

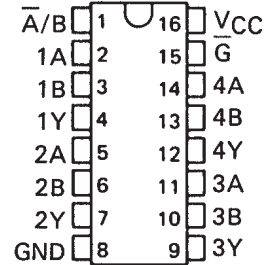
SN54LS257B, SN54LS258B, SN54S257, SN54S258 SN74LS257B, SN74LS258B, SN74S257, SN74S258 QUADRUPLE 2-LINE TO 1-LINE DATA SELECTORS/MULTIPLEXERS

SDLS148 – OCTOBER 1976 – REVISED MARCH 1988

- Three-State Outputs Interface Directly with System Bus
- 'LS257B and 'LS258B Offer Three Times the Sink-Current Capability of the Original 'LS257 and 'LS258
- Same Pin Assignments as SN54LS157, SN74LS157, SN54S157, SN74S157, and SN54LS158, SN74LS158, SN54S158, SN74S158
- Provides Bus Interface from Multiple Sources in High-Performance Systems

SN54LS257B, SN54S257,
SN54LS258B, SN54S258 . . . J OR W PACKAGE
SN74LS257B, SN74S257,
SN74LS258B, SN74S258 . . . D OR N PACKAGE

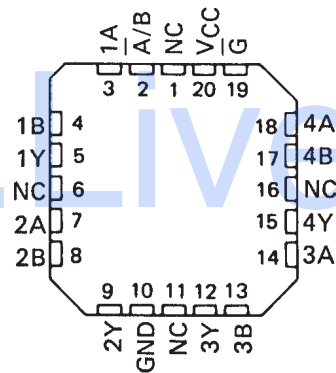
(TOP VIEW)



| | AVERAGE PROPAGATION DELAY FROM DATA INPUT | TYPICAL POWER DISSIPATION [†] |
|---------|---|--|
| 'LS257B | 9 ns | 55 mW |
| 'LS258B | 9 ns | 55 mW |
| 'S257 | 4.8 ns | 320 mW |
| 'S258 | 4 ns | 280 mW |

SN54LS257B, SN54S257,
SN54LS258B, SN54S258 . . . FK PACKAGE

(TOP VIEW)



[†]Off state (worst case)
description

These devices are designed to multiplex signals from four-bit data sources to four-output data lines in bus-organized systems. The 3-state outputs will not load the data lines when the output control pin (\bar{G}) is at a high-logic level.

Series 54LS and 54S are characterized for operation over the full military temperature range of -55°C to 125°C ; Series 74LS and 74S are characterized for operation from 0°C to 70°C .

NC-No internal connection.

FUNCTION TABLE

| OUTPUT CONTROL | INPUTS | | OUTPUT Y | | |
|----------------|--------|---|----------|------------------|------------------|
| | SELECT | A | B | 'LS257B 'S257 | 'LS258B 'S258 |
| H | X | X | X | Z | Z |
| L | L | L | X | L | H |
| L | L | H | X | H | L |
| L | H | X | L | L | H |
| L | H | X | H | H | L |

H = high level, L = low level, X = irrelevant,
Z = high impedance (off)

PRODUCTION DATA information is 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.



SN54LS257B, SN54LS258B, SN54S257, SN54S258
 SN74LS257B, SN74LS258B, SN74S257, SN74S258
 QUADRUPLE 2-LINE TO 1-LINE DATA SELECTORS/MULTIPLEXERS

SDLS148 - OCTOBER 1976 - REVISED MARCH 1988

logic diagrams (positive logic)

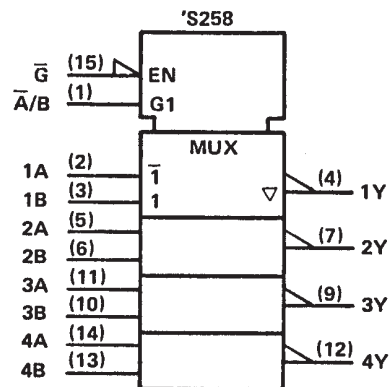
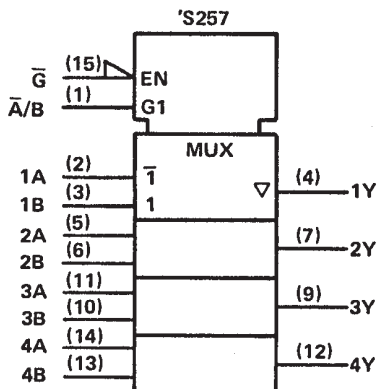
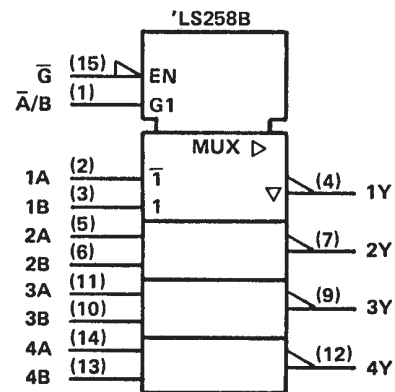
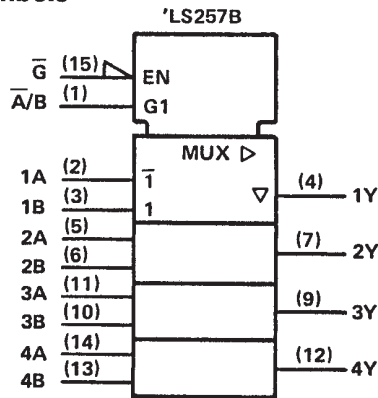
'LS257B, 'S257



'LS258B, 'S258



logic symbols†



†These symbols are in accordance with ANSI/IEEE Std 91-1984 and IEC Publication 617-12. Pin numbers shown are for D, J, N, and W packages.

**SN54LS257B, SN54LS258B, SN54S257, SN54S258
SN74LS257B, SN74LS258B, SN74S257, SN74S258
QUADRUPLE 2-LINE TO 1-LINE DATA SELECTORS/MULTIPLEXERS**

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schematics of inputs and outputs



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

| | |
|--|----------------|
| Supply voltage, V_{CC} (see Note 1) | 7 V |
| Input voltage: 'LS257B, 'LS258B Circuits | 7 V |
| 'S257, 'S258 Circuits | 5.5 V |
| Off-state output voltage | 5.5 V |
| Operating free-air temperature range: SN54LS', SN54S' Circuits | -55°C to 125°C |
| SN74LS', SN74S' Circuits | 0°C to 70°C |
| Storage temperature range | -65°C to 150°C |

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



**SN54LS257B, SN54LS258B, SN54S257, SN54S258
SN74LS257B, SN74LS258B, SN74S257, SN74S258
QUADRUPLE 2-LINE TO 1-LINE DATA SELECTORS/MULTIPLEXERS**

SDLS148 – OCTOBER 1976 – REVISED MARCH 1988

recommended operating conditions

| | SN54LS' | | | SN74LS' | | | UNIT |
|---|---------|-----|-----|---------|-----|------|------|
| | MIN | NOM | MAX | MIN | NOM | MAX | |
| V _{CC} Supply voltage | 4.5 | 5 | 5.5 | 4.75 | 5 | 5.25 | V |
| V _{IH} High-level input voltage | 2 | | | 2 | | | V |
| V _{IL} Low-level input voltage | | | 0.7 | | | 0.8 | V |
| I _{OH} High-level output current | | | -1 | | | -2.6 | mA |
| I _{OL} Low-level output current | | | 12 | | | 24 | mA |
| T _A Operating free-air temperature | -55 | | 125 | 0 | | 70 | °C |

electrical characteristics over recommended operating free-air temperature range (unless otherwise noted)

| PARAMETER | TEST CONDITIONS† | SN54LS' | | | SN74LS' | | | UNIT | | |
|-------------------|--|-----------------------------------|------|---------|---------|------|------|------|----|----|
| | | MIN | TYP‡ | MAX | MIN | TYP‡ | MAX | | | |
| V _{IK} | V _{CC} = MIN, I _I = -18 mA | | | -1.5 | | | -1.5 | V | | |
| V _{OH} | V _{CC} = MIN, V _{IH} = 2 V, V _{IL} = MAX, I _{OH} = MAX | 2.4 | 3.4 | | 2.4 | 3.1 | | V | | |
| V _{OL} | V _{CC} = MIN, V _{IH} = 2 V, V _{IL} = MAX, I _{OL} = 12 mA | | 0.25 | 0.4 | | 0.25 | 0.4 | V | | |
| | | | | | | 0.35 | 0.5 | | | |
| I _{OZH} | V _{CC} = MAX, V _{IH} = 2 V, V _O = 2.7 V | | | 20 | | | 20 | μA | | |
| I _{OZL} | V _{CC} = MAX, V _{IH} = 2 V, V _O = 0.4 V | | | -20 | | | -20 | μA | | |
| I _I | V _{CC} = MAX, V _I = 7 V | | | 0.1 | | | 0.1 | mA | | |
| I _{IH} | V _{CC} = MAX, V _I = 2.7 V | | | 20 | | | 20 | μA | | |
| I _{IL} | V _{CC} = MAX, V _I = 0.4 V | | | -0.4 | | | -0.4 | mA | | |
| I _{OS} § | V _{CC} = MAX, | -30 | | -130 | -30 | | -130 | mA | | |
| I _{CC} | All outputs high | V _{CC} = MAX, See Note 2 | | 'LS257B | 8 | 12 | 8 | 12 | mA | |
| | All outputs low | | | | 12 | 18 | 12 | 18 | | |
| | All outputs off | | | | 13 | 19 | 13 | 19 | | |
| | All outputs high | | | | 'LS258B | 6 | 9 | 6 | | 9 |
| | All outputs low | | | | | 10 | 15 | 10 | | 15 |
| | All outputs off | | | | | 11 | 16 | 11 | | 16 |

† For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.

‡ All typical values are at V_{CC} = 5 V, T_A = 25°C.

§ Not more than one output should be shorted at a time and duration of the short-circuit should not exceed one second.

NOTE 2: I_{CC} is measured with all outputs open and all possible inputs grounded while achieving the stated output conditions.

switching characteristics, V_{CC} = 5 V, T_A = 25°C, R_L = 667 Ω

| PARAMETER¶ | FROM (INPUT) | TO (OUTPUT) | TEST CONDITIONS | 'LS257B | | | 'LS258B | | | UNIT |
|------------------|----------------|-------------|------------------------------------|---------|-----|-----|---------|-----|-----|------|
| | | | | MIN | TYP | MAX | MIN | TYP | MAX | |
| t _{PLH} | Data | Any | C _L = 45 pF, See Note 3 | 8 | 13 | | 7 | 12 | ns | |
| t _{PHL} | | | | 10 | 15 | | 11 | 17 | | |
| t _{PLH} | Select | Any | | 16 | 21 | | 14 | 21 | ns | |
| t _{PHL} | | | | 17 | 24 | | 19 | 24 | | |
| t _{pZH} | Output Control | Any | | 15 | 30 | | 15 | 30 | ns | |
| t _{pZL} | | | | 19 | 30 | | 20 | 30 | | |
| t _{PHZ} | Output Control | Any | C _L = 5 pF, See Note 3 | 18 | 30 | | 18 | 30 | ns | |
| t _{PLZ} | | | 16 | 25 | | 16 | 25 | | | |

¶ t_{PLH} = propagation delay time, low-to-high-level output

t_{PHL} = propagation delay time, high-to-low-level output

t_{pZH} = output enable time to high level

t_{pZL} = output enable time to low level

t_{PHZ} = output disable time from high level

t_{PLZ} = output disable time from low level

NOTE 3: Load circuits and voltage waveforms are shown in Section 1.



SN54LS257B, SN54LS258B, SN54S257, SN54S258 SN74LS257B, SN74LS258B, SN74S257, SN74S258 QUADRUPLE 2-LINE TO 1-LINE DATA SELECTORS/MULTIPLEXERS

SDLS148 – OCTOBER 1976 – REVISED MARCH 1988

recommended operating conditions

| | SN54S' | | | SN74S' | | | UNIT |
|---------------------------------------|--------|-----|-----|--------|-----|------|------|
| | MIN | NOM | MAX | MIN | NOM | MAX | |
| Supply voltage, V_{CC} | 4.5 | 5 | 5.5 | 4.75 | 5 | 5.25 | V |
| High-level output current, I_{OH} | | | -2 | | | -6.5 | mA |
| Low-level output current, I_{OL} | | | 20 | | | 20 | mA |
| Operating free-air temperature, T_A | -55 | | 125 | 0 | | 70 | °C |

electrical characteristics over recommended operating free-air temperature range (unless otherwise noted)

| PARAMETER | | TEST CONDITIONS† | 'S257 | | | 'S258 | | | UNIT |
|-----------|--|---|----------|------|----------|-------|---------|-----|------|
| | | | MIN | TYP‡ | MAX | MIN | TYP‡ | MAX | |
| V_{IH} | High-level input voltage | | 2 | | | 2 | | | V |
| V_{IL} | Low-level input voltage | | 0.8 | | | 0.8 | | | V |
| V_{IK} | Input clamp voltage | $V_{CC} = \text{MIN}, I_I = -18 \text{ mA}$ | -1.2 | | | -1.2 | | | V |
| V_{OH} | High-level output voltage | $V_{CC} = \text{MIN}, V_{IH} = 2 \text{ V}, V_{IL} = 0.8 \text{ V}, I_{OH} = -1 \text{ mA}$ | SN74S' | | 2.7 | | 2.7 | | V |
| | | $V_{CC} = \text{MIN}, V_{IH} = 2 \text{ V}, V_{IL} = 0.8 \text{ V}, I_{OH} = \text{MAX}$ | SN54S' | | 2.4 3.4 | | 2.4 3.4 | | |
| | | | SN74S' | | 2.4 3.2 | | 2.4 3.2 | | |
| V_{OL} | Low-level output voltage | $V_{CC} = \text{MIN}, V_{IH} = 2 \text{ V}, V_{IL} = 0.8 \text{ V}, I_{OL} = 20 \text{ mA}$ | 0.5 | | | 0.5 | | | V |
| I_{OZH} | Off-state output current, high-level voltage applied | $V_{CC} = \text{MAX}, V_{IH} = 2 \text{ V}, V_O = 2.4 \text{ V}$ | 50 | | | 50 | | | μA |
| I_{OZL} | Off-state output current, low-level voltage applied | $V_{CC} = \text{MAX}, V_{IH} = 2 \text{ V}, V_O = 0.5 \text{ V}$ | -50 | | | -50 | | | μA |
| I_I | Input current at maximum input voltage | $V_{CC} = \text{MAX}, V_I = 5.5 \text{ V}$ | 1 | | | 1 | | | mA |
| I_{IH} | High-level input current | S input | 100 | | | 100 | | | μA |
| | | Any other | 50 | | | 50 | | | |
| I_{IL} | Low-level input current | S input | -4 | | | -4 | | | mA |
| | | Any other | -2 | | | -2 | | | |
| I_{OS} | Short-circuit output current§ | $V_{CC} = \text{MAX}$ | -40 -100 | | -40 -100 | | mA | | |
| I_{CC} | Supply current | All outputs high | 44 68 | | 36 56 | | mA | | |
| | | All outputs low | 60 93 | | 52 81 | | | | |
| | | All outputs off | 64 99 | | 56 87 | | | | |

† For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.

‡ All typical values are at $V_{CC} = 5 \text{ V}, T_A = 25^\circ\text{C}$.

§ Not more than one output should be shorted at a time and duration of the short-circuit should not exceed one second.

NOTE 2: I_{CC} is measured with all outputs open and all possible inputs grounded while achieving the stated output conditions.

switching characteristics, $V_{CC} = 5 \text{ V}, T_A = 25^\circ\text{C}, R_L = 280 \Omega$

| PARAMETER¶ | FROM (INPUT) | TO (OUTPUT) | TEST CONDITIONS | 'S257 | | | 'S258 | | | UNIT |
|------------|--------------|-------------|--------------------------------------|---------|---------|---------|-------|-----|-----|------|
| | | | | MIN | TYP | MAX | MIN | TYP | MAX | |
| t_{PLH} | Data | Any | $C_L = 15 \text{ pF},$ See Note 3 | 5 7.5 | | 4 6 | | ns | | |
| t_{PHL} | | | | 4.5 6.5 | | 4 6 | | | | |
| t_{PLH} | Select | Any | | 8.5 15 | | 8 12 | | ns | | |
| t_{PHL} | | | | 8.5 15 | | 7.5 12 | | | | |
| t_{PZH} | Output | Any | | 13 19.5 | | 13 19.5 | | ns | | |
| t_{PZL} | Control | | | 14 21 | | 14 21 | | | | |
| t_{PHZ} | Output | Any | 5.5 8.5 | | 5.5 8.5 | | ns | | | |
| t_{PLZ} | Control | | 9 14 | | 9 14 | | | | | |

¶ f_{max} = Maximum clock frequency

t_{PLH} = propagation delay time, low-to-high-level output

t_{PHL} = propagation delay time, high-to-low-level output

t_{PZH} = output enable time to high level

t_{PZL} = output enable time to low level

t_{PHZ} = output disable time from high level

t_{PLZ} = output disable time from low level

NOTE 3: Load circuits and voltage waveforms are shown in Section 1.



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| Interface | interface.ti.com | Digital Control | www.ti.com/digitalcontrol |
| Logic | logic.ti.com | Military | www.ti.com/military |
| Power Mgmt | power.ti.com | Optical Networking | www.ti.com/opticalnetwork |
| Microcontrollers | microcontroller.ti.com | Security | www.ti.com/security |
| Low Power Wireless | www.ti.com/lpw | Telephony | www.ti.com/telephony |
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PACKAGING INFORMATION

| Orderable Device | Status ⁽¹⁾ | Package Type | Package Drawing | Pins | Package Qty | Eco Plan ⁽²⁾ | Lead/Ball Finish | MSL Peak Temp ⁽³⁾ |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| 5962-7603701VEA | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| 5962-7603701VFA | ACTIVE | CFP | W | 16 | 1 | TBD | A42 | N / A for Pkg Type |
| 5962-7603701VFA | ACTIVE | CFP | W | 16 | 1 | TBD | A42 | N / A for Pkg Type |
| 7603701EA | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| 7603701EA | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| 7603701FA | ACTIVE | CFP | W | 16 | 1 | TBD | A42 | N / A for Pkg Type |
| 7603701FA | ACTIVE | CFP | W | 16 | 1 | TBD | A42 | N / A for Pkg Type |
| 76038012A | ACTIVE | LCCC | FK | 20 | 1 | TBD | POST-PLATE | N / A for Pkg Type |
| 76038012A | ACTIVE | LCCC | FK | 20 | 1 | TBD | POST-PLATE | N / A for Pkg Type |
| 7603801EA | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| 7603801EA | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| 7603801FA | ACTIVE | CFP | W | 16 | 1 | TBD | A42 | N / A for Pkg Type |
| 7603801FA | ACTIVE | CFP | W | 16 | 1 | TBD | A42 | N / A for Pkg Type |
| 8002301EA | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| 8002301EA | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| 8002301FA | ACTIVE | CFP | W | 16 | 1 | TBD | A42 | N / A for Pkg Type |
| 8002301FA | ACTIVE | CFP | W | 16 | 1 | TBD | A42 | N / A for Pkg Type |
| JM38510/07906BEA | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| JM38510/07906BEA | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| JM38510/07906BFA | ACTIVE | CFP | W | 16 | 1 | TBD | A42 | N / A for Pkg Type |
| JM38510/07906BFA | ACTIVE | CFP | W | 16 | 1 | TBD | A42 | N / A for Pkg Type |
| JM38510/30906B2A | ACTIVE | LCCC | FK | 20 | 1 | TBD | POST-PLATE | N / A for Pkg Type |
| JM38510/30906B2A | ACTIVE | LCCC | FK | 20 | 1 | TBD | POST-PLATE | N / A for Pkg Type |
| JM38510/30906BEA | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| JM38510/30906BEA | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| JM38510/30906BFA | ACTIVE | CFP | W | 16 | 1 | TBD | A42 | N / A for Pkg Type |
| JM38510/30906BFA | ACTIVE | CFP | W | 16 | 1 | TBD | A42 | N / A for Pkg Type |
| SN54LS257BJ | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SN54LS257BJ | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SN54LS258BJ | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SN54LS258BJ | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SN54S257J | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SN54S257J | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SN54S258J | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SN54S258J | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SN74LS257BD | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS257BD | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS257BDE4 | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS257BDE4 | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |

| Orderable Device | Status ⁽¹⁾ | Package Type | Package Drawing | Pins | Package Qty | Eco Plan ⁽²⁾ | Lead/Ball Finish | MSL Peak Temp ⁽³⁾ |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| SN74LS257BDG4 | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS257BDG4 | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS257BDR | ACTIVE | SOIC | D | 16 | 2500 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS257BDR | ACTIVE | SOIC | D | 16 | 2500 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS257BDRE4 | ACTIVE | SOIC | D | 16 | 2500 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS257BDRE4 | ACTIVE | SOIC | D | 16 | 2500 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS257BDRG4 | ACTIVE | SOIC | D | 16 | 2500 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS257BDRG4 | ACTIVE | SOIC | D | 16 | 2500 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS257BN | ACTIVE | PDIP | N | 16 | 25 | Pb-Free (RoHS) | CU NIPDAU | N / A for Pkg Type |
| SN74LS257BN | ACTIVE | PDIP | N | 16 | 25 | Pb-Free (RoHS) | CU NIPDAU | N / A for Pkg Type |
| SN74LS257BN3 | OBSOLETE | PDIP | N | 16 | | TBD | Call TI | Call TI |
| SN74LS257BN3 | OBSOLETE | PDIP | N | 16 | | TBD | Call TI | Call TI |
| SN74LS257BNE4 | ACTIVE | PDIP | N | 16 | 25 | Pb-Free (RoHS) | CU NIPDAU | N / A for Pkg Type |
| SN74LS257BNE4 | ACTIVE | PDIP | N | 16 | 25 | Pb-Free (RoHS) | CU NIPDAU | N / A for Pkg Type |
| SN74LS257BNSR | ACTIVE | SO | NS | 16 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS257BNSR | ACTIVE | SO | NS | 16 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS257BNSRE4 | ACTIVE | SO | NS | 16 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS257BNSRE4 | ACTIVE | SO | NS | 16 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS257BNSRG4 | ACTIVE | SO | NS | 16 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS257BNSRG4 | ACTIVE | SO | NS | 16 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS258BD | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS258BD | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS258BDE4 | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS258BDE4 | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS258BDG4 | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS258BDG4 | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS258BDR | ACTIVE | SOIC | D | 16 | 2500 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |

| Orderable Device | Status ⁽¹⁾ | Package Type | Package Drawing | Pins | Package Qty | Eco Plan ⁽²⁾ | Lead/Ball Finish | MSL Peak Temp ⁽³⁾ |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| | | | | | | no Sb/Br) | | |
| SN74LS258BDR | ACTIVE | SOIC | D | 16 | 2500 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS258BDRE4 | ACTIVE | SOIC | D | 16 | 2500 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS258BDRE4 | ACTIVE | SOIC | D | 16 | 2500 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS258BDRG4 | ACTIVE | SOIC | D | 16 | 2500 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS258BDRG4 | ACTIVE | SOIC | D | 16 | 2500 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS258BN | ACTIVE | PDIP | N | 16 | 25 | Pb-Free (RoHS) | CU NIPDAU | N / A for Pkg Type |
| SN74LS258BN | ACTIVE | PDIP | N | 16 | 25 | Pb-Free (RoHS) | CU NIPDAU | N / A for Pkg Type |
| SN74LS258BN3 | OBSOLETE | PDIP | N | 16 | | TBD | Call TI | Call TI |
| SN74LS258BN3 | OBSOLETE | PDIP | N | 16 | | TBD | Call TI | Call TI |
| SN74LS258BNE4 | ACTIVE | PDIP | N | 16 | 25 | Pb-Free (RoHS) | CU NIPDAU | N / A for Pkg Type |
| SN74LS258BNE4 | ACTIVE | PDIP | N | 16 | 25 | Pb-Free (RoHS) | CU NIPDAU | N / A for Pkg Type |
| SN74LS258BNSR | ACTIVE | SO | NS | 16 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS258BNSR | ACTIVE | SO | NS | 16 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS258BNSRE4 | ACTIVE | SO | NS | 16 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS258BNSRE4 | ACTIVE | SO | NS | 16 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS258BNSRG4 | ACTIVE | SO | NS | 16 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS258BNSRG4 | ACTIVE | SO | NS | 16 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74S257D | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74S257D | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74S257DE4 | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74S257DE4 | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74S257DG4 | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74S257DG4 | ACTIVE | SOIC | D | 16 | 40 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74S257N | ACTIVE | PDIP | N | 16 | 25 | Pb-Free (RoHS) | CU NIPDAU | N / A for Pkg Type |
| SN74S257N | ACTIVE | PDIP | N | 16 | 25 | Pb-Free (RoHS) | CU NIPDAU | N / A for Pkg Type |
| SN74S257N3 | OBSOLETE | PDIP | N | 16 | | TBD | Call TI | Call TI |
| SN74S257N3 | 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⁾ |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| SN74S257NE4 | ACTIVE | PDIP | N | 16 | 25 | Pb-Free (RoHS) | CU NIPDAU | N / A for Pkg Type |
| SN74S257NE4 | ACTIVE | PDIP | N | 16 | 25 | Pb-Free (RoHS) | CU NIPDAU | N / A for Pkg Type |
| SN74S258DR | OBSOLETE | SOIC | D | 16 | | TBD | Call TI | Call TI |
| SN74S258DR | OBSOLETE | SOIC | D | 16 | | TBD | Call TI | Call TI |
| SN74S258N | OBSOLETE | PDIP | N | 16 | | TBD | Call TI | Call TI |
| SN74S258N | OBSOLETE | PDIP | N | 16 | | TBD | Call TI | Call TI |
| SN74S258N3 | OBSOLETE | PDIP | N | 16 | | TBD | Call TI | Call TI |
| SN74S258N3 | OBSOLETE | PDIP | N | 16 | | TBD | Call TI | Call TI |
| SNJ54LS257BFK | ACTIVE | LCCC | FK | 20 | 1 | TBD | POST-PLATE | N / A for Pkg Type |
| SNJ54LS257BFK | ACTIVE | LCCC | FK | 20 | 1 | TBD | POST-PLATE | N / A for Pkg Type |
| SNJ54LS257BJ | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SNJ54LS257BJ | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SNJ54LS257BW | ACTIVE | CFP | W | 16 | 1 | TBD | A42 | N / A for Pkg Type |
| SNJ54LS257BW | ACTIVE | CFP | W | 16 | 1 | TBD | A42 | N / A for Pkg Type |
| SNJ54LS258BFK | ACTIVE | LCCC | FK | 20 | 1 | TBD | POST-PLATE | N / A for Pkg Type |
| SNJ54LS258BFK | ACTIVE | LCCC | FK | 20 | 1 | TBD | POST-PLATE | N / A for Pkg Type |
| SNJ54LS258BJ | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SNJ54LS258BJ | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SNJ54LS258BW | ACTIVE | CFP | W | 16 | 1 | TBD | A42 | N / A for Pkg Type |
| SNJ54LS258BW | ACTIVE | CFP | W | 16 | 1 | TBD | A42 | N / A for Pkg Type |
| SNJ54S257FK | ACTIVE | LCCC | FK | 20 | 1 | TBD | POST-PLATE | N / A for Pkg Type |
| SNJ54S257FK | ACTIVE | LCCC | FK | 20 | 1 | TBD | POST-PLATE | N / A for Pkg Type |
| SNJ54S257J | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SNJ54S257J | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SNJ54S257W | ACTIVE | CFP | W | 16 | 1 | TBD | A42 | N / A for Pkg Type |
| SNJ54S257W | ACTIVE | CFP | W | 16 | 1 | TBD | A42 | N / A for Pkg Type |
| SNJ54S258FK | ACTIVE | LCCC | FK | 20 | 1 | TBD | POST-PLATE | N / A for Pkg Type |
| SNJ54S258FK | ACTIVE | LCCC | FK | 20 | 1 | TBD | POST-PLATE | N / A for Pkg Type |
| SNJ54S258J | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SNJ54S258J | ACTIVE | CDIP | J | 16 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SNJ54S258W | ACTIVE | CFP | W | 16 | 1 | TBD | A42 | N / A for Pkg Type |
| SNJ54S258W | ACTIVE | CFP | W | 16 | 1 | TBD | A42 | N / A for Pkg Type |

⁽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), Pb-Free (RoHS Exempt), 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.

Pb-Free (RoHS Exempt): This component has a RoHS exemption for either 1) lead-based flip-chip solder bumps used between the die and package, or 2) lead-based die adhesive used between the die and leadframe. The component is otherwise considered Pb-Free (RoHS compatible) as defined above.

Green (RoHS & no Sb/Br): TI defines "Green" to mean Pb-Free (RoHS compatible), and free of Bromine (Br) and Antimony (Sb) based flame retardants (Br or Sb do not exceed 0.1% by weight in homogeneous material)

⁽³⁾ MSL, Peak Temp. -- The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.

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TAPE AND REEL INFORMATION



QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE



*All dimensions are nominal

| Device | Package Type | Package Drawing | Pins | SPQ | Reel Diameter (mm) | Reel Width W1 (mm) | A0 (mm) | B0 (mm) | K0 (mm) | P1 (mm) | W (mm) | Pin1 Quadrant |
|---------------|--------------|-----------------|------|------|--------------------|--------------------|---------|---------|---------|---------|--------|---------------|
| SN74LS257BDR | SOIC | D | 16 | 2500 | 330.0 | 16.4 | 6.5 | 10.3 | 2.1 | 8.0 | 16.0 | Q1 |
| SN74LS257BNSR | SO | NS | 16 | 2000 | 330.0 | 16.4 | 8.2 | 10.5 | 2.5 | 12.0 | 16.0 | Q1 |
| SN74LS258BDR | SOIC | D | 16 | 2500 | 330.0 | 16.4 | 6.5 | 10.3 | 2.1 | 8.0 | 16.0 | Q1 |
| SN74LS258BNSR | SO | NS | 16 | 2000 | 330.0 | 16.4 | 8.2 | 10.5 | 2.5 | 12.0 | 16.0 | Q1 |

TAPE AND REEL BOX DIMENSIONS



*All dimensions are nominal

| Device | Package Type | Package Drawing | Pins | SPQ | Length (mm) | Width (mm) | Height (mm) |
|---------------|--------------|-----------------|------|------|-------------|------------|-------------|
| SN74LS257BDR | SOIC | D | 16 | 2500 | 333.2 | 345.9 | 28.6 |
| SN74LS257BNSR | SO | NS | 16 | 2000 | 346.0 | 346.0 | 33.0 |
| SN74LS258BDR | SOIC | D | 16 | 2500 | 333.2 | 345.9 | 28.6 |
| SN74LS258BNSR | SO | NS | 16 | 2000 | 346.0 | 346.0 | 33.0 |

FK (S-CQCC-N**)

LEADLESS CERAMIC CHIP CARRIER

28 TERMINAL SHOWN



- NOTES:
- A. All linear dimensions are in inches (millimeters).
 - B. This drawing is subject to change without notice.
 - C. This package can be hermetically sealed with a metal lid.
 - D. The terminals are gold plated.
 - E. Falls within JEDEC MS-004

MECHANICAL DATA

NS (R-PDSO-G**)

PLASTIC SMALL-OUTLINE PACKAGE

14-PINS SHOWN



- NOTES:
- A. All linear dimensions are in millimeters.
 - B. This drawing is subject to change without notice.
 - C. Body dimensions do not include mold flash or protrusion, not to exceed 0,15.

J (R-GDIP-T**)

14 LEADS SHOWN

CERAMIC DUAL IN-LINE PACKAGE



| DIM \ PINS ** | 14 | 16 | 18 | 20 |
|---------------|------------------------|------------------------|------------------------|------------------------|
| A | 0.300 (7,62) BSC | 0.300 (7,62) BSC | 0.300 (7,62) BSC | 0.300 (7,62) BSC |
| B MAX | 0.785 (19,94) | .840 (21,34) | 0.960 (24,38) | 1.060 (26,92) |
| B MIN | — | — | — | — |
| C MAX | 0.300 (7,62) | 0.300 (7,62) | 0.310 (7,87) | 0.300 (7,62) |
| C MIN | 0.245 (6,22) | 0.245 (6,22) | 0.220 (5,59) | 0.245 (6,22) |



4040083/F 03/03

- NOTES:
- A. All linear dimensions are in inches (millimeters).
 - B. This drawing is subject to change without notice.
 - C. This package is hermetically sealed with a ceramic lid using glass frit.
 - D. Index point is provided on cap for terminal identification only on press ceramic glass frit seal only.
 - E. Falls within MIL STD 1835 GDIP1-T14, GDIP1-T16, GDIP1-T18 and GDIP1-T20.

W (R-GDFP-F16)

CERAMIC DUAL FLATPACK



- NOTES:
- A. All linear dimensions are in inches (millimeters).
 - B. This drawing is subject to change without notice.
 - C. This package can be hermetically sealed with a ceramic lid using glass frit.
 - D. Index point is provided on cap for terminal identification only.
 - E. Falls within MIL STD 1835 GDFP1-F16 and JEDEC MO-092AC

D (R-PDSO-G16)

PLASTIC SMALL-OUTLINE PACKAGE



4040047-4/H 11/2006

- NOTES:
- A. All linear dimensions are in inches (millimeters).
 - B. This drawing is subject to change without notice.
 - C. Body length does not include mold flash, protrusions, or gate burrs. Mold flash, protrusions, or gate burrs shall not exceed .006 (0,15) per end.
 - D. Body width does not include interlead flash. Interlead flash shall not exceed .017 (0,43) per side.
 - E. Reference JEDEC MS-012 variation AC.

D(R-PDSO-G16)



- NOTES:
- A. All linear dimensions are in millimeters.
 - B. This drawing is subject to change without notice.
 - C. Refer to IPC7351 for alternate board design.
 - D. Laser cutting apertures with trapezoidal walls and also rounding corners will offer better paste release. Customers should contact their board assembly site for stencil design recommendations. Refer to IPC-7525
 - E. Customers should contact their board fabrication site for solder mask tolerances between and around signal pads.

N (R-PDIP-T**)

PLASTIC DUAL-IN-LINE PACKAGE

16 PINS SHOWN



- NOTES:
- A. All linear dimensions are in inches (millimeters).
 - B. This drawing is subject to change without notice.
 - Falls within JEDEC MS-001, except 18 and 20 pin minimum body length (Dim A).
 - The 20 pin end lead shoulder width is a vendor option, either half or full width.

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