

74LVXC164245 16-Bit Dual Supply Configurable Voltage Interface Transceiver with TRI-STATE® Outputs

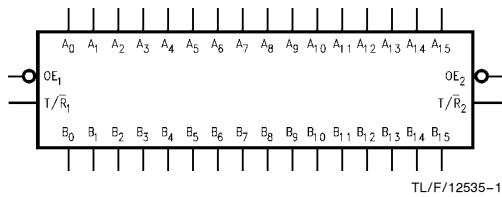
General Description

The LVXC164245 is a 48-pin dual-supply, 16-bit configurable voltage interface transceiver suited for PCMCIA and other real time configurable I/O applications. The V_{CCB} pin accepts a 5V supply level. The "B" port is a dedicated 5V port. The V_{CCA} pin accepts a 3V-to-5V supply level. The "A" port is configured to track the V_{CCA} supply level respectively. A 5V level on the V_{CC} pin will configure the I/O pins at a 5V level and a 3V V_{CC} will configure the I/O pins at a 3V level. This device will allow the V_{CCA} voltage source pin and I/O pins on the "A" port to float when \overline{OE} is HIGH. This feature is necessary to buffer data to and from a PCMCIA socket that permits PCMCIA cards to be inserted and removed during normal operation.

Features

- Power up/down high impedance provides glitch-free bus loading
- Allows A port and V_{CCA} to float simultaneously when \overline{OE} is HIGH
- Bidirectional interface between 5V and 3V-to-5V buses
- Inputs compatible with TTL level
- Allow dual V_{CC} supplies power up/down easily when \overline{OE} is HIGH
- Guaranteed simultaneous switching noise level and dynamic threshold performance
- Available in SSOP and TSSOP packages
- Implements patented Quiet Series™ EMI reduction circuitry
- Flexible V_{CCA} operating range
- Functionally compatible with the 74 series 16245

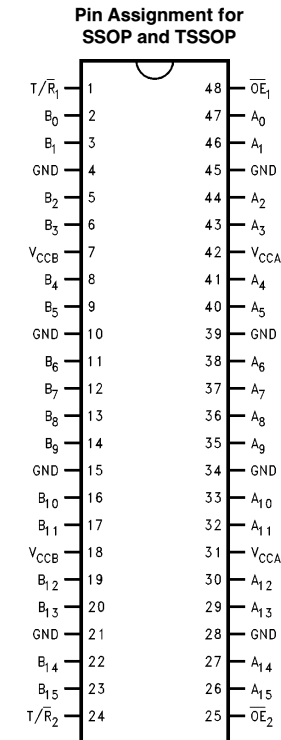
Logic Symbol



Pin Names	Description
\overline{OE}_n	Output Enable Input (Active Low)
T/\overline{R}_n	Transmit/Receive Input
A_0-A_{15}	Side A Inputs/TRI-STATE Outputs
B_0-B_{15}	Side B Inputs/TRI-STATE Outputs

	SSOP	TSSOP JEDEC
Order Number	74LVXC164245MEA 74LVXC164245MEAX	74LVXC164245MTD 74LVXC164245MTDX
See NS Package Number	MS48A	MTD48

Connection Diagram



Functional Description

The LVXC164245 contains sixteen non-inverting bidirectional buffers with TRI-STATE outputs. The device is byte controlled with each byte functioning identically, but independent of the other. The control pins can be shorted together to obtain full 16-bit operation.

Truth Tables

Inputs		Outputs
\overline{OE}_1	T/\overline{R}_1	
L	L	Bus B ₀ -B ₇ Data to Bus A ₀ -A ₇
L	H	Bus A ₀ -A ₇ Data to Bus B ₀ -B ₇
H	X	HIGH-Z State on A ₀ -A ₇ , B ₀ -B ₇

H = High Voltage Level

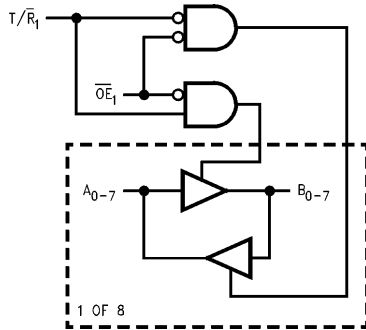
L = Low Voltage Level

Inputs		Outputs
\overline{OE}_2	T/\overline{R}_2	
L	L	Bus B ₈ -B ₁₅ Data to Bus A ₈ -A ₁₅
L	H	Bus A ₈ -A ₁₅ Data to Bus B ₈ -B ₁₅
H	X	HIGH-Z State on A ₈ -A ₁₅ , B ₈ -B ₁₅

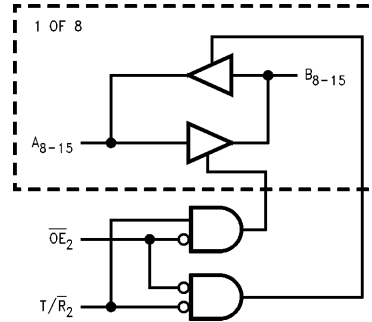
X = Immaterial

Z = High Impedance

Logic Diagrams



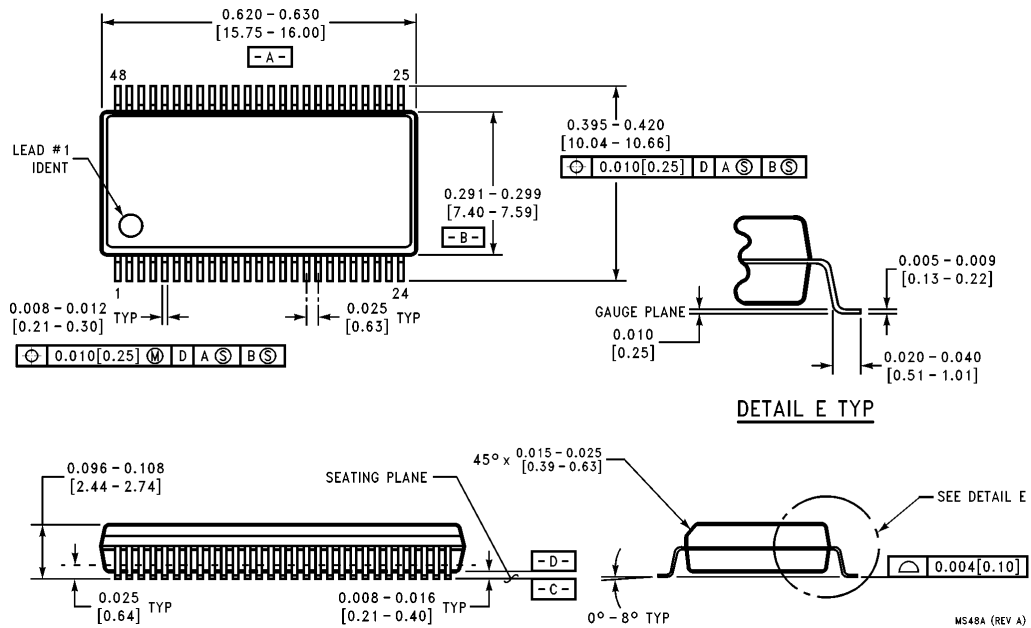
TL/F/12535-3



TL/F/12535-4

Please note that these diagrams are provided only for the understanding of logic operations and should not be used to estimate propagation delays.

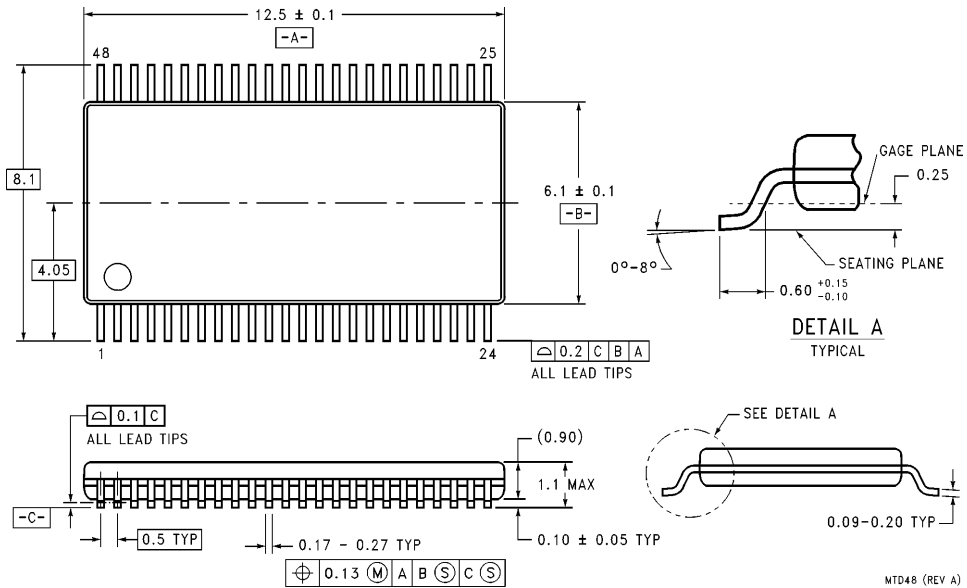
Physical Dimensions inches (millimeters) unless otherwise noted



48-Lead Molded Shrink Small Outline Package, EIAJ
Order Number 74LVXC164245MEA or 74LVXC164245MEAX
NS Package Number MS48A

74LVXC164245 16-Bit Dual Supply Configurable Voltage Interface Transceiver with TRI-STATE Outputs

Physical Dimensions millimeters (Continued)



48-Lead Molded Thin Shrink Small Outline Package, JEDEC, 6.1 mm Body Width
Order Number 74LVXC164245MTD or 74LVXC164245MTDX
NS Package Number MTD48

LIFE SUPPORT POLICY

NATIONAL'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE PRESIDENT OF NATIONAL SEMICONDUCTOR CORPORATION. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury to the user.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

	National Semiconductor Corporation	National Semiconductor Europe	National Semiconductor Southeast Asia	National Semiconductor Japan Ltd.
	Americas			
	Tel: 1(800) 272-9959	Fax: +49 (0) 180-530 85 86	Fax: (852) 2376 3901	Tel: 81-3-5620-7561
	Fax: 1(800) 737-7018	Email: europe.support@nsc.com	Email: sea.support@nsc.com	Fax: 81-3-5620-6179
	Email: support@nsc.com	Deutsch Tel: +49 (0) 180-530 85 85		
http://www.national.com	English Tel: +49 (0) 180-532 78 32			
	Français Tel: +49 (0) 180-532 93 58			
	Italiano Tel: +49 (0) 180-534 16 80			

National does not assume any responsibility for use of any circuitry described, no circuit patent licenses are implied and National reserves the right at any time without notice to change said circuitry and specifications.