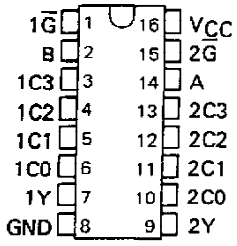
# SN54153, SN54LS153, SN54S153
# SN74153, SN74LS153, SN74S153
# DUAL 4-LINE TO 1-LINE DATA SELECTORS/MULTIPLEXERS

DECEMBER 1972 – REVISED MARCH 1988

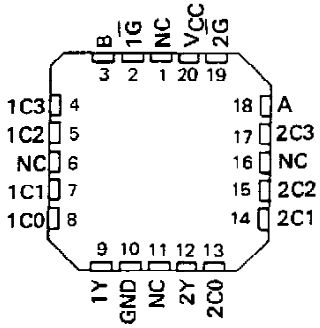
- Permits Multiplexing from N lines to 1 line
- Performs Parallel-to-Serial Conversion
- Strobe (Enable) Line Provided for Cascading (N lines to n lines)
- High-Fan-Out, Low-Impedance, Totem-Pole Outputs
- Fully Compatible with most TTL Circuits

| TYPE | TYPICAL AVERAGE PROPAGATION DELAY TIMES | | | TYPICAL POWER DISSIPATION |
|---|---|---|---|---|
| | FROM DATA | FROM STROBE | FROM SELECT | |
| '153 | 14 ns | 17 ns | 22 ns | 180 mW |
| 'LS153 | 14 ns | 19 ns | 22 ns | 31 mW |
| 'S153 | 6 ns | 9.5 ns | 12 ns | 225 mW |

SN54153, SN54LS153, SN54S153 . . . J OR W PACKAGE
SN74153 . . . N PACKAGE
SN74LS153, SN74S153 . . . D OR N PACKAGE
(TOP VIEW)




SN54LS153, SN54S153 . . . FK PACKAGE
(TOP VIEW)




NC – No internal connection

## description

Each of these monolithic, data selectors/multiplexers contains inverters and drivers to supply fully complementary, on-chip, binary decoding data selection to the AND-OR gates. Separate strobe inputs are provided for each of the two four-line sections.

FUNCTION TABLE

| SELECT INPUTS | | DATA INPUTS | | | | STROBE | OUTPUT |
|---|---|---|---|---|---|---|---|
| B | A | C0 | C1 | C2 | C3 | $\overline{G}$ | Y |
| X | X | X | X | X | X | H | L |
| L | L | L | X | X | X | L | L |
| L | L | H | X | X | X | L | H |
| L | H | X | L | X | X | L | L |
| L | H | X | H | X | X | L | H |
| H | L | X | X | L | X | L | L |
| H | L | X | X | H | X | L | H |
| H | H | X | X | X | L | L | L |
| H | H | X | X | X | H | L | H |

Select inputs A and B are common to both sections.
H = high level, L = low level, X = irrelevant

## absolute maximum ratings over operating free-air temperature range (unless otherwise noted)

Supply voltage, $V_{CC}$ (See Note 1) . . . . . 7 V
Input voltage: '153, 'S153 . . . . . 5.5 V
'LS153 . . . . . 7 V
Operating free-air temperature range: SN54' . . . . . −55°C to 125°C
SN74' . . . . . 0°C to 70°C
Storage temperature range . . . . . −65°C to 150°C

NOTE 1: Voltage values are with respect to network ground terminal.

## PACKAGING INFORMATION

| Orderable Device | Status (1) | Package Type | Package Drawing | Pins | Package Qty | Eco Plan (2) | Lead/Ball Finish | MSL Peak Temp (3) |
|---|---|---|---|---|---|---|---|---|
| 76011012A | ACTIVE | LCCC | FK | 20 | 1 | TBD | Call TI | Level-NC-NC-NC |
| 7601101EA | ACTIVE | CDIP | J | 16 | 1 | TBD | Call TI | Level-NC-NC-NC |
| 7601101EA | ACTIVE | CDIP | J | 16 | 1 | TBD | Call TI | Level-NC-NC-NC |
| 7601101FA | ACTIVE | CFP | W | 16 | 1 | TBD | Call TI | Level-NC-NC-NC |
| 7601101FA | ACTIVE | CFP | W | 16 | 1 | TBD | Call TI | Level-NC-NC-NC |
| JM38510/07902BEA | OBSOLETE | CDIP | J | 16 | | TBD | Call TI | Call TI |
| JM38510/07902BEA | OBSOLETE | CDIP | J | 16 | | TBD | Call TI | Call TI |
| JM38510/07902BFA | OBSOLETE | CFP | W | 16 | | TBD | Call TI | Call TI |
| JM38510/07902BFA | OBSOLETE | CFP | W | 16 | | TBD | Call TI | Call TI |
| JM38510/30902B2A | ACTIVE | LCCC | FK | 20 | 1 | TBD | Call TI | Level-NC-NC-NC |
| JM38510/30902B2A | ACTIVE | LCCC | FK | 20 | 1 | TBD | Call TI | Level-NC-NC-NC |
| JM38510/30902BEA | ACTIVE | CDIP | J | 16 | 1 | TBD | Call TI | Level-NC-NC-NC |
| JM38510/30902BEA | ACTIVE | CDIP | J | 16 | 1 | TBD | Call TI | Level-NC-NC-NC |
| SN54153J | ACTIVE | CDIP | J | 16 | 1 | TBD | Call TI | Level-NC-NC-NC |
| SN54153J | ACTIVE | CDIP | J | 16 | 1 | TBD | Call TI | Level-NC-NC-NC |
| SN54LS153J | ACTIVE | CDIP | J | 16 | 1 | TBD | Call TI | Level-NC-NC-NC |
| SN54LS153J | ACTIVE | CDIP | J | 16 | 1 | TBD | Call TI | Level-NC-NC-NC |
| SN54S153J | OBSOLETE | CDIP | J | 16 | | TBD | Call TI | Call TI |
| SN54S153J | OBSOLETE | CDIP | J | 16 | | TBD | Call TI | Call TI |
| SN74153N | OBSOLETE | PDIP | N | 16 | | TBD | Call TI | Call TI |
| SN74153N | OBSOLETE | PDIP | N | 16 | | TBD | Call TI | Call TI |
| SN74LS153D | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS153D | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS153DE4 | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS153DE4 | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS153DR | ACTIVE | SOIC | D | 16 | 2500 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS153DR | ACTIVE | SOIC | D | 16 | 2500 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS153DRE4 | ACTIVE | SOIC | D | 16 | 2500 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS153DRE4 | ACTIVE | SOIC | D | 16 | 2500 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS153J | OBSOLETE | CDIP | J | 16 | | TBD | Call TI | Call TI |
| SN74LS153J | OBSOLETE | CDIP | J | 16 | | TBD | Call TI | Call TI |
| SN74LS153N | ACTIVE | PDIP | N | 16 | 25 | Pb-Free (RoHS) | CU NIPDAU | Level-NC-NC-NC |
| SN74LS153N | ACTIVE | PDIP | N | 16 | 25 | Pb-Free (RoHS) | CU NIPDAU | Level-NC-NC-NC |
| SN74LS153N3 | OBSOLETE | PDIP | N | 16 | | TBD | Call TI | Call TI |
| SN74LS153N3 | OBSOLETE | PDIP | N | 16 | | TBD | Call TI | Call TI |

| Orderable Device | Status [1] | Package Type | Package Drawing | Pins | Package Qty | Eco Plan [2] | Lead/Ball Finish | MSL Peak Temp [3] |
|---|---|---|---|---|---|---|---|---|
| SN74LS153NE4 | ACTIVE | PDIP | N | 16 | 25 | Pb-Free (RoHS) | CU NIPDAU | Level-NC-NC-NC |
| SN74LS153NE4 | ACTIVE | PDIP | N | 16 | 25 | Pb-Free (RoHS) | CU NIPDAU | Level-NC-NC-NC |
| SN74LS153NSR | ACTIVE | SO | NS | 16 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS153NSR | ACTIVE | SO | NS | 16 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS153NSRE4 | ACTIVE | SO | NS | 16 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS153NSRE4 | ACTIVE | SO | NS | 16 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74S153D | OBSOLETE | SOIC | D | 16 | | TBD | Call TI | Call TI |
| SN74S153D | OBSOLETE | SOIC | D | 16 | | TBD | Call TI | Call TI |
| SN74S153N | OBSOLETE | PDIP | N | 16 | | TBD | Call TI | Call TI |
| SN74S153N | OBSOLETE | PDIP | N | 16 | | TBD | Call TI | Call TI |
| SN74S153N3 | OBSOLETE | PDIP | N | 16 | | TBD | Call TI | Call TI |
| SN74S153N3 | OBSOLETE | PDIP | N | 16 | | TBD | Call TI | Call TI |
| SNJ54153J | ACTIVE | CDIP | J | 16 | 1 | TBD | Call TI | Level-NC-NC-NC |
| SNJ54153J | ACTIVE | CDIP | J | 16 | 1 | TBD | Call TI | Level-NC-NC-NC |
| SNJ54153W | ACTIVE | CFP | W | 16 | 1 | TBD | Call TI | Level-NC-NC-NC |
| SNJ54153W | ACTIVE | CFP | W | 16 | 1 | TBD | Call TI | Level-NC-NC-NC |
| SNJ54LS153FK | ACTIVE | LCCC | FK | 20 | 1 | TBD | Call TI | Level-NC-NC-NC |
| SNJ54LS153FK | ACTIVE | LCCC | FK | 20 | 1 | TBD | Call TI | Level-NC-NC-NC |
| SNJ54LS153J | ACTIVE | CDIP | J | 16 | 1 | TBD | Call TI | Level-NC-NC-NC |
| SNJ54LS153J | ACTIVE | CDIP | J | 16 | 1 | TBD | Call TI | Level-NC-NC-NC |
| SNJ54LS153W | ACTIVE | CFP | W | 16 | 1 | TBD | Call TI | Level-NC-NC-NC |
| SNJ54LS153W | ACTIVE | CFP | W | 16 | 1 | TBD | Call TI | Level-NC-NC-NC |
| SNJ54S153FK | OBSOLETE | LCCC | FK | 20 | | TBD | Call TI | Call TI |
| SNJ54S153FK | OBSOLETE | LCCC | FK | 20 | | TBD | Call TI | Call TI |
| SNJ54S153J | OBSOLETE | CDIP | J | 16 | | TBD | Call TI | Call TI |
| SNJ54S153J | OBSOLETE | CDIP | J | 16 | | TBD | Call TI | Call TI |
| SNJ54S153W | OBSOLETE | CFP | W | 16 | | TBD | Call TI | Call TI |
| SNJ54S153W | OBSOLETE | CFP | W | 16 | | TBD | Call TI | Call TI |

[1] The marketing status values are defined as follows:
**ACTIVE:** Product device recommended for new designs.
**LIFEBUY:** TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.
**NRND:** Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new design.
**PREVIEW:** Device has been announced but is not in production. Samples may or may not be available.
**OBSOLETE:** TI has discontinued the production of the device.

[2] Eco Plan - The planned eco-friendly classification: Pb-Free (RoHS) or Green (RoHS & no Sb/Br) - please check http://www.ti.com/productcontent for the latest availability information and additional product content details.
**TBD:** The Pb-Free/Green conversion plan has not been defined.
**Pb-Free (RoHS):** TI's terms "Lead-Free" or "Pb-Free" mean semiconductor products that are compatible with the current RoHS requirements for all 6 substances, including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI Pb-Free products are suitable for use in specified lead-free processes.
**Green (RoHS & no Sb/Br):** TI defines "Green" to mean Pb-Free (RoHS compatible), and free of Bromine (Br) and Antimony (Sb) based flame