

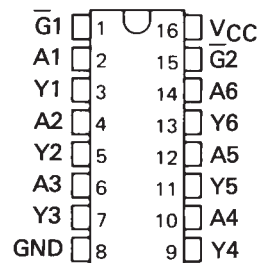
# SN54365A THRU SN54368A, SN54LS365A THRU SN54LS368A SN74365A THRU SN74368A, SN74LS365A THRU SN74LS368A HEX BUS DRIVERS WITH 3-STATE OUTPUTS

DECEMBER 1983—REVISED MARCH 1988

- 3-State Outputs Drive Bus Lines or Buffer Memory Address Registers
  - Choice of True or Inverting Outputs
  - Package Options Include Plastic "Small Outline" Packages, Ceramic Chip Carriers and Flat Packages, and Plastic and Ceramic DIPs
  - Dependable Texas Instruments Quality and Reliability
- '365A, '367A, 'LS365A, 'LS367A True Outputs  
'366A, '368A, 'LS366A, 'LS368A Inverting Outputs

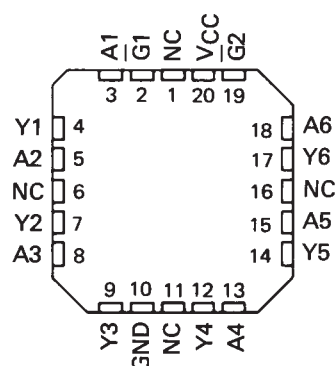
SN54365A, 366A, SN54LS365A, 366A . . . J PACKAGE  
SN74365A, 366A . . . N PACKAGE  
SN74LS365A, SN74LS366A . . . D OR N PACKAGE

(TOP VIEW)



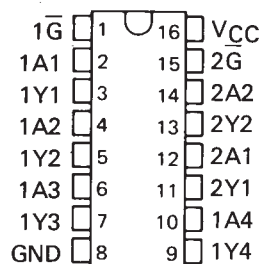
SN54LS365A, SN54LS366A . . . FK PACKAGE

(TOP VIEW)



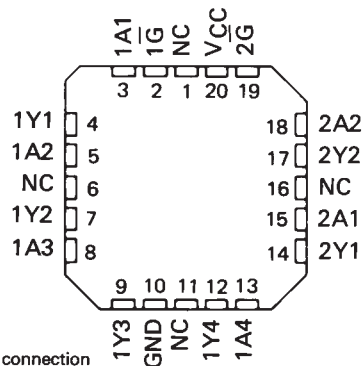
SN54367A, 368A, SN54LS367A, 368A . . . J PACKAGE  
SN74367A, 368A . . . N PACKAGE  
SN74LS367A, SN74LS368A . . . D OR N PACKAGE

(TOP VIEW)



SN54LS367A, SN54LS368A . . . FK PACKAGE

(TOP VIEW)



NC - No internal connection

## description

These Hex buffers and line drivers are designed specifically to improve both the performance and density of three-state memory address drivers, clock drivers, and bus oriented receivers and transmitters. The designer has choice of selected combinations of inverting and noninverting outputs, symmetrical  $\bar{G}$  (active-low control) inputs.

These devices feature high fan-out, improved fan-in, and can be used to drive terminated lines down to 133 ohms.

The SN54365A thru SN54368A and SN54LS365A thru SN54LS368A are characterized for operation over the full military temperature range of  $-55^{\circ}\text{C}$  to  $125^{\circ}\text{C}$ . The SN74365A thru SN74368A and SN74LS365A thru SN74LS368A are characterized for operation from  $0^{\circ}\text{C}$  to  $70^{\circ}\text{C}$ .

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TTL Devices

PRODUCTION DATA documents contain information current as of publication date. Products conform to specifications per the terms of Texas Instruments standard warranty. Production processing does not necessarily include testing of all parameters.

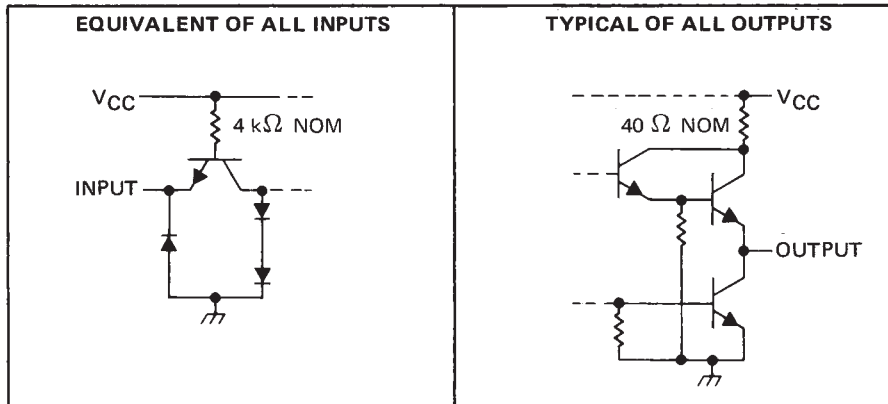
TEXAS  
INSTRUMENTS

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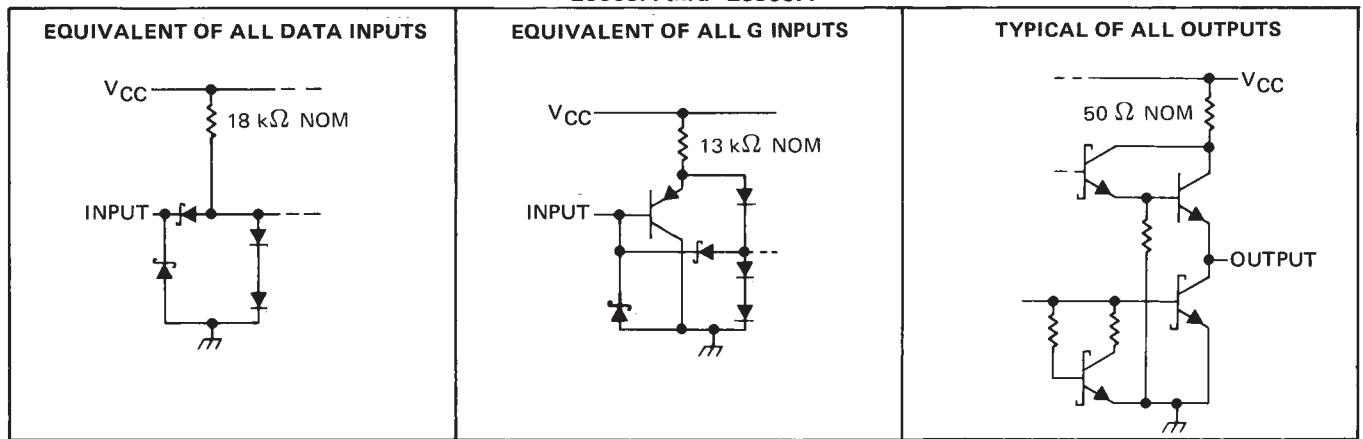
# SN54365A THRU SN54368A, SN54LS365A THRU SN54LS368A SN74365A THRU SN74368A, SN74LS365A THRU SN74LS368A HEX BUS DRIVERS WITH 3-STATE OUTPUTS

schematics of inputs and outputs

'365A thru '368A



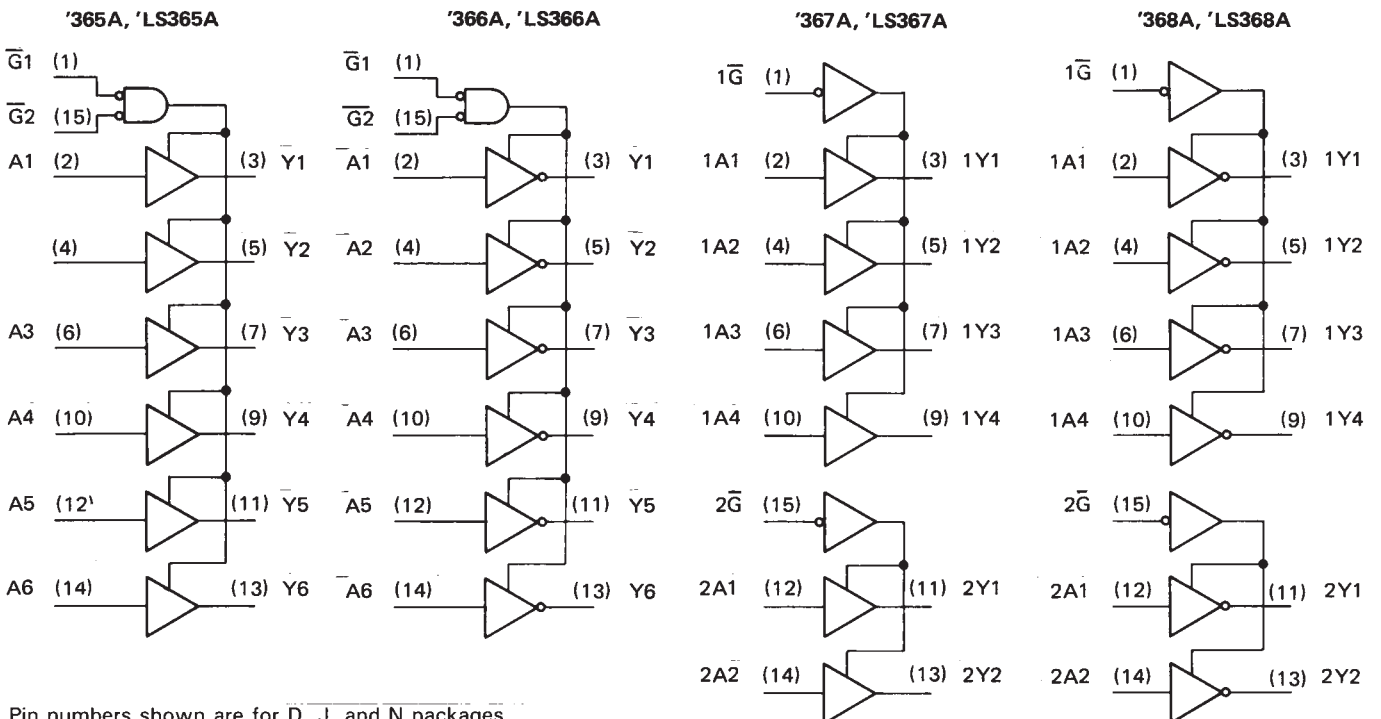
'LS365A thru 'LS368A



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TTL Devices

logic diagrams (positive logic)



| Orderable Device | Status <sup>(1)</sup> | Package Type | Package Drawing | Pins | Package Qty | Eco Plan <sup>(2)</sup> | Lead/Ball Finish | MSL Peak Temp <sup>(3)</sup>               |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|--|
| SN74366AN        | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74367AN        | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74367AN        | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74367AN3       | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74367AN3       | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74368AN        | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74368AN        | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74368AN3       | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74368AN3       | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74LS365AD      | ACTIVE                | SOIC         | D               | 16   | 40          | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS365AD      | ACTIVE                | SOIC         | D               | 16   | 40          | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS365ADR     | ACTIVE                | SOIC         | D               | 16   | 2500        | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS365ADR     | ACTIVE                | SOIC         | D               | 16   | 2500        | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS365ADRE4   | ACTIVE                | SOIC         | D               | 16   | 2500        | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS365ADRE4   | ACTIVE                | SOIC         | D               | 16   | 2500        | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS365AN      | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | Level-NC-NC-NC                             |
| SN74LS365AN      | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | Level-NC-NC-NC                             |
| SN74LS365AN3     | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74LS365AN3     | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74LS365ANSR    | ACTIVE                | SO           | NS              | 16   | 2000        | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS365ANSR    | ACTIVE                | SO           | NS              | 16   | 2000        | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS365ANSRE4  | ACTIVE                | SO           | NS              | 16   | 2000        | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS365ANSRE4  | ACTIVE                | SO           | NS              | 16   | 2000        | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS366AD      | OBSOLETE              | SOIC         | D               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74LS366AD      | OBSOLETE              | SOIC         | D               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74LS366ADR     | OBSOLETE              | SOIC         | D               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74LS366ADR     | OBSOLETE              | SOIC         | D               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74LS366AN      | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74LS366AN      | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74LS367AD      | ACTIVE                | SOIC         | D               | 16   | 40          | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS367AD      | ACTIVE                | SOIC         | D               | 16   | 40          | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS367ADE4    | ACTIVE                | SOIC         | D               | 16   | 40          | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS367ADE4    | ACTIVE                | SOIC         | D               | 16   | 40          | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |

| Orderable Device | Status <sup>(1)</sup> | Package Type | Package Drawing | Pins | Package Qty | Eco Plan <sup>(2)</sup> | Lead/Ball Finish | MSL Peak Temp <sup>(3)</sup>               |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|--|
|                  |                       |              |                 |      |             | (RoHS)                  |                  | Level-1-235C-UNLIM                         |
| SN74LS367ADR     | ACTIVE                | SOIC         | D               | 16   | 2500        | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS367ADR     | ACTIVE                | SOIC         | D               | 16   | 2500        | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS367ADRE4   | ACTIVE                | SOIC         | D               | 16   | 2500        | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS367ADRE4   | ACTIVE                | SOIC         | D               | 16   | 2500        | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS367AJ      | OBSOLETE              | CDIP         | J               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74LS367AJ      | OBSOLETE              | CDIP         | J               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74LS367AN      | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | Level-NC-NC-NC                             |
| SN74LS367AN      | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | Level-NC-NC-NC                             |
| SN74LS367AN3     | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74LS367AN3     | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74LS367ANE4    | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | Level-NC-NC-NC                             |
| SN74LS367ANE4    | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | Level-NC-NC-NC                             |
| SN74LS367ANSR    | ACTIVE                | SO           | NS              | 16   | 2000        | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS367ANSR    | ACTIVE                | SO           | NS              | 16   | 2000        | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS367ANSRG4  | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM                         |
| SN74LS367ANSRG4  | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM                         |
| SN74LS368AD      | ACTIVE                | SOIC         | D               | 16   | 40          | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS368AD      | ACTIVE                | SOIC         | D               | 16   | 40          | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS368ADE4    | ACTIVE                | SOIC         | D               | 16   | 40          | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS368ADE4    | ACTIVE                | SOIC         | D               | 16   | 40          | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS368ADR     | ACTIVE                | SOIC         | D               | 16   | 2500        | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS368ADR     | ACTIVE                | SOIC         | D               | 16   | 2500        | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS368ADRE4   | ACTIVE                | SOIC         | D               | 16   | 2500        | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS368ADRE4   | ACTIVE                | SOIC         | D               | 16   | 2500        | Pb-Free (RoHS)          | CU NIPDAU        | Level-2-260C-1 YEAR/<br>Level-1-235C-UNLIM |
| SN74LS368AJ      | OBSOLETE              | CDIP         | J               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74LS368AJ      | OBSOLETE              | CDIP         | J               | 16   |             | TBD                     | Call TI          | Call TI                                    |
| SN74LS368AN      | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | Level-NC-NC-NC                             |
| SN74LS368AN      | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free                 | CU NIPDAU        | Level-NC-NC-NC                             |