

SDLS058

# SN54157, SN54LS157, SN54S157, SN54S158, SN74157, SN74LS157, SN74S157, SN74S158 QUADRUPLE 2-LINE TO 1-LINE DATA SELECTORS/MULTIPLEXERS

MARCH 1974 - REVISED: J MARCH 1988

- Buffered Inputs and Outputs
- Three Speed/Power Ranges Available

| TYPES  | TYPICAL<br>AVERAGE<br>PROPAGATION<br>TIME | TYPICAL<br>POWER<br>DISSIPATION |
|--------|-------------------------------------------|---------------------------------|
| '157   | 9 ns                                      | 110mW                           |
| 'LS157 | 9 ns                                      | 49mW                            |
| 'S157  | 5m                                        | 250mW                           |
| 'LS158 | 7 ns                                      | 24mW                            |
| 'S158  |                                           | 195mW                           |

## applications

- Expand Any Data Input Point
- Multiplex Dual Data Buses
- Generate Four Functions of Two Variables (One Variable Is Common)
- Source Programmable Counters

## description

These monolithic data selectors/multiplexers contain inverters and drivers to supply full on-chip data selection to the four output gates. A separate strobe input is provided. A 4-bit word is selected from one of two sources and is routed to the four outputs. The '157, 'LS157, and 'S157 present true data whereas the 'LS158 and 'S158 present inverted data to minimize propagation delay time.

FUNCTION TABLE

| SELECT<br>A/B | INPUTS |   | OUTPUT Y       |                 |
|---------------|--------|---|----------------|-----------------|
|               | A      | B | '157<br>'LS157 | 'LS158<br>'S158 |
| X             | X      | X | L              | H               |
| L             | L      | X | L              | H               |
| L             | H      | X | H              | L               |
| H             | X      | L | L              | H               |
| H             | X      | H | H              | L               |

H = high level, L = low level, X = irrelevant

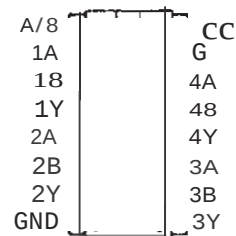
absolute maximum ratings over operating free-air temperature range (unless otherwise noted)

|                                              |                |
|----------------------------------------------|----------------|
| Supply voltage: V <sub>ee</sub> (See Note 1) | 7V             |
| Input voltage: '157, 'S158                   | 5.5 V          |
| 'LS157, 'LS158                               | 7 V            |
| Operating free-air temperature range: SN54'  | -55°C to 125°C |
| SN 74'                                       | 0°C to 70°C    |
| Storage temperature range                    | -65°C to 150°C |

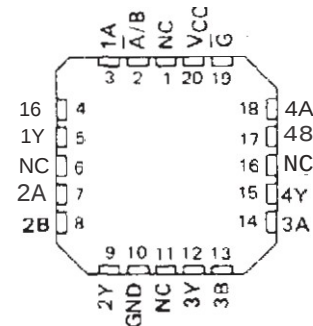
NOTE 1: Voltage values are with respect to network ground terminal.

SN54157, SN54LS157, SN54S157,  
SN54S158, SN54S15S ... J OR W PACKAGE  
SN74157 ... N PACKAGE  
SN74LS157, SN74S157,  
SN74LS158, SN74S15S ... D OR N PACKAGE

TOP VIEW



SN54LS157, SN54S157, SN54LS158,  
SN54S158 ... FK PACKAGE (TOP  
VIEW)



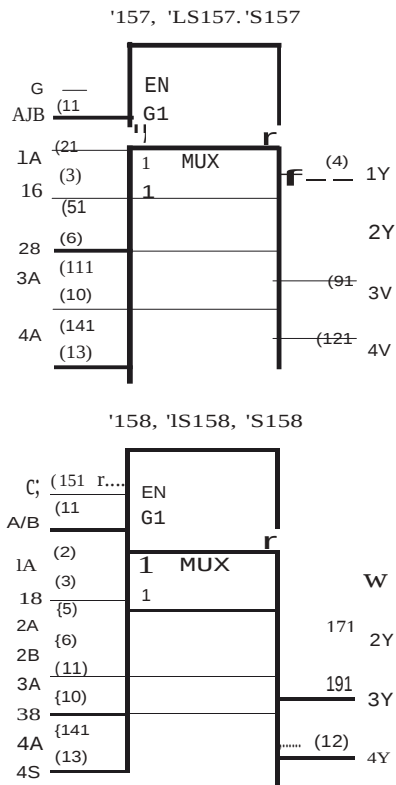
NC - No internal connection

PR(0)l: rtO• UATA...oots CMteñ int...etan  
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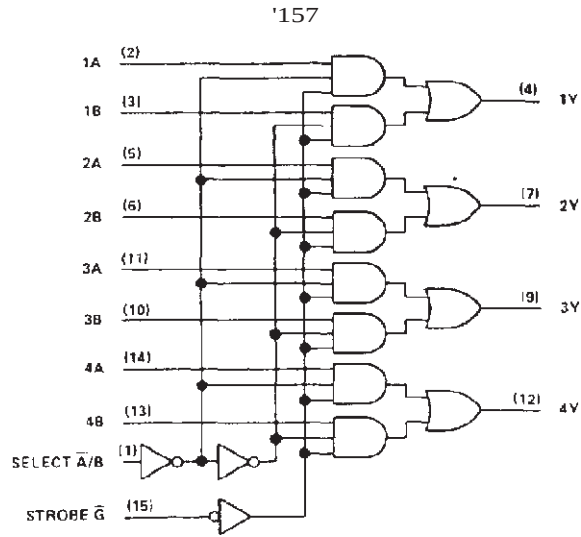
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SN54157, SN54LS157, SN54LS158, SN54S157, SN54S158,  
SN74157, SN74LS157, SN74S157, SN74S158  
OCTAL 2-LINE TO 1-LINE DATA SELECTOR MULTIPLEXERS

logic symbols

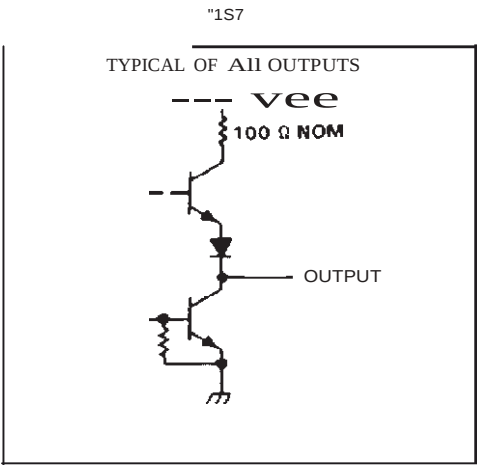
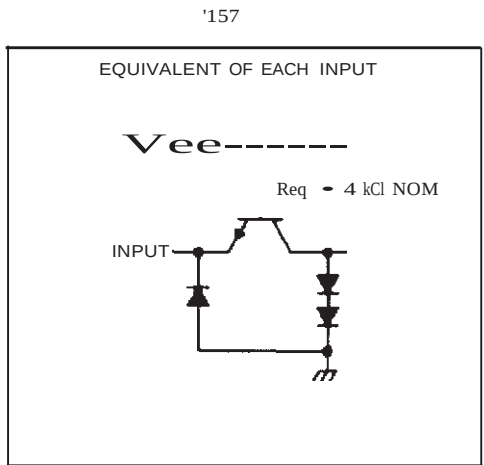


logic diagram (positive logic)



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.

schematic of inputs and outputs



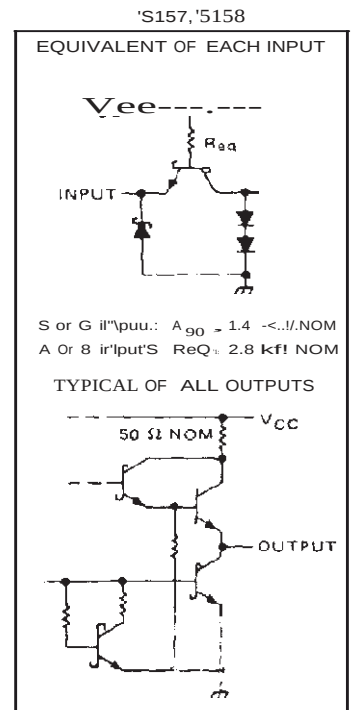
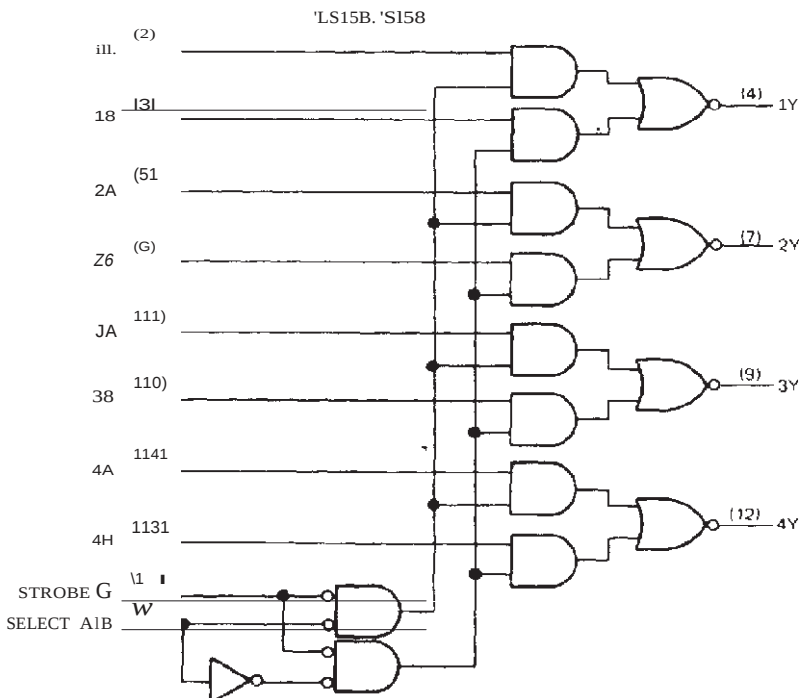
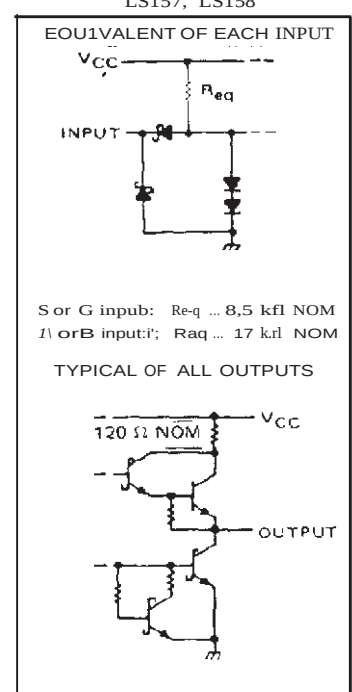
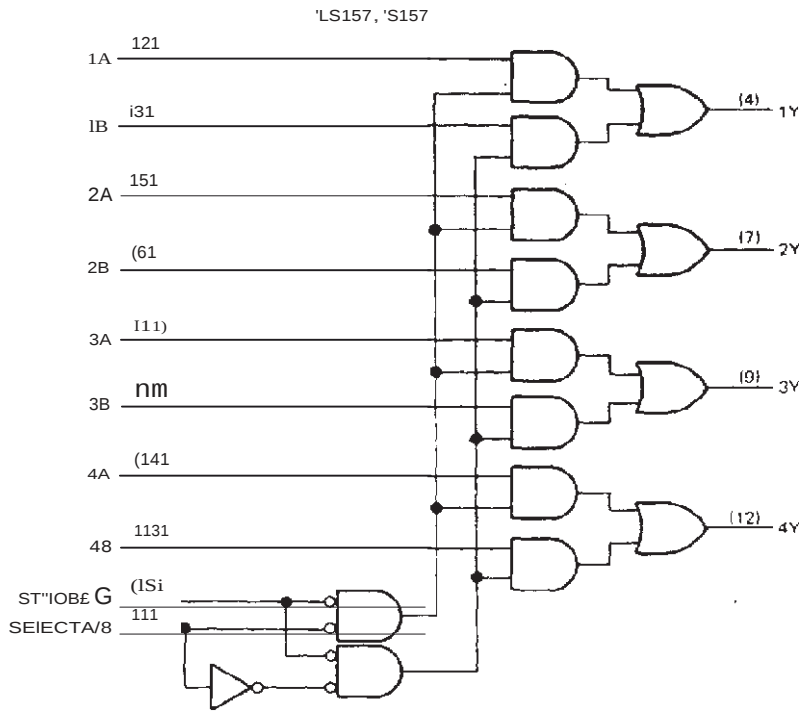
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Ordering Information: SN54157, SN54LS157, SN54S157, SN74157, SN74LS157, SN74S157, SN54158, SN54LS158, SN54S158, SN74158, SN74LS158, SN74S158

SN54LS157, SN54LS158, SN54S157, SN54S158,  
SN74LS157, SN74LS158, SN74S157, SN74S158  
QUADRUPLE 2-LINE TO 1-LINE DATA SELECTORS/MULTIPLEXERS

logic diagrams (positive logic)

schematics of inputs and outputs



Pin numbers shown are for D, J, N, and W packages.

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# SN54157, SN74157

## QUADRUPL 2-LINE TO 1-LINE DATA SELECTORS/MULTIPLEXERS

### recommended operating conditions

|                                       | SN54157 |     |      | SN74157 |     |      | UNIT |
|---------------------------------------|---------|-----|------|---------|-----|------|------|
|                                       | MIN     | NOM | MAX  | MIN     | NOM | MAX  |      |
| Supply voltage, $V_{EE}$              | 4.5     | 5   | 5.5  | 4.75    | 5   | 5.25 | V    |
| High-level output current, $I_{OH}$   |         |     | -800 |         |     | -800 | mA   |
| Low-level output current, $I_{OL}$    |         |     | 16   |         |     | 16   | 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 <sup>1</sup>                                               | -- SN 5 4 1 5 7 --- |                  |     | --- S N 7 4 1 5 7 --- |                  |     | UNIT |
|-------------------------------------------------|----------------------------------------------------------------------------|---------------------|------------------|-----|-----------------------|------------------|-----|------|
|                                                 |                                                                            | MIN                 | TYP <sup>1</sup> | MAX | MIN                   | TYP <sup>1</sup> | MAX |      |
| High-level input voltage                        |                                                                            | 2                   |                  |     | 2                     |                  |     | V    |
| $V_{IL}$ Low-level input voltage                |                                                                            |                     |                  | 0.8 |                       |                  | 0.8 | V    |
| $V_{IK}$ Input clamp voltage                    | $V_{EE}$ MIN, $I_I = 12$ mA                                                |                     |                  | 1.5 |                       |                  | 1.5 | V    |
| $V_{OH}$ High-level output voltage              | $V_{EE}$ MIN, $V_{IH} = 2$ V,<br>$V_{IL} = 0.8$ V, $I_{OH} = -800$ $\mu$ A | 2.4                 | 3.4              |     | 2.4                   | 3.4              |     | V    |
| $V_{OL}$ Low-level output voltage               | $V_{EE}$ MIN, $V_{IH} = 2$ V,<br>$V_{IL} = 0.8$ V, $I_{OL} = 16$ mA        |                     | 0.2              | 0.4 |                       | 0.2              | 0.4 | V    |
| $I_{IH}$ Input current at minimum input voltage | $V_{EE}$ MAX, $V_I = 5.5$ V                                                |                     |                  |     |                       |                  |     | mA   |
| $I_{IH}$ High-level input current               | $V_{EE}$ MAX, $V_I = 2.4$ V                                                |                     |                  | 40  |                       |                  | 40  | mA   |
| $I_{IL}$ Low-level input current                | $V_{EE}$ MAX, $V_I = 0.4$ V                                                |                     |                  | 1.6 |                       |                  | 1.6 | mA   |
| $I_{CC}$ Short-circuit output current           | $V_{EE}$ MAX                                                               | -20                 |                  | -55 | -18                   |                  | 55  | mA   |
| $I_{CC}$ Supply current                         | $V_{EE}$ MAX, See Note 2                                                   |                     | 30               | 48  |                       | 30               | 48  | mA   |

<sup>1</sup>For condition of operation, shown as MIN or MAX, use the appropriate value specified under recommended operating condition.

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

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

NOTE 2:  $I_{CC}$  measured at 4.5 V applied 10 H input, and all outputs open.

### switching characteristics, $V_{EE} = 5$ V, $T_A = 25^\circ\text{C}$

| PARAMETER | FROM (INPUT) | TEST CONDITIONS                                 | MIN | TYP | MAX | UNIT |
|-----------|--------------|-------------------------------------------------|-----|-----|-----|------|
| $t_{PLH}$ | Data         | $C_L=10$ pF,<br>$R_1=400\Omega$ ,<br>See Note 3 |     | 9   | 14  | ns   |
| $t_{PHL}$ |              |                                                 |     | 9   | 14  |      |
| $t_{PLH}$ | Strobe G     |                                                 |     | 11  | 20  | ns   |
| $t_{PHL}$ |              |                                                 |     | 14  | 21  |      |
| $t_{PtH}$ | Select A:B   |                                                 |     | 15  | 23  | ns   |
| $t_{PHL}$ |              |                                                 |     | 18  | 27  |      |

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

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

NOTE 3: load circuits and voltage waveforms as shown in Section 1

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# SN54LS157, SN54LS158, SN74LS157, SN74LS158 QUADRUPLE 2-LINE TO 1-LINE DATA SELECTORS/MULTIPLEXERS

## recommended operating conditions

|                                               | SN54LS <sup>1</sup> |     |      | SN74LS <sup>1</sup> |     |      | UNIT |
|-----------------------------------------------|---------------------|-----|------|---------------------|-----|------|------|
|                                               | MIN                 | NOM | MAX  | MIN                 | NOM | MAX  |      |
| V <sub>EE</sub> Supply-PIV voltage            | 4.5                 | 5   | 5.5  | 4.75                | 5   | 5.25 | V    |
| I <sub>OH</sub> High-level output current     |                     |     | -400 |                     |     | -400 | mA   |
| I <sub>OL</sub> Low-level output current      |                     |     | 4    |                     |     | 8    | mA   |
| T <sub>A</sub> Operating free-air temperature | -55                 |     | 125  | 0                   |     | 70   | °C   |

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

| PARAMETER                                                 |         | TEST CONDITIONS <sup>1</sup>                                                                                     |        | SN54LS <sup>1</sup> |                  |      | SN74LS <sup>1</sup> |                  |      | UNIT |
|-----------------------------------------------------------|---------|------------------------------------------------------------------------------------------------------------------|--------|---------------------|------------------|------|---------------------|------------------|------|------|
|                                                           |         |                                                                                                                  |        | MIN                 | TYP <sup>2</sup> | MAX  | MIN                 | TYP <sup>2</sup> | MAX  |      |
| V <sub>IH</sub> High-level input voltage                  |         |                                                                                                                  |        | 2                   |                  |      | 2                   |                  |      | V    |
| V <sub>IL</sub> Low-level input voltage                   |         |                                                                                                                  |        |                     |                  | 0.7  |                     |                  | 0.8  | V    |
| V <sub>IK</sub> Input clamp voltage                       |         | V <sub>EE</sub> MIN, I <sub>IK</sub> = 18 mA                                                                     |        |                     |                  | -1.5 |                     |                  | -1.5 | V    |
| V <sub>OH</sub> High-level output voltage                 |         | V <sub>EE</sub> MIN, V <sub>IH</sub> = 2 V, V <sub>IL</sub> = MAX, I <sub>OH</sub> = 400 pA                      |        | 2.5                 | 3.4              |      | 2.7                 | 3.4              |      | V    |
| V <sub>OL</sub> Low-level output voltage                  |         | V <sub>EE</sub> MIN, V <sub>IH</sub> = 2 V, I <sub>OL</sub> = 4 mA, V <sub>IK</sub> MAX, I <sub>tot</sub> = 8 mA |        | 0.25                | 0.4              |      | 0.25                | 0.4              |      | V    |
| I <sub>I</sub> Input current at maximum input voltage     | A or B  | V <sub>EE</sub> MAX, V <sub>I</sub> = 7 V                                                                        |        |                     |                  | 0.2  |                     |                  | 0.2  | mA   |
|                                                           | A or B  |                                                                                                                  |        |                     |                  | 0.1  |                     |                  | 0.1  | mA   |
| I <sub>IH</sub> High-level input current                  | A or B  | V <sub>EE</sub> MAX, V <sub>I</sub> = 2.1 V                                                                      |        |                     |                  | 40   |                     |                  | 40   | µA   |
| I <sub>IL</sub> Low-level input current                   | A or B  | V <sub>EE</sub> MAX, V <sub>I</sub> = 0.4 V                                                                      |        |                     |                  | -0.8 |                     |                  | -0.4 | mA   |
| I <sub>OS</sub> Short-circuit output current <sup>3</sup> |         | V <sub>EE</sub> MAX                                                                                              |        | -20                 |                  | -100 | -20                 |                  | -100 | mA   |
| V <sub>EE</sub> Supply Current <sup>3</sup>               | Jm, H11 | V <sub>EE</sub> MAX. See Note 3                                                                                  | 'LS157 |                     | 9.7              | 16   |                     | 9.7              | 16   | mA   |
|                                                           |         |                                                                                                                  | 'LS158 |                     | 4.8              | 8    |                     | 4.8              | 8    |      |
|                                                           |         | V <sub>EE</sub> MAX. All A inputs at 4.5 V. All other inputs at 0 V                                              | 'LS158 |                     | 6.5              | 11   |                     | 6.5              | 11   |      |

<sup>1</sup> For conditions of 5.5 V, 125°C, MIN or MAX, unless otherwise specified, the operating conditions are: V<sub>CC</sub> = 5 V, T<sub>A</sub> = 25°C.

<sup>2</sup> Not more than one output should be shorted to ground at a time and duration of short circuit should not exceed 100 ns.

<sup>3</sup> Not more than 100 mA current should be applied to all inputs and all outputs open.

## switching characteristics, V<sub>EE</sub> = 5 V, T<sub>A</sub> = 25°C

| PARAMETER        | FROM (INPUT) | TEST CONDITIONS                 | 'LS157 |     |     | 'LS156 |     |     | UNIT |
|------------------|--------------|---------------------------------|--------|-----|-----|--------|-----|-----|------|
|                  |              |                                 | MIN    | TYP | MAX | MIN    | TYP | MAX |      |
| t <sub>PLH</sub> | Data         | CL 15 pF, RL = 2 kΩ, See Note 3 |        | 9   | 14  |        | 7   | 12  | ns   |
| t <sub>PHL</sub> | Data         |                                 |        | 9   | 14  |        | 10  | 15  |      |
| t <sub>PLH</sub> | Strobe G     |                                 |        | 13  | 20  |        | 11  | 17  | ns   |
| t <sub>PHL</sub> | Strobe G     |                                 |        | 14  | 21  |        | 18  | 24  |      |
| t <sub>PIH</sub> | Select A/B   |                                 |        | 15  | 23  |        | 13  | 21  | ns   |
| t <sub>PHL</sub> | Select A/B   |                                 |        | 18  | 27  |        | 16  | 22  |      |

t<sub>PLH</sub> = propagation delay time, low-to-high-level output

t<sub>PHL</sub> = propagation delay time, high-to-low-level output

NOTE 3: Load capacitance and voltage diagrams are shown in Section 1

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## PACKAGING INFORMATION

| 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> |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| 76002012A        | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| 7600201EA        | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| 7600201EA        | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| 7600201FA        | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| 7600201FA        | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| 76033012A        | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| 76033012A        | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| 7603301EA        | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| 7603301EA        | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| 7603301FA        | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| 7603301FA        | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| JM38510/07903BEA | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| JM38510/07903BEA | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| JM38510/07903BFA | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| JM38510/07903BFA | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| JM38510/07904BEA | OBSOLETE              | CDIP         | J               | 16   |             | TBD                     | Call TI          | Call TI                      |
| JM38510/07904BFA | OBSOLETE              | CFP          | W               | 16   |             | TBD                     | Call TI          | Call TI                      |
| JM38510/30903B2A | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| JM38510/30903B2A | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| JM38510/30903BEA | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| JM38510/30903BEA | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| JM38510/30903BFA | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| JM38510/30903BFA | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| SN54157J         | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SN54157J         | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SN54LS157J       | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SN54LS157J       | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SN54LS158J       | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SN54LS158J       | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SN54S157J        | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SN54S157J        | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SN54S158J        | OBSOLETE              | CDIP         | J               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN54S15J         | OBSOLETE              | CDIP         | J               | 14   |             | TBD                     | Call TI          | Call TI                      |
| SN74157N         | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74157N         | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74157N3        | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74157N3        | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74LS157D       | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157D       | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157DE4     | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-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> |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| SN74LS157DE4     | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157DG4     | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157DG4     | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157DR      | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157DR      | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157DRE4    | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157DRE4    | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157DRG4    | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157DRG4    | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157N       | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | N / A for Pkg Type           |
| SN74LS157N       | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | N / A for Pkg Type           |
| SN74LS157N3      | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74LS157N3      | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74LS157NE4     | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | N / A for Pkg Type           |
| SN74LS157NE4     | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | N / A for Pkg Type           |
| SN74LS157NSR     | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157NSR     | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157NSRE4   | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157NSRE4   | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157NSRG4   | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157NSRG4   | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158D       | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158D       | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158DE4     | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158DE4     | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158DG4     | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158DG4     | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-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> |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
|                  |                       |              |                 |      |             | no Sb/Br)               |                  |                              |
| SN74LS158DR      | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158DR      | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158DRE4    | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158DRE4    | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158DRG4    | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158DRG4    | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158N       | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | N / A for Pkg Type           |
| SN74LS158N       | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | N / A for Pkg Type           |
| SN74LS158N3      | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74LS158N3      | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74LS158NE4     | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | N / A for Pkg Type           |
| SN74LS158NE4     | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | N / A for Pkg Type           |
| SN74LS158NSR     | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158NSR     | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158NSRE4   | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158NSRE4   | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158NSRG4   | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158NSRG4   | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74S157D        | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74S157DE4      | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74S157DG4      | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74S157N        | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | N / A for Pkg Type           |
| SN74S157N3       | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74S157NE4      | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | N / A for Pkg Type           |
| SN74S157NSR      | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74S157NSRE4    | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74S157NSRG4    | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-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> |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| no Sb/Br)        |                       |              |                 |      |             |                         |                  |                              |
| SN74S158D        | OBSOLETE              | SOIC         | D               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74S158D        | OBSOLETE              | SOIC         | D               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74S158DR       | OBSOLETE              | SOIC         | D               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74S158DR       | OBSOLETE              | SOIC         | D               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74S158N        | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74S158N        | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74S158N3       | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74S158N3       | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SNJ54157J        | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SNJ54157J        | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SNJ54157W        | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| SNJ54157W        | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| SNJ54LS157FK     | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| SNJ54LS157FK     | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| SNJ54LS157J      | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SNJ54LS157J      | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SNJ54LS157W      | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| SNJ54LS157W      | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| SNJ54LS158FK     | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| SNJ54LS158FK     | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| SNJ54LS158J      | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SNJ54LS158J      | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SNJ54LS158W      | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| SNJ54LS158W      | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| SNJ54S157FK      | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| SNJ54S157FK      | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| SNJ54S157J       | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SNJ54S157J       | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SNJ54S157W       | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| SNJ54S157W       | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| SNJ54S158FK      | OBSOLETE              | LCCC         | FK              | 20   |             | TBD                     | Call TI          | Call TI                      |
| SNJ54S158J       | OBSOLETE              | CDIP         | J               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SNJ54S158W       | OBSOLETE              | CFP          | W               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SNJ54S15FK       | OBSOLETE              | LCCC         | FK              | 20   |             | TBD                     | Call TI          | Call TI                      |
| SNJ54S15J        | OBSOLETE              | CDIP         | J               | 14   |             | TBD                     | Call TI          | Call TI                      |
| SNJ54S15W        | OBSOLETE              | CFP          | W               | 14   |             | TBD                     | Call TI          | Call TI                      |

<sup>(1)</sup> 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.

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<sup>(2)</sup> 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.

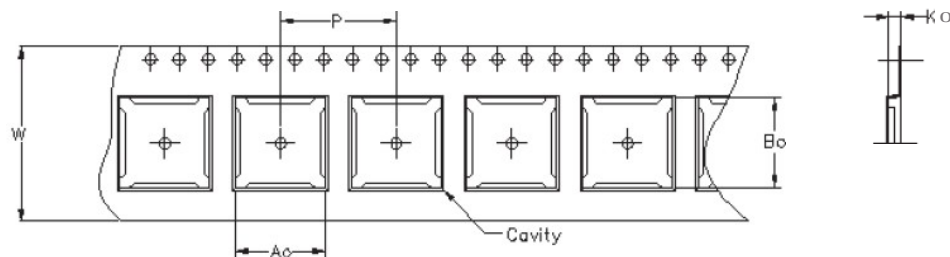
**Green (RoHS & no Sb/Br):** TI defines "Green" to mean Pb-Free (RoHS compatible), and free of Bromine (Br) and Antimony (Sb) based flame retardants (Br or Sb do not exceed 0.1% by weight in homogeneous material)

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

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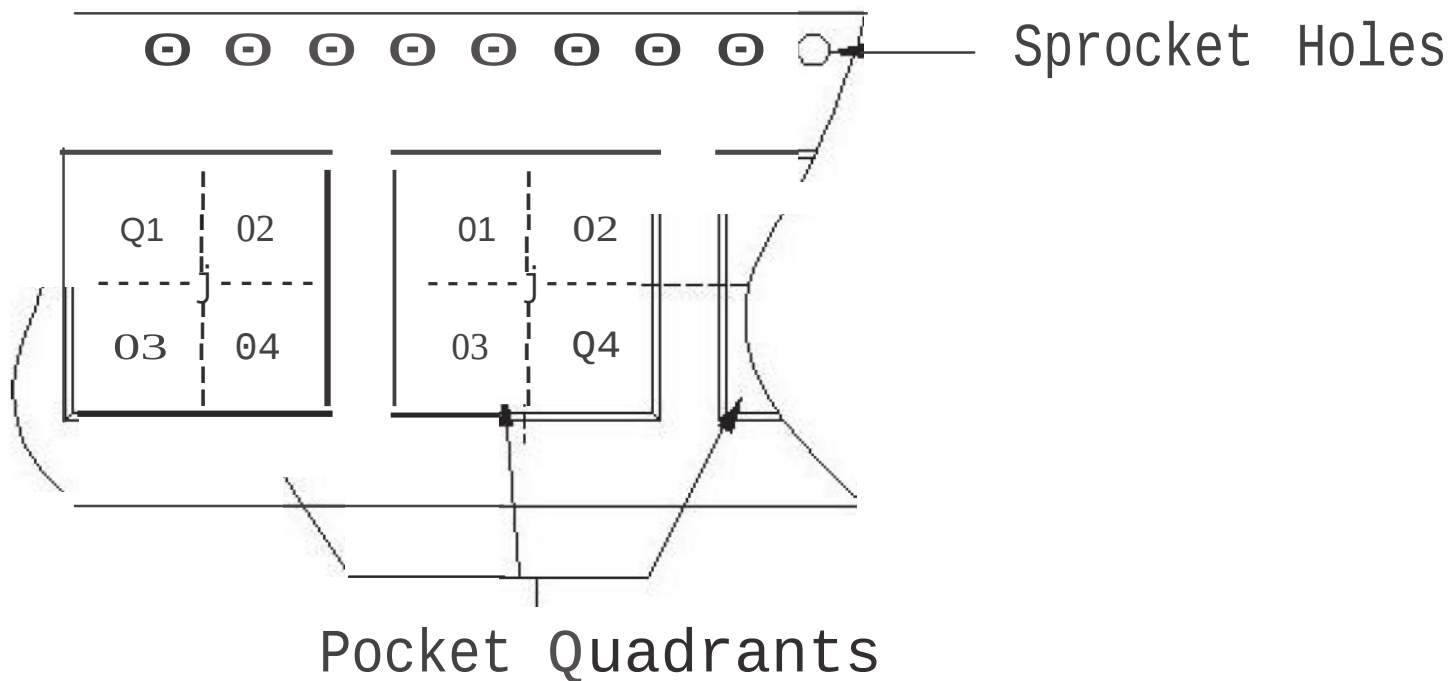
In no event shall TI's liability arising out of such information exceed the total purchase price of the TI part(s) at issue in this document sold by TI to Customer on an annual basis.





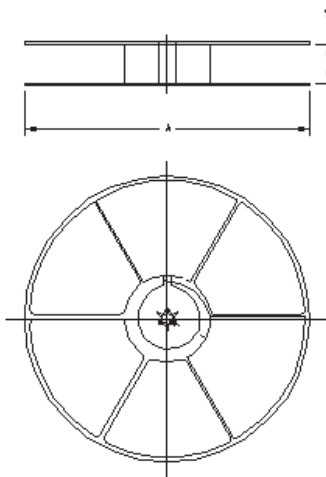
Carrier tape design 1s defined largely by the component length, width, and thickness.

|                                                                   |
|-------------------------------------------------------------------|
| $Ao$ = Dimension designed to accommodate the component width.     |
| $Bo$ = Dimension designed to accommodate the component length.    |
| $K0$ = Dimension designed to accommodate the component thickness. |
| $W$ = overall width of the carrier tape.                          |
| $P$ = Pitch between successive cavity centers.                    |



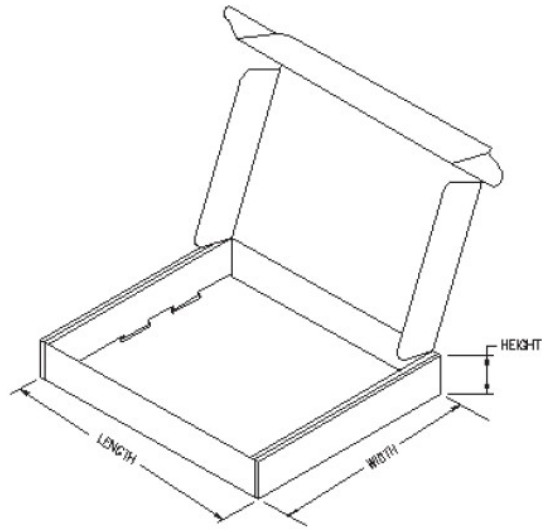
## TAPE AND REEL INFORMATION

| Device       | Package | Pins | Site | Reel Diameter (mm) | Reel Width (mm) | A0 (mm) | B0 (mm) | K0 (mm) | P1 (mm) | W (mm) | Pin1 Quadrant |
|--------------|---------|------|------|--------------------|-----------------|---------|---------|---------|---------|--------|---------------|
| SN74LS157DR  | D       | 16   | FMX  | 330                | 16              | 6.5     | 10.3    | 2.1     | 8       | 16     | Q1            |
| SN74LS157NSR | NS      | 16   | MLA  | 330                | 16              | 8.2     | 10.5    | 2.5     | 12      | 16     | Q1            |
| SN74LS158DR  | D       | 16   | FMX  | 330                | 16              | 6.5     | 10.3    | 2.1     | 8       | 16     | Q1            |
| SN74LS158NSR | NS      | 16   | MLA  | 330                | 16              | 8.2     | 10.5    | 2.5     | 12      | 16     | Q1            |
| SN74S157NSR  | NS      | 16   | MLA  | 330                | 16              | 8.2     | 10.5    | 2.5     | 12      | 16     | Q1            |



## TAPE AND REEL BOX INFORMATION

| Device       | Package | Pins | Site | Length (mm) | Width (mm) | Height (mm) |
|--------------|---------|------|------|-------------|------------|-------------|
| SN74LS157DR  | D       | 16   | FMX  | 342.9       | 336.6      | 28.58       |
| SN74LS157NSR | NS      | 16   | MLA  | 342.9       | 336.6      | 28.58       |
| SN74LS158DR  | D       | 16   | FMX  | 342.9       | 336.6      | 28.58       |
| SN74LS158NSR | NS      | 16   | MLA  | 342.9       | 336.6      | 28.58       |
| SN74S157NSR  | NS      | 16   | MLA  | 342.9       | 336.6      | 28.58       |





## PACKAGING INFORMATION

| 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> |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| 76002012A        | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| 76002012A        | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| 7600201EA        | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| 7600201EA        | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| 7600201FA        | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| 7600201FA        | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| 76033012A        | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| 76033012A        | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| 7603301EA        | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| 7603301EA        | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| 7603301FA        | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| 7603301FA        | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| JM38510/07903BEA | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| JM38510/07903BEA | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| JM38510/07903BFA | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| JM38510/07903BFA | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| JM38510/07904BEA | OBSOLETE              | CDIP         | J               | 16   |             | TBD                     | Call TI          | Call TI                      |
| JM38510/07904BFA | OBSOLETE              | CFP          | W               | 16   |             | TBD                     | Call TI          | Call TI                      |
| JM38510/30903B2A | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| JM38510/30903B2A | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| JM38510/30903BEA | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| JM38510/30903BEA | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| JM38510/30903BFA | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| JM38510/30903BFA | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| SN54157J         | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SN54157J         | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SN54LS157J       | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SN54LS157J       | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SN54LS158J       | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SN54LS158J       | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SN54S157J        | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SN54S157J        | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SN54S158J        | OBSOLETE              | CDIP         | J               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN54S15J         | OBSOLETE              | CDIP         | J               | 14   |             | TBD                     | Call TI          | Call TI                      |
| SN74157N         | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74157N         | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74157N3        | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74157N3        | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74LS157D       | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157D       | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-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> |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| SN74LS157DE4     | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157DE4     | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157DG4     | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157DG4     | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157DR      | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157DR      | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157DRE4    | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157DRE4    | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157DRG4    | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157DRG4    | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157N       | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | N / A for Pkg Type           |
| SN74LS157N       | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | N / A for Pkg Type           |
| SN74LS157N3      | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74LS157N3      | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74LS157NE4     | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | N / A for Pkg Type           |
| SN74LS157NE4     | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | N / A for Pkg Type           |
| SN74LS157NSR     | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157NSR     | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157NSRE4   | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157NSRE4   | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157NSRG4   | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS157NSRG4   | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158D       | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158D       | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158DE4     | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158DE4     | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158DG4     | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-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> |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
|                  |                       |              |                 |      |             | no Sb/Br)               |                  |                              |
| SN74LS158DG4     | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158DR      | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158DR      | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158DRE4    | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158DRE4    | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158DRG4    | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158DRG4    | ACTIVE                | SOIC         | D               | 16   | 2500        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158N       | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | N / A for Pkg Type           |
| SN74LS158N       | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | N / A for Pkg Type           |
| SN74LS158N3      | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74LS158N3      | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74LS158NE4     | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | N / A for Pkg Type           |
| SN74LS158NE4     | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | N / A for Pkg Type           |
| SN74LS158NSR     | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158NSR     | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158NSRE4   | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158NSRE4   | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158NSRG4   | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LS158NSRG4   | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74S157D        | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74S157DE4      | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74S157DG4      | ACTIVE                | SOIC         | D               | 16   | 40          | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74S157N        | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | N / A for Pkg Type           |
| SN74S157N3       | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74S157NE4      | ACTIVE                | PDIP         | N               | 16   | 25          | Pb-Free (RoHS)          | CU NIPDAU        | N / A for Pkg Type           |
| SN74S157NSR      | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74S157NSRE4    | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-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> |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| no Sb/Br)        |                       |              |                 |      |             |                         |                  |                              |
| SN74S157NSRG4    | ACTIVE                | SO           | NS              | 16   | 2000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74S158D        | OBSOLETE              | SOIC         | D               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74S158D        | OBSOLETE              | SOIC         | D               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74S158DR       | OBSOLETE              | SOIC         | D               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74S158DR       | OBSOLETE              | SOIC         | D               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74S158N        | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74S158N        | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74S158N3       | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SN74S158N3       | OBSOLETE              | PDIP         | N               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SNJ54157J        | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SNJ54157J        | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SNJ54157W        | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| SNJ54157W        | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| SNJ54LS157FK     | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| SNJ54LS157FK     | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| SNJ54LS157J      | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SNJ54LS157J      | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SNJ54LS157W      | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| SNJ54LS157W      | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| SNJ54LS158FK     | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| SNJ54LS158FK     | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| SNJ54LS158J      | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SNJ54LS158J      | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SNJ54LS158W      | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| SNJ54LS158W      | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| SNJ54S157FK      | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| SNJ54S157FK      | ACTIVE                | LCCC         | FK              | 20   | 1           | TBD                     | POST-PLATE       | N / A for Pkg Type           |
| SNJ54S157J       | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SNJ54S157J       | ACTIVE                | CDIP         | J               | 16   | 1           | TBD                     | A42 SNPB         | N / A for Pkg Type           |
| SNJ54S157W       | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| SNJ54S157W       | ACTIVE                | CFP          | W               | 16   | 1           | TBD                     | A42              | N / A for Pkg Type           |
| SNJ54S158FK      | OBSOLETE              | LCCC         | FK              | 20   |             | TBD                     | Call TI          | Call TI                      |
| SNJ54S158J       | OBSOLETE              | CDIP         | J               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SNJ54S158W       | OBSOLETE              | CFP          | W               | 16   |             | TBD                     | Call TI          | Call TI                      |
| SNJ54S15FK       | OBSOLETE              | LCCC         | FK              | 20   |             | TBD                     | Call TI          | Call TI                      |
| SNJ54S15J        | OBSOLETE              | CDIP         | J               | 14   |             | TBD                     | Call TI          | Call TI                      |
| SNJ54S15W        | OBSOLETE              | CFP          | W               | 14   |             | TBD                     | Call TI          | Call TI                      |

<sup>(1)</sup> 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.

**OBSELETE:** TI has discontinued the production of the device.

<sup>(2)</sup> 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)

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

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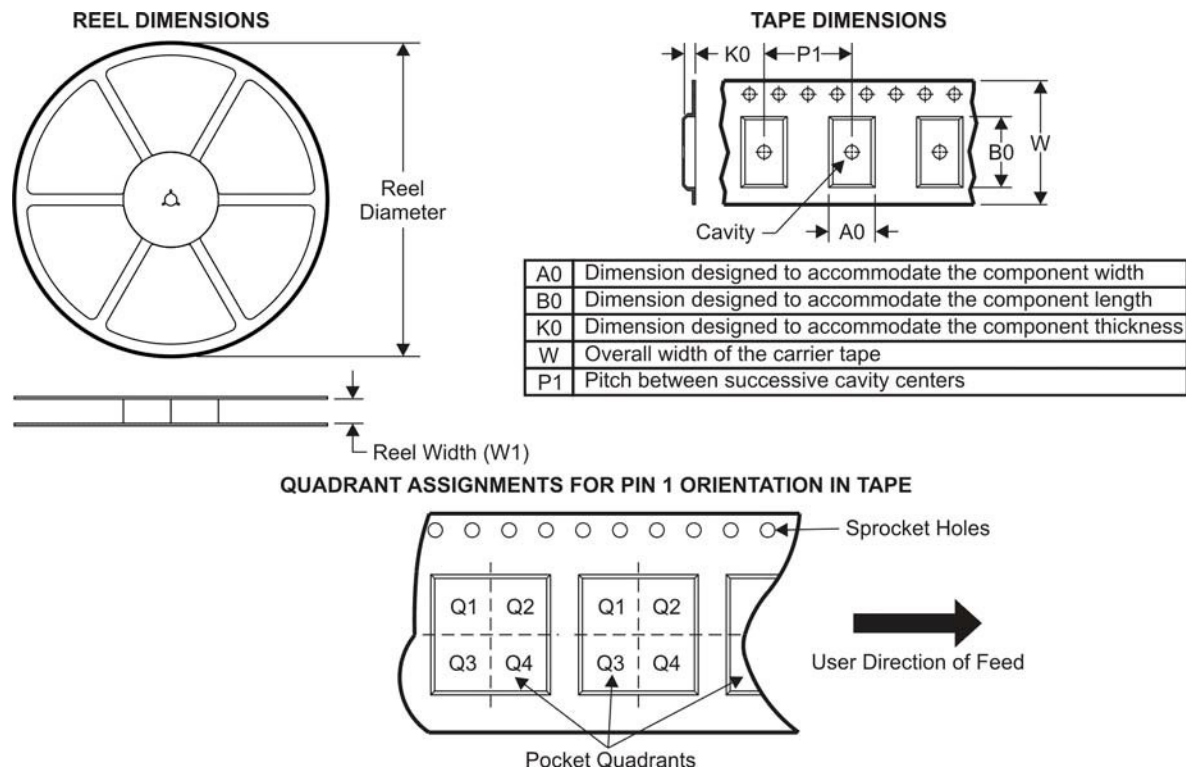
**OTHER QUALIFIED VERSIONS OF SN54157, SN54LS157, SN54LS158, SN54S15, SN54S157, SN54S158, SN74157, SN74LS157, SN74LS158, SN74S157, SN74S158 :**

● Catalog: [SN74S15](#)

NOTE: Qualified Version Definitions:

● Catalog - TI's standard catalog product

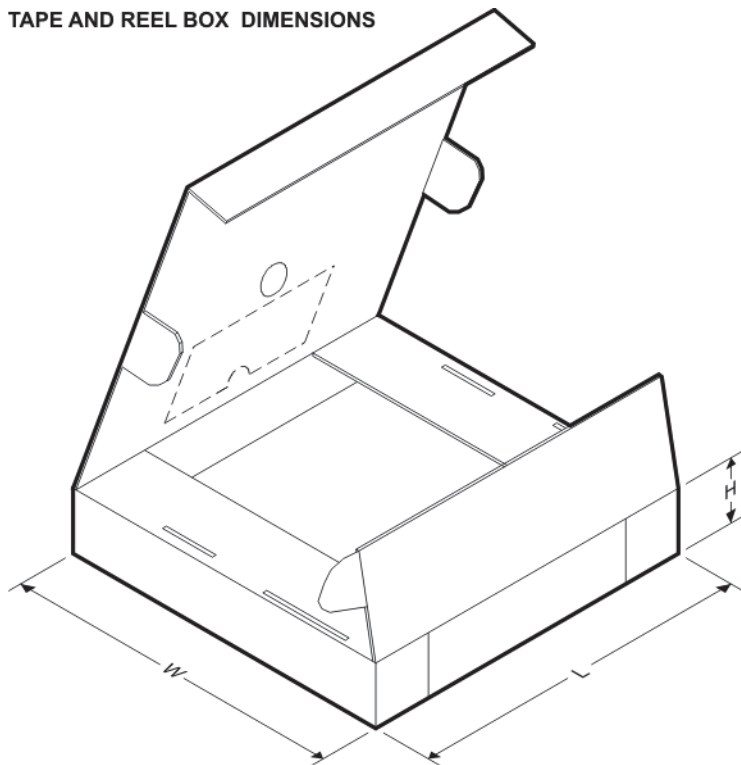
**TAPE AND REEL INFORMATION**



\*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 |
|--------------|--------------|-----------------|------|------|--------------------|--------------------|---------|---------|---------|---------|--------|---------------|
| SN74LS157DR  | SOIC         | D               | 16   | 2500 | 330.0              | 16.4               | 6.5     | 10.3    | 2.1     | 8.0     | 16.0   | Q1            |
| SN74LS157NSR | SO           | NS              | 16   | 2000 | 330.0              | 16.4               | 8.2     | 10.5    | 2.5     | 12.0    | 16.0   | Q1            |
| SN74LS158DR  | SOIC         | D               | 16   | 2500 | 330.0              | 16.4               | 6.5     | 10.3    | 2.1     | 8.0     | 16.0   | Q1            |
| SN74LS158NSR | SO           | NS              | 16   | 2000 | 330.0              | 16.4               | 8.2     | 10.5    | 2.5     | 12.0    | 16.0   | Q1            |
| SN74S157NSR  | SO           | NS              | 16   | 2000 | 330.0              | 16.4               | 8.2     | 10.5    | 2.5     | 12.0    | 16.0   | Q1            |

**TAPE AND REEL BOX DIMENSIONS**



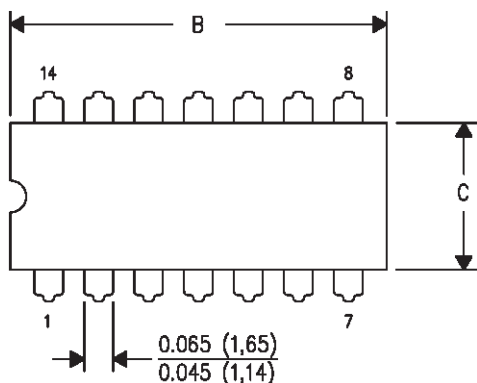
\*All dimensions are nominal

| Device       | Package Type | Package Drawing | Pins | SPQ  | Length (mm) | Width (mm) | Height (mm) |
|--------------|--------------|-----------------|------|------|-------------|------------|-------------|
| SN74LS157DR  | SOIC         | D               | 16   | 2500 | 333.2       | 345.9      | 28.6        |
| SN74LS157NSR | SO           | NS              | 16   | 2000 | 346.0       | 346.0      | 33.0        |
| SN74LS158DR  | SOIC         | D               | 16   | 2500 | 333.2       | 345.9      | 28.6        |
| SN74LS158NSR | SO           | NS              | 16   | 2000 | 346.0       | 346.0      | 33.0        |
| SN74S157NSR  | SO           | NS              | 16   | 2000 | 346.0       | 346.0      | 33.0        |

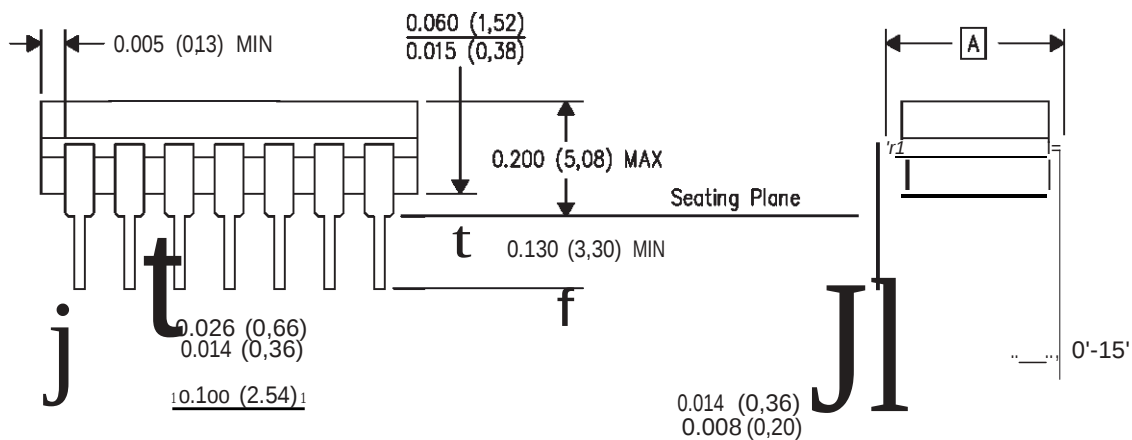
# J (R-GDIP-T\*\*)

14 LEADS SHOWN

## CERAMIC DUAL IN-LINE PACKAGE



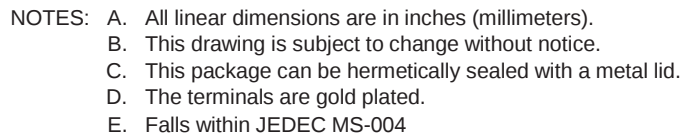
| M     | 14                     | 16                     | 18                     | 20                     |
|-------|------------------------|------------------------|------------------------|------------------------|
|       | 0.300<br>(7,62)<br>BSC | 0.300<br>(7,62)<br>BSC | 0.300<br>(7,62)<br>BSC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



4040083/F 03/03

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

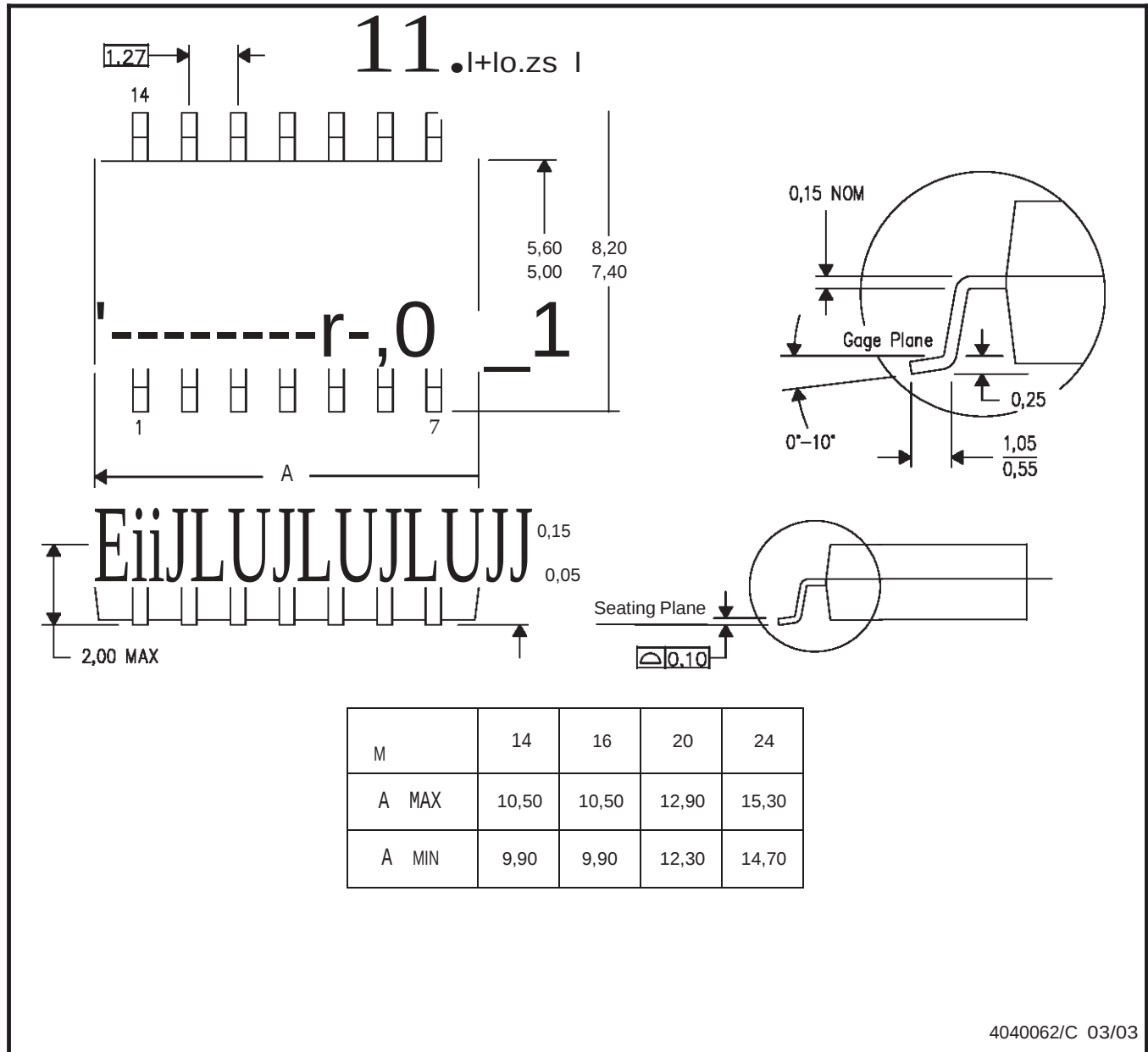
## 28 TERMINAL SHOWN



# MECHANICAL DATA

NS(R-PDSO-G.,  
14-PINS SHOWN

PLASTIC SMAU.-OUTUNE PACKAGE

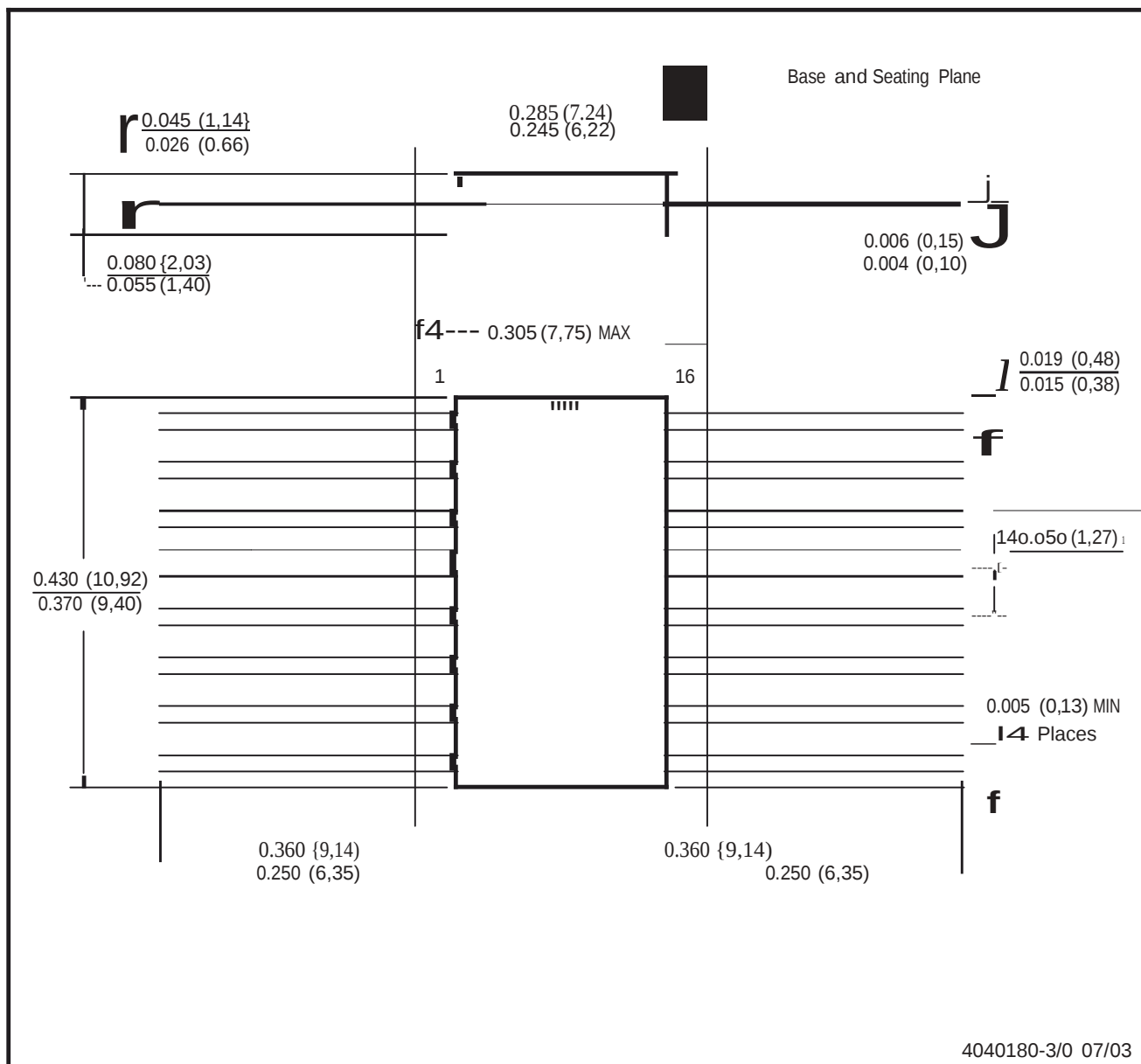


- NOTES:
- A. All linear dimensions are in millimeters.
  - B. This drawing is subject to change without notice.
  - C. Body dimensions do not include mold flash or protrusion, not to exceed 0,15.

4040062/C 03/03

## W (R-GDFP-F16)

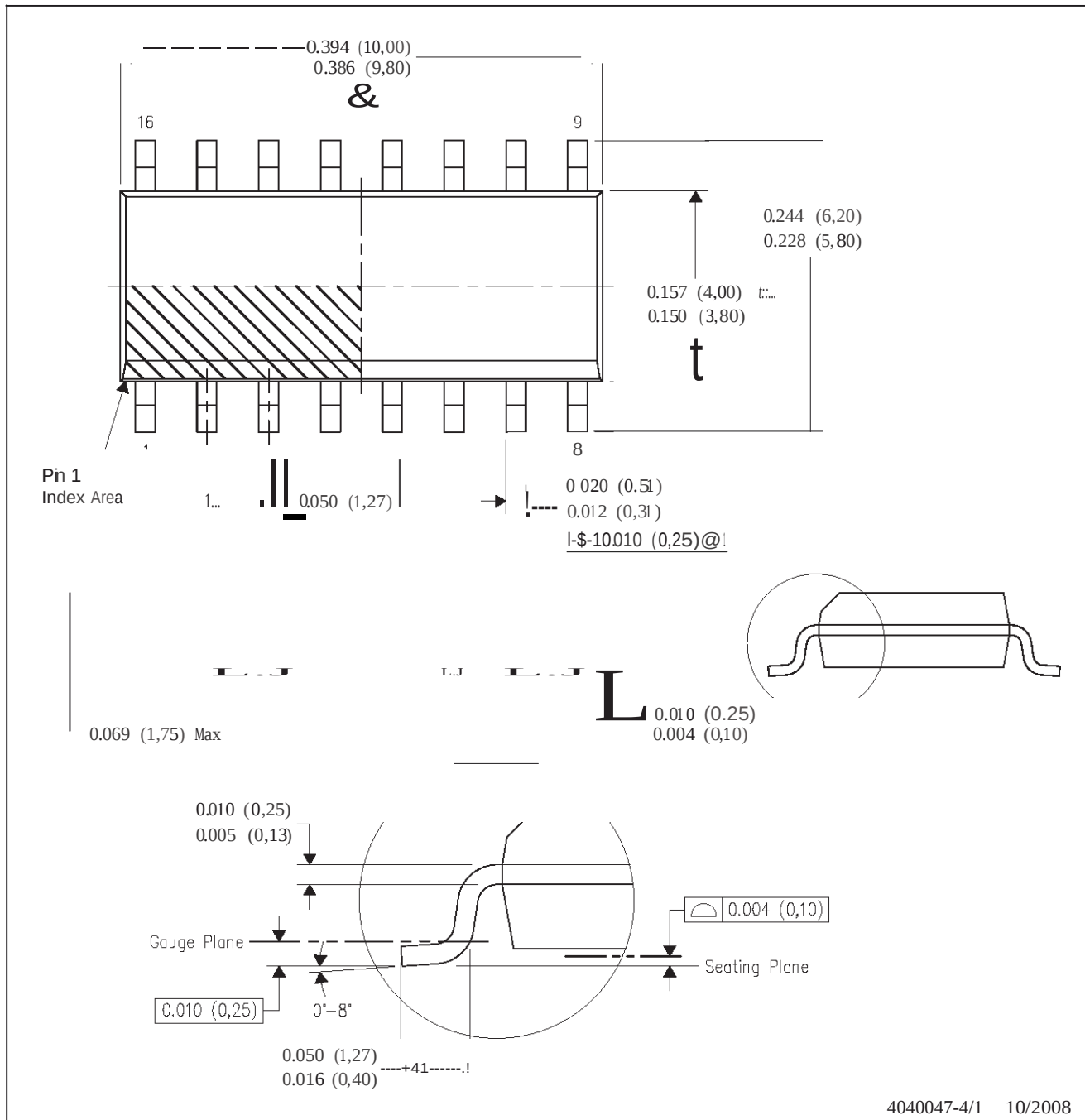
## CERAMIC DUAL FLAIPACK



- NOTES:
- All linear dimensions are in inches (millimeters).
  - This drawing is subject to change without notice.
  - This package can be hermetically sealed with a ceramic lid using glass frit.
  - Index point is provided on cap for terminal identification only.
  - Falls within MIL STD 1835 GDFP1-F16 and JEDEC M0-092AC

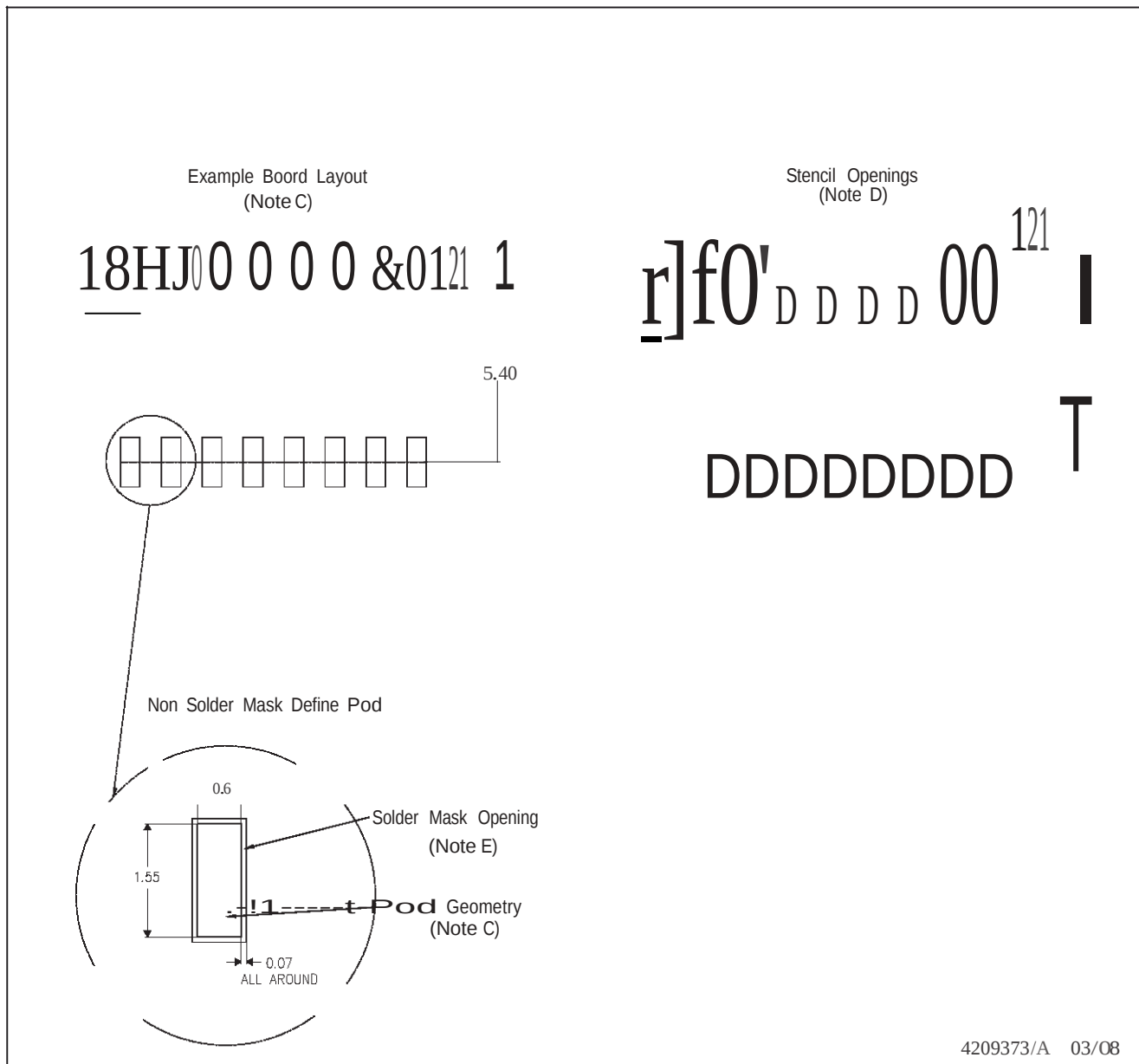
0 (R-POSO-G16)

PLASTIC SMALL-OUTLINE PACKAGE



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.

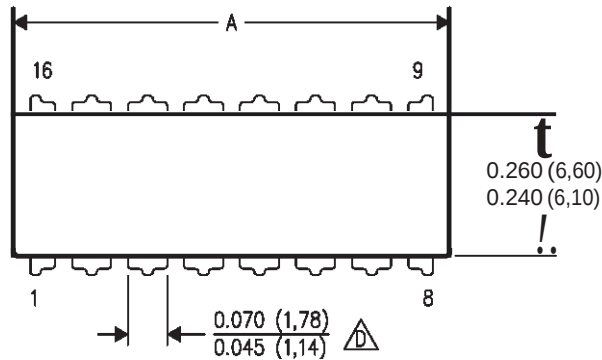
# D(R-PDSO-G16)



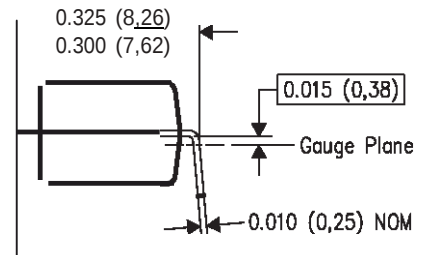
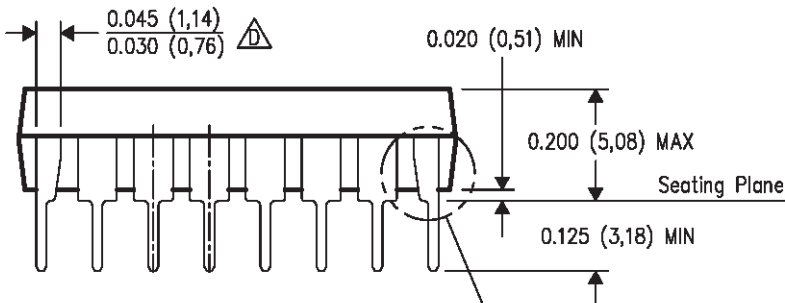
- NOTES:
- A. All linear dimensions are in millimeters.
  - B. This drawing is subject to change without notice.
  - C. Refer to IPC7351 for alternate board design.
  - D. Laser cutting apertures with trapezoidal walls and also rounding corners will offer better paste release. Customers should contact 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\*\*)**

16 PINS SHOWN

**PLASTIC DUAL-IN-LINE PACKAGE**

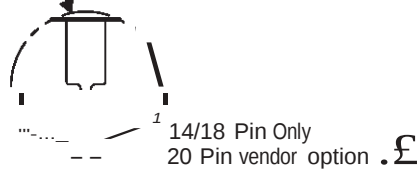
| M                   | 14               | 16               | 18               | 20               |
|---------------------|------------------|------------------|------------------|------------------|
| A tAX               | 0.775<br>(19,69) | 0.775<br>(19,69) | 0.920<br>(23,37) | 1.060<br>(26,92) |
| A MIN               | 0.745<br>(18,92) | 0.745<br>(18,92) | 0.850<br>(21,59) | 0.940<br>(23,88) |
| MS-001<br>VARIA110N | AA               | BB               | AC               | AD               |



**JL**

0.021 (0,53)  
0.015 (0,38)  
I-\$-10.010 (0,25)@1

**J** 0.430 (10,92) tAX **1.-**



4040049/E 12/2002

NOTES: A. All linear dimensions are in inches (millimeters).  
B. This drawing is subject to change without notice.

Lfu. 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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|                    |                                                                          |
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