | 6.0 | – | 6.0 | |
| t _{pHZ} , t _{pLZ} | Output Disable Time | See Figures 4 and 5 | 1.65 to 1.95 | – | 9.0 | – | 9.0 | ns |
| | | | 2.3 to 2.7 | – | 7.2 | – | 7.2 | |
| | | | 2.7 | – | 7.0 | – | 7.0 | |
| | | | 3.0 to 3.6 | – | 6.0 | – | 6.0 | |
| | | | 4.5 to 5.5 | – | 5.0 | – | 5.0 | |
| t _{OSHL} , t _{OSLH} | Output to Output Skew | | 1.65 to 1.95 | – | – | – | – | ns |
| | | | 2.3 to 2.7 | – | – | – | – | |
| | | | 2.7 | – | – | – | – | |
| | | | 3.0 to 3.6 | – | 1.0 | – | 1.0 | |
| | | | 4.5 to 5.5 | – | – | – | – | |

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

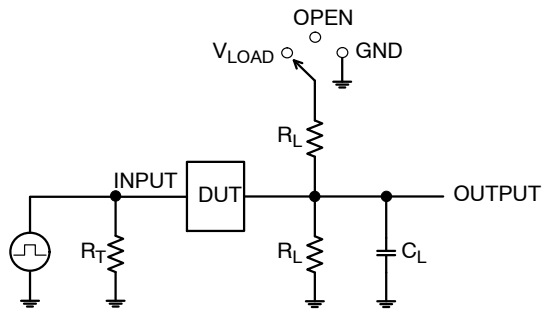
DYNAMIC SWITCHING CHARACTERISTICS

| Symbol | Parameter | V _{CC} (V) | Test Conditions | T _A = 25 °C | Unit |
|------------------|---|---------------------|--|------------------------|------|
| | | | | Typ | |
| V _{OLP} | Quiet Output Dynamic Peak V _{OL} | 3.3 | C _L = 50 pF, V _{IH} = 3.3 V, V _{IL} = 0 V | 0.8 | V |
| | | 2.5 | C _L = 30 pF, V _{IH} = 2.5 V, V _{IL} = 0 V | 0.6 | |
| V _{OLV} | Quiet Output Dynamic Peak V _{OL} | 3.3 | C _L = 50 pF, V _{IH} = 3.3 V, V _{IL} = 0 V | –0.8 | V |
| | | 2.5 | C _L = 30 pF, V _{IH} = 2.5 V, V _{IL} = 0 V | –0.6 | |

CAPACITANCE

| Symbol | Parameter | Test Conditions | Typ | Unit |
|------------------|-------------------------------|---|------|------|
| C _{IN} | Input Capacitance | V _{CC} = Open, V _I = 0 V or V _{CC} | 7.0 | pF |
| C _{OUT} | Output Capacitance | V _{CC} = 3.3 V, V _I = 0 V or V _{CC} | 8.0 | pF |
| C _{PD} | Power Dissipation Capacitance | V _{CC} = 3.3 V, V _I = 0 V or V _{CC} , f = 10 MHz | 25.0 | pF |

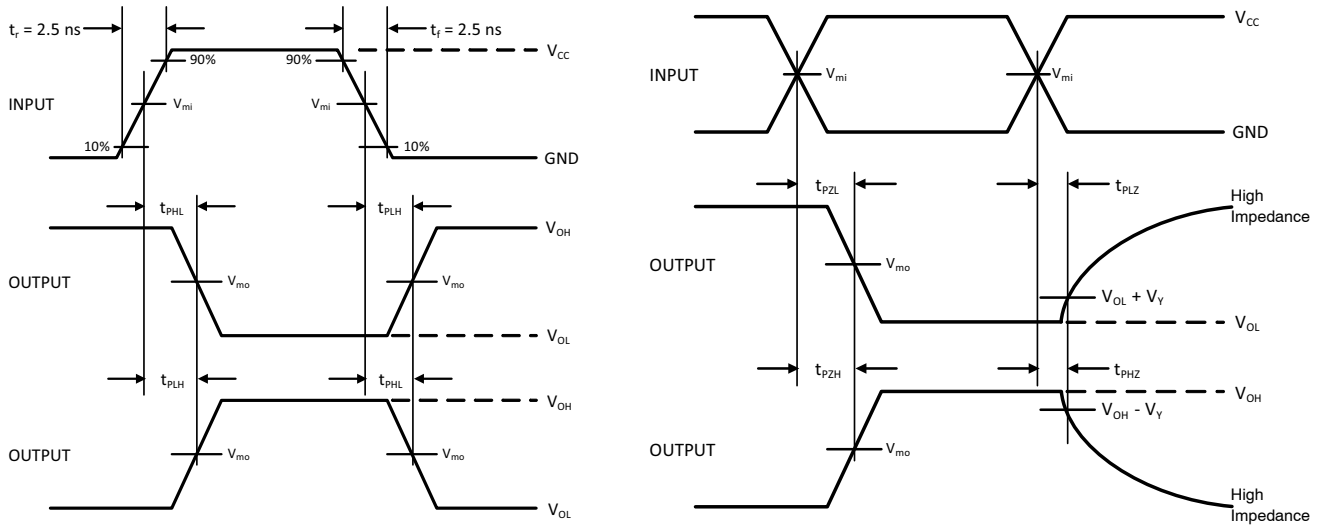
74LCX125



C_L includes probe and jig capacitance
 R_T is Z_{OUT} of pulse generator (typically 50 Ω)
 $f = 1$ MHz

| Test | Switch Position |
|---------------------|-----------------|
| t_{PLH} / t_{PHL} | Open |
| t_{PLZ} / t_{PZL} | V_{LOAD} |
| t_{PHZ} / t_{PZH} | GND |

Figure 4. Test Circuit



| V_{CC}, V | R_L, Ω | C_L, pF | V_{LOAD} | V_m, V | V_Y, V |
|--------------|---------------|-----------|-------------------|------------|----------|
| 1.65 to 1.95 | 500 | 30 | $2 \times V_{CC}$ | $V_{CC}/2$ | 0.15 |
| 2.3 to 2.7 | 500 | 30 | $2 \times V_{CC}$ | $V_{CC}/2$ | 0.15 |
| 2.7 | 500 | 50 | 6 V | 1.5 | 0.3 |
| 3.0 to 3.6 | 500 | 50 | 6 V | 1.5 | 0.3 |
| 4.5 to 5.5 | 500 | 50 | $2 \times V_{CC}$ | $V_{CC}/2$ | 0.3 |

Figure 5. Switching Waveforms

74LCX125

SCHEMATIC DIAGRAM (GENERIC FOR LCX FAMILY)

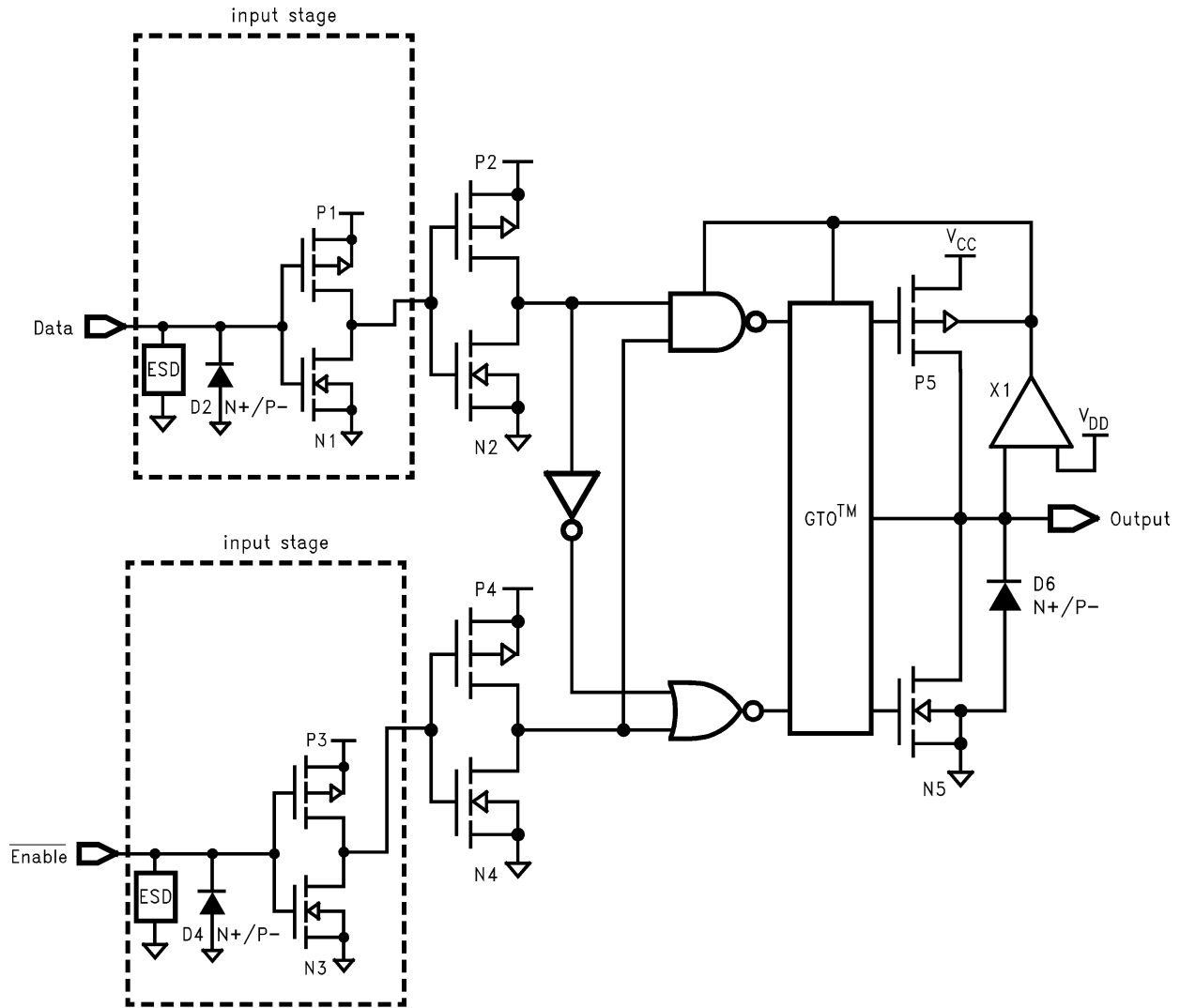


Figure 6. Schematic Diagram

ORDERING INFORMATION

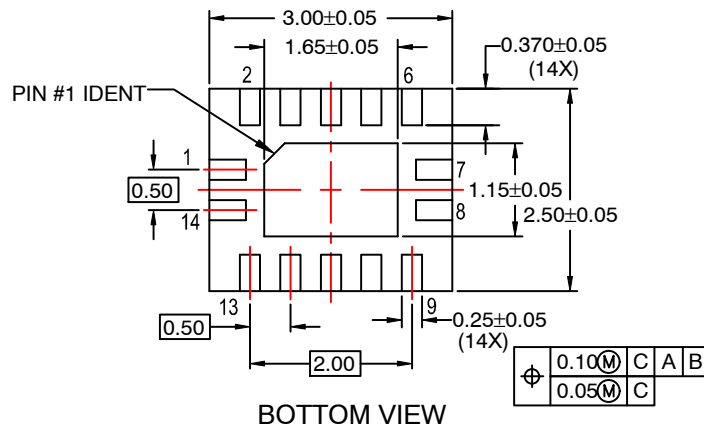
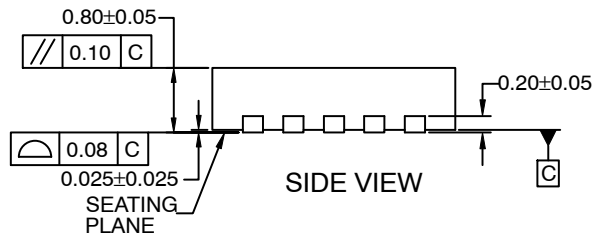
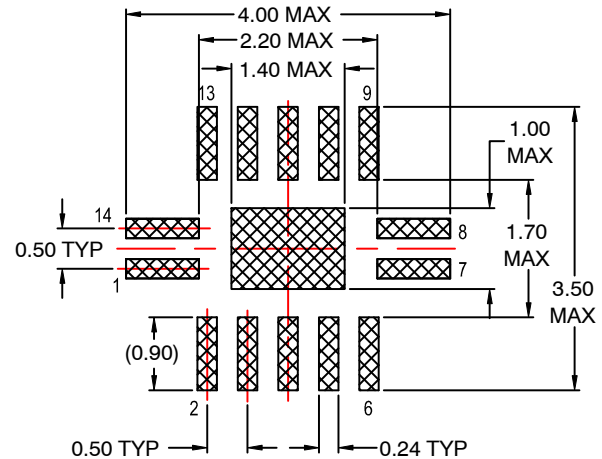
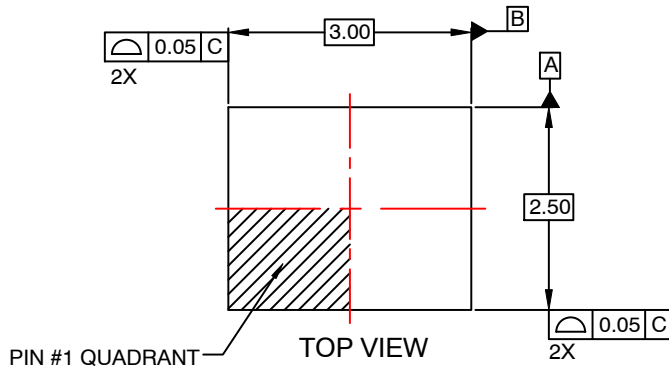
| Product Number | Package | Shipping [†] |
|----------------------|--------------------------------------|-----------------------|
| 74LCX125MTCX | TSSOP-14 WB (Pb-Free/Halide Free) | 2500 / Tape and Reel |
| 74LCX125BQX (Note 5) | QFN-14 (Pb-Free/Halide Free) | 3000 / Tape and Reel |
| 74LCX125MTC | TSSOP-14 WB (Pb-Free/Halide Free) | 2350 Units / Tube |

[†]For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, [BRD8011/D](#).

5. DQFN package available in Tape and Reel only.

QFN14 3.0x2.5, 0.5P
CASE 510CB
ISSUE O

DATE 31 AUG 2016



NOTES:

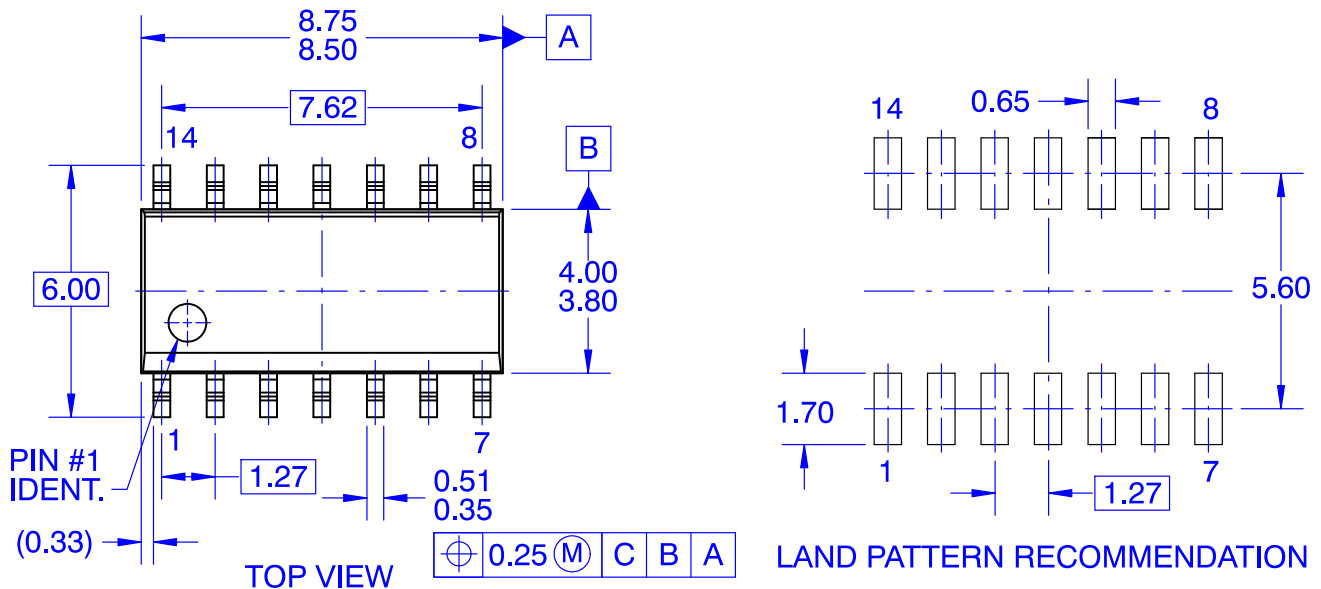
- A. CONFORMS TO JEDEC REGISTRATION MO-241, VARIATION AA
- B. DIMENSIONS ARE IN MILLIMETERS.
- C. DIMENSIONS AND TOLERANCES PER ASME Y14.5M, 2009.
- D. LAND PATTERN RECOMMENDATION IS EXISTING INDUSTRY LAND PATTERN.

| | | |
|-------------------------|----------------------------|---|
| DOCUMENT NUMBER: | 98AON13643G | Electronic versions are uncontrolled except when accessed directly from the Document Repository. Printed versions are uncontrolled except when stamped "CONTROLLED COPY" in red. |
| DESCRIPTION: | QFN14 3.0X2.5, 0.5P | PAGE 1 OF 1 |

onsemi and Onsemi are trademarks of Semiconductor Components Industries, LLC dba onsemi or its subsidiaries in the United States and/or other countries. onsemi reserves the right to make changes without further notice to any products herein. onsemi makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does onsemi assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. onsemi does not convey any license under its patent rights nor the rights of others.

SOIC14
CASE 751EF
ISSUE O

DATE 30 SEP 2016

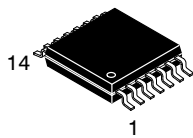


NOTES:

- 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

| | | |
|-------------------------|--------------------|--|
| DOCUMENT NUMBER: | 98AON13739G | Electronic versions are uncontrolled except when accessed directly from the Document Repository. Printed versions are uncontrolled except when stamped "CONTROLLED COPY" in red. |
| DESCRIPTION: | SOIC14 | PAGE 1 OF 1 |

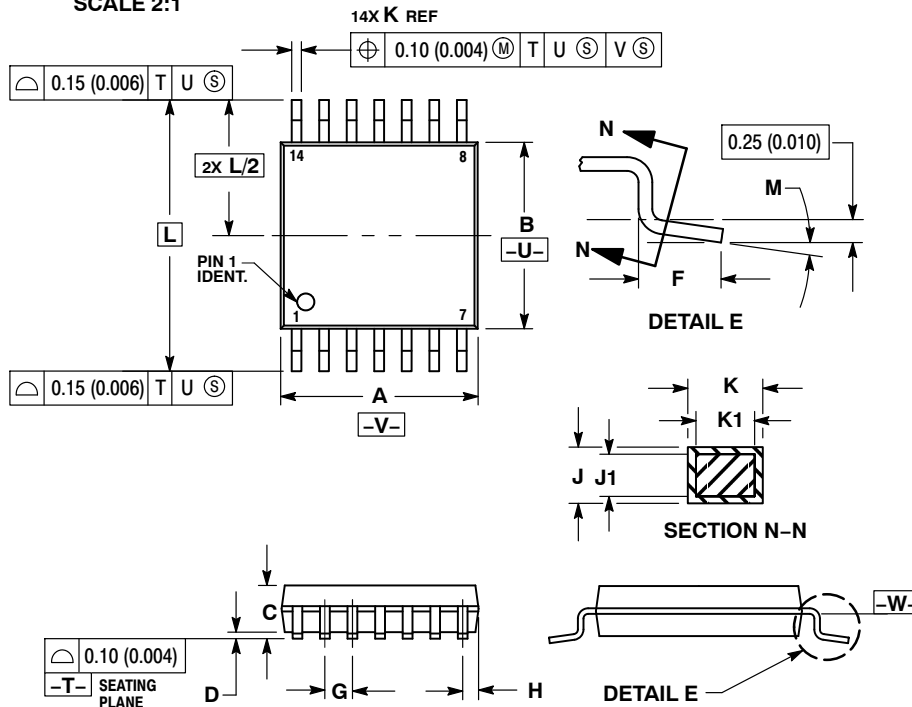
onsemi and Onsemi are trademarks of Semiconductor Components Industries, LLC dba onsemi or its subsidiaries in the United States and/or other countries. onsemi reserves the right to make changes without further notice to any products herein. onsemi makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does onsemi assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. onsemi does not convey any license under its patent rights nor the rights of others.



TSSOP-14 WB
CASE 948G
ISSUE C

DATE 17 FEB 2016

SCALE 2:1

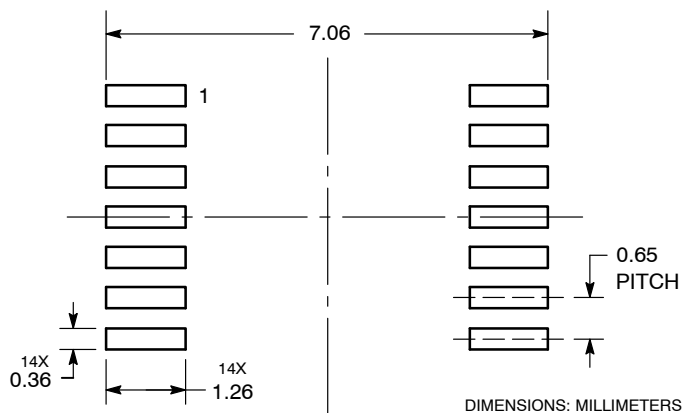


NOTES:

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-.

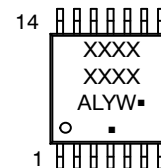
| DIM | MILLIMETERS | | INCHES | |
|-----|-------------|------|-----------|-------|
| | MIN | MAX | MIN | MAX |
| A | 4.90 | 5.10 | 0.193 | 0.200 |
| B | 4.30 | 4.50 | 0.169 | 0.177 |
| C | --- | 1.20 | --- | 0.047 |
| D | 0.05 | 0.15 | 0.002 | 0.006 |
| F | 0.50 | 0.75 | 0.020 | 0.030 |
| G | 0.65 BSC | | 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° |

RECOMMENDED
SOLDERING FOOTPRINT*



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

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. Some products may not follow the Generic Marking.

| | | |
|------------------|-------------|--|
| DOCUMENT NUMBER: | 98ASH70246A | Electronic versions are uncontrolled except when accessed directly from the Document Repository. Printed versions are uncontrolled except when stamped "CONTROLLED COPY" in red. |
| DESCRIPTION: | TSSOP-14 WB | PAGE 1 OF 1 |

onsemi and onsemi are trademarks of Semiconductor Components Industries, LLC dba onsemi or its subsidiaries in the United States and/or other countries. onsemi reserves the right to make changes without further notice to any products herein. onsemi makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does onsemi assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. onsemi does not convey any license under its patent rights nor the rights of others.

onsemi, **Onsemi**, and other names, marks, and brands are registered and/or common law trademarks of Semiconductor Components Industries, LLC dba "**onsemi**" or its affiliates and/or subsidiaries in the United States and/or other countries. **onsemi** owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of **onsemi**'s product/patent coverage may be accessed at www.onsemi.com/site/pdf/Patent-Marking.pdf. **onsemi** reserves the right to make changes at any time to any products or information herein, without notice. The information herein is provided "as-is" and **onsemi** makes no warranty, representation or guarantee regarding the accuracy of the information, product features, availability, functionality, or suitability of its products for any particular purpose, nor does **onsemi** assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using **onsemi** products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by **onsemi**. "Typical" parameters which may be provided in **onsemi** data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. **onsemi** does not convey any license under any of its intellectual property rights nor the rights of others. **onsemi** products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA Class 3 medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use **onsemi** products for any such unintended or unauthorized application, Buyer shall indemnify and hold **onsemi** and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that **onsemi** was negligent regarding the design or manufacture of the part. **onsemi** is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

ADDITIONAL INFORMATION

TECHNICAL PUBLICATIONS:

Technical Library: www.onsemi.com/design/resources/technical-documentation
onsemi Website: www.onsemi.com

ONLINE SUPPORT: www.onsemi.com/support

For additional information, please contact your local Sales Representative at
www.onsemi.com/support/sales