

SN5430, SN54LS30, SN54S30 SN7430, SN74LS30, SN74S30 8-INPUT POSITIVE-NAND GATES

SDLS099 - DECEMBER 1983 - REVISED MARCH 1988

- Package Options Include Plastic "Small Outline" Packages, Ceramic Chip Carriers and Flat Packages, and Plastic and Ceramic DIPs
- Dependable Texas Instruments Quality and Reliability

description

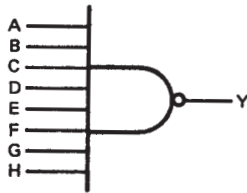
These devices contain a single 8-input NAND gate.

The SN5430, SN54LS30, and SN54S30 are characterized for operation over the full military range of -55°C to 125°C. The SN7430, SN74LS30, and SN74S30 are characterized for operation from 0°C to 70°C.

FUNCTION TABLE

| INPUTS A THRU H | OUTPUT Y |
|----------------------|----------|
| All inputs H | L |
| One or more inputs L | H |

logic diagram

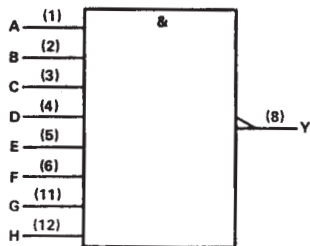


positive logic

$$Y = \overline{A \cdot B \cdot C \cdot D \cdot E \cdot F \cdot G \cdot H} \quad \text{or}$$

$$Y = \overline{A} + \overline{B} + \overline{C} + \overline{D} + \overline{E} + \overline{F} + \overline{G} + \overline{H}$$

logic symbol†

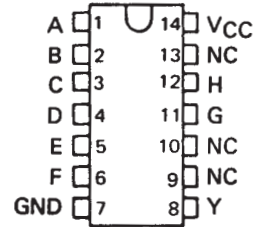


†This symbol is in accordance with ANSI/IEEE Std 91-1984 and IEC Publication 617-12.

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

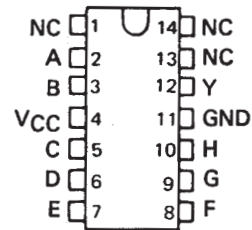
SN5430 . . . J PACKAGE
SN54LS30, SN54S30 . . . J OR W PACKAGE
SN7430 . . . N PACKAGE
SN74LS30, SN74S30 . . . D OR N PACKAGE

(TOP VIEW)



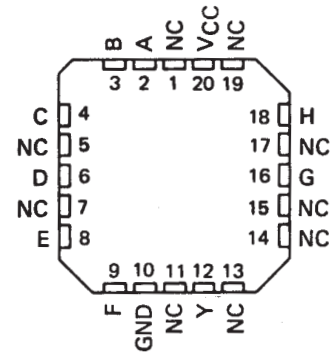
SN5430 . . . W PACKAGE

(TOP VIEW)



SN54LS30, SN54S30 . . . FK PACKAGE

(TOP VIEW)

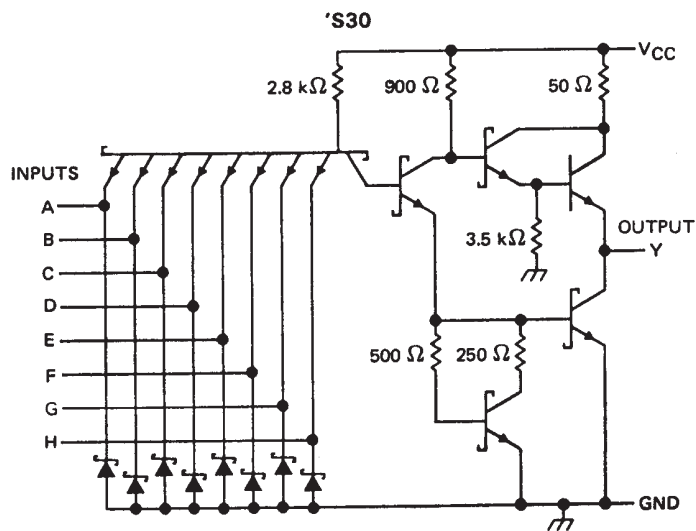
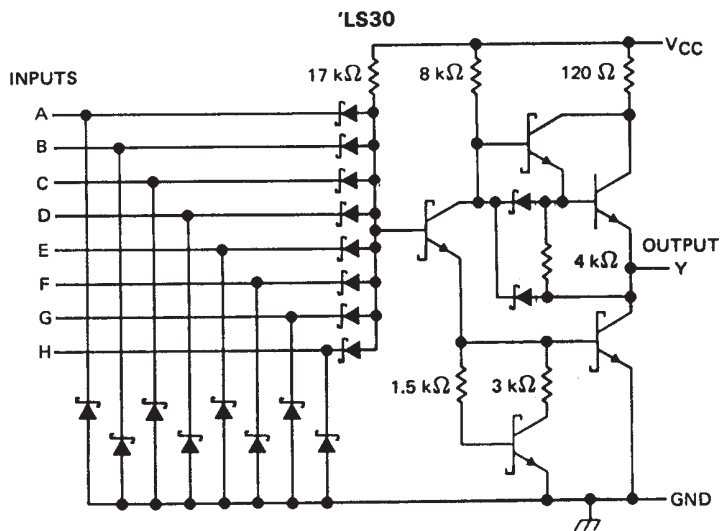
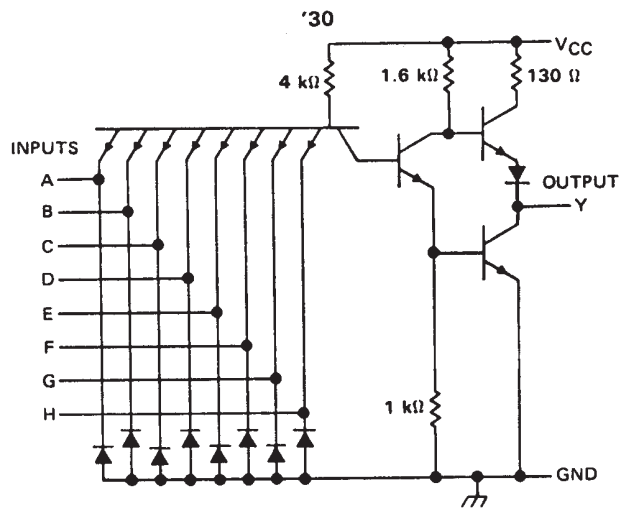


NC - No internal connection

SN5430, SN54LS30, SN54S30
SN7430, SN74LS30, SN74S30
8-INPUT POSITIVE-NAND GATES

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schematics (each gate)



Resistor values shown are nominal.



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SN5430, SN54LS30, SN54S30
SN7430, SN74LS30, SN74S30
8-INPUT POSITIVE-NAND GATES
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absolute maximum ratings over operating free-air temperature range (unless otherwise noted)

| | |
|--|------------------|
| Supply voltage, V_{CC} (see Note 1) | 7 V |
| Input voltage | 5.5 V |
| Operating free-air temperature range: SN5430 | –55 °C to 125 °C |
| SN7430 | 0 °C to 70 °C |
| Storage temperature range | –65 °C to 150 °C |

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

recommended operating conditions

| | SN5430 | | | SN7430 | | | 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 | | | 0.8 | | | 0.8 | V |
| I_{OH} High-level output current | | | –0.4 | | | –0.4 | mA |
| I_{OL} Low-level output current | | | 16 | | | 16 | 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 † | SN5430 | | | SN7430 | | | UNIT |
|------------|---|--------|-------|------|--------|-------|------|------|
| | | MIN | TYP ‡ | MAX | MIN | TYP ‡ | MAX | |
| V_{IK} | $V_{CC} = \text{MIN}, I_I = -12 \text{ mA}$ | | | –1.5 | | | –1.5 | V |
| V_{OH} | $V_{CC} = \text{MIN}, V_{IL} = 0.8 \text{ V}, I_{OH} = -0.4 \text{ mA}$ | 2.4 | 3.4 | | 2.4 | 3.4 | | V |
| V_{OL} | $V_{CC} = \text{MIN}, V_{IH} = 2 \text{ V}, I_{OL} = 16 \text{ mA}$ | | 0.2 | 0.4 | | 0.2 | 0.4 | V |
| I_I | $V_{CC} = \text{MAX}, V_I = 5.5 \text{ V}$ | | | 1 | | | 1 | mA |
| I_{IH} | $V_{CC} = \text{MAX}, V_I = 2.4 \text{ V}$ | | | 40 | | | 40 | µA |
| I_{IL} | $V_{CC} = \text{MAX}, V_I = 0.4 \text{ V}$ | | | –1.6 | | | –1.6 | mA |
| $I_{OS} §$ | $V_{CC} = \text{MAX}$ | –20 | | –55 | –18 | | –55 | mA |
| I_{CCH} | $V_{CC} = \text{MAX}, V_I = 0$ | | 1 | 2 | | 1 | 2 | mA |
| I_{CCL} | $V_{CC} = \text{MAX}, V_I = 4.5 \text{ V}$ | | 3 | 6 | | 3 | 6 | mA |

† 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.

switching characteristics, $V_{CC} = 5 \text{ V}, T_A = 25^\circ\text{C}$ (see note 2)

| PARAMETER | FROM (INPUT) | TO (OUTPUT) | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|-----------|--------------|-------------|---|-----|-----|-----|------|
| t_{PLH} | Any | Y | $R_L = 400 \Omega, C_L = 15 \text{ pF}$ | | 13 | 22 | ns |
| t_{PHL} | | | | | 8 | 15 | ns |

NOTE 2: Load circuits and voltage waveforms are shown in Section 1.



**SN5430, SN54LS30, SN54S30
SN7430, SN74LS30, SN74S30
8-INPUT POSITIVE-NAND GATES**

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

| | |
|--|----------------|
| Supply voltage, V_{CC} (see Note 1) | 7 V |
| Input voltage | 7 V |
| Operating free-air temperature range: SN54LS30 | -55°C to 125°C |
| SN74LS30 | 0°C to 70°C |
| Storage temperature range | -65°C to 150°C |

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

recommended operating conditions

| | SN54LS30 | | | SN74LS30 | | | 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 | | | -0.4 | | | -0.4 | mA |
| I_{OL} Low-level output current | | | 4 | | | 8 | 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 † | SN54LS30 | | | SN74LS30 | | | UNIT |
|-----------|--|----------|------|------|----------|------|------|------|
| | | MIN | TYP‡ | MAX | MIN | TYP‡ | MAX | |
| V_{IK} | $V_{CC} = \text{MIN}, I_I = -18 \text{ mA}$ | | | -1.5 | | | -1.5 | V |
| V_{OH} | $V_{CC} = \text{MIN}, V_{IL} = \text{MAX}, I_{OH} = -0.4 \text{ mA}$ | 2.5 | 3.4 | | 2.7 | 3.4 | | V |
| V_{OL} | $V_{CC} = \text{MIN}, V_{IH} = 2 \text{ V}, I_{OL} = 4 \text{ mA}$ | 0.25 | 0.4 | | | | 0.4 | V |
| | $V_{CC} = \text{MIN}, V_{IH} = 2 \text{ V}, I_{OL} = 8 \text{ mA}$ | | | | 0.25 | 0.5 | | |
| I_I | $V_{CC} = \text{MAX}, V_I = 7 \text{ V}$ | | | 0.1 | | | 0.1 | mA |
| I_{IH} | $V_{CC} = \text{MAX}, V_I = 2.7 \text{ V}$ | | | 20 | | | 20 | µA |
| I_{IL} | $V_{CC} = \text{MAX}, V_I = 0.4 \text{ V}$ | | | -0.4 | | | -0.4 | mA |
| $I_{OS}§$ | $V_{CC} = \text{MAX}$ | -20 | | -100 | -20 | | -100 | mA |
| I_{CCH} | $V_{CC} = \text{MAX}, V_I = 0$ | | 0.35 | 0.5 | | 0.35 | 0.5 | mA |
| I_{CCL} | $V_{CC} = \text{MAX}, V_I = 4.5 \text{ V}$ | | 0.6 | 1.1 | | 0.6 | 1.1 | mA |

† 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 the duration of the short-circuit should not exceed one second.

switching characteristics, $V_{CC} = 5 \text{ V}, T_A = 25^\circ\text{C}$ (see note 2)

| PARAMETER | FROM (INPUT) | TO (OUTPUT) | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|-----------|--------------|-------------|--|-----|-----|-----|------|
| t_{PLH} | Any | Y | $R_L = 2 \text{ k}\Omega, C_L = 15 \text{ pF}$ | | 8 | 15 | ns |
| t_{PHL} | | | | | 13 | 20 | ns |

NOTE 2: Load circuits and voltage waveforms are shown in Section 1.



SN5430, SN54LS30, SN54S30
SN7430, SN74LS30, SN74S30
8-INPUT POSITIVE-NAND GATES
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absolute maximum ratings over operating free-air temperature range (unless otherwise noted)

| | |
|---|------------------|
| Supply voltage, V_{CC} (see Note 1) | 7 V |
| Input voltage | 5.5 V |
| Operating free-air temperature range: SN54S30 | –55 °C to 125 °C |
| SN74S30 | 0 °C to 70 °C |
| Storage temperature range | –65 °C to 150 °C |

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

recommended operating conditions

| | SN54S30 | | | SN74S30 | | | 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 | | | 0.8 | | | 0.8 | V |
| I_{OH} High-level output current | | | –1 | | | –1 | mA |
| I_{OL} Low-level output current | | | 20 | | | 20 | 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 † | SN54S30 | | | SN74S30 | | | UNIT |
|------------|---|---------|-------|------|---------|-------|------|------|
| | | MIN | TYP ‡ | MAX | MIN | TYP ‡ | MAX | |
| V_{IK} | $V_{CC} = \text{MIN}, I_I = -18 \text{ mA}$ | | | –1.2 | | | –1.2 | V |
| V_{OH} | $V_{CC} = \text{MIN}, V_{IL} = 0.8 \text{ V}, I_{OH} = -1 \text{ mA}$ | 2.5 | 3.4 | | 2.7 | 3.4 | | V |
| V_{OL} | $V_{CC} = \text{MIN}, V_{IH} = 2 \text{ V}, I_{OL} = 20 \text{ mA}$ | | | 0.5 | | | 0.5 | V |
| I_I | $V_{CC} = \text{MAX}, V_I = 5.5 \text{ V}$ | | | 1 | | | 1 | mA |
| I_{IH} | $V_{CC} = \text{MAX}, V_I = 2.7 \text{ V}$ | | | 50 | | | 50 | µA |
| I_{IL} | $V_{CC} = \text{MAX}, V_I = 0.5 \text{ V}$ | | | –2 | | | –2 | mA |
| $I_{OS} §$ | $V_{CC} = \text{MAX}$ | –40 | | –100 | –40 | | –100 | mA |
| I_{CCH} | $V_{CC} = \text{MAX}, V_I = 0$ | | 3 | 5 | | 3 | 5 | mA |
| I_{CCL} | $V_{CC} = \text{MAX}, V_I = 4.5 \text{ V}$ | | 5.5 | 10 | | 5.5 | 10 | mA |

† 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 the duration of the short-circuit should not exceed one second.

switching characteristics, $V_{CC} = 5 \text{ V}, T_A = 25^\circ\text{C}$ (see note 2)

| PARAMETER | FROM (INPUT) | TO (OUTPUT) | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|-----------|--------------|-------------|---|-----|-----|-----|------|
| t_{PLH} | Any | Y | $R_L = 280 \Omega, C_L = 15 \text{ pF}$ | | 4 | 6 | ns |
| t_{PHL} | | | | | 4.5 | 7 | ns |
| t_{PLH} | | | $R_L = 280 \Omega, C_L = 50 \text{ pF}$ | | 5.5 | | ns |
| t_{PHL} | | | | | 6.5 | | ns |

NOTE 2: Load circuits and voltage waveforms are shown in Section 1.



PACKAGING INFORMATION

| Orderable Device | Status ⁽¹⁾ | Package Type | Package Drawing | Pins | Package Qty | Eco Plan ⁽²⁾ | Lead/Ball Finish | MSL Peak Temp ⁽³⁾ |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| 5962-9679201Q2A | ACTIVE | LCCC | FK | 20 | 1 | TBD | POST-PLATE | N / A for Pkg Type |
| 5962-9679201QCA | ACTIVE | CDIP | J | 14 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| 5962-9679201QCA | ACTIVE | CDIP | J | 14 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| 5962-9679201QDA | ACTIVE | CFP | W | 14 | 1 | TBD | A42 | N / A for Pkg Type |
| 5962-9679201QDA | ACTIVE | CFP | W | 14 | 1 | TBD | A42 | N / A for Pkg Type |
| JM38510/30009B2A | ACTIVE | LCCC | FK | 20 | 1 | TBD | POST-PLATE | N / A for Pkg Type |
| JM38510/30009B2A | ACTIVE | LCCC | FK | 20 | 1 | TBD | POST-PLATE | N / A for Pkg Type |
| JM38510/30009BCA | ACTIVE | CDIP | J | 14 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| JM38510/30009BCA | ACTIVE | CDIP | J | 14 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| JM38510/30009BDA | ACTIVE | CFP | W | 14 | 1 | TBD | A42 | N / A for Pkg Type |
| JM38510/30009BDA | ACTIVE | CFP | W | 14 | 1 | TBD | A42 | N / A for Pkg Type |
| JM38510/30009SCA | ACTIVE | CDIP | J | 14 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| JM38510/30009SCA | ACTIVE | CDIP | J | 14 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| JM38510/30009SDA | ACTIVE | CFP | W | 14 | 1 | TBD | A42 | N / A for Pkg Type |
| JM38510/30009SDA | ACTIVE | CFP | W | 14 | 1 | TBD | A42 | N / A for Pkg Type |
| SN5430J | ACTIVE | CDIP | J | 14 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SN5430J | ACTIVE | CDIP | J | 14 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SN54LS30J | ACTIVE | CDIP | J | 14 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SN54LS30J | ACTIVE | CDIP | J | 14 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SN54S30J | ACTIVE | CDIP | J | 14 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SN54S30J | ACTIVE | CDIP | J | 14 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SN7430N | OBSOLETE | PDIP | N | 14 | | TBD | Call TI | Call TI |
| SN7430N | OBSOLETE | PDIP | N | 14 | | TBD | Call TI | Call TI |
| SN74LS30D | ACTIVE | SOIC | D | 14 | 50 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS30D | ACTIVE | SOIC | D | 14 | 50 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS30DE4 | ACTIVE | SOIC | D | 14 | 50 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS30DE4 | ACTIVE | SOIC | D | 14 | 50 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS30DG4 | ACTIVE | SOIC | D | 14 | 50 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS30DG4 | ACTIVE | SOIC | D | 14 | 50 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS30DR | ACTIVE | SOIC | D | 14 | 2500 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS30DR | ACTIVE | SOIC | D | 14 | 2500 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS30DRE4 | ACTIVE | SOIC | D | 14 | 2500 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS30DRE4 | ACTIVE | SOIC | D | 14 | 2500 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS30DRG4 | ACTIVE | SOIC | D | 14 | 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⁾ |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| SN74LS30DRG4 | ACTIVE | SOIC | D | 14 | 2500 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS30J | OBSOLETE | CDIP | J | 14 | | TBD | Call TI | Call TI |
| SN74LS30J | OBSOLETE | CDIP | J | 14 | | TBD | Call TI | Call TI |
| SN74LS30N | ACTIVE | PDIP | N | 14 | 25 | Pb-Free (RoHS) | CU NIPDAU | N / A for Pkg Type |
| SN74LS30N | ACTIVE | PDIP | N | 14 | 25 | Pb-Free (RoHS) | CU NIPDAU | N / A for Pkg Type |
| SN74LS30N3 | OBSOLETE | PDIP | N | 14 | | TBD | Call TI | Call TI |
| SN74LS30N3 | OBSOLETE | PDIP | N | 14 | | TBD | Call TI | Call TI |
| SN74LS30NE4 | ACTIVE | PDIP | N | 14 | 25 | Pb-Free (RoHS) | CU NIPDAU | N / A for Pkg Type |
| SN74LS30NE4 | ACTIVE | PDIP | N | 14 | 25 | Pb-Free (RoHS) | CU NIPDAU | N / A for Pkg Type |
| SN74LS30NSR | ACTIVE | SO | NS | 14 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS30NSR | ACTIVE | SO | NS | 14 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS30NSRE4 | ACTIVE | SO | NS | 14 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS30NSRE4 | ACTIVE | SO | NS | 14 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS30NSRG4 | ACTIVE | SO | NS | 14 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74LS30NSRG4 | ACTIVE | SO | NS | 14 | 2000 | Green (RoHS & no Sb/Br) | CU NIPDAU | Level-1-260C-UNLIM |
| SN74S30D | OBSOLETE | SOIC | D | 14 | | TBD | Call TI | Call TI |
| SN74S30D | OBSOLETE | SOIC | D | 14 | | TBD | Call TI | Call TI |
| SN74S30DR | OBSOLETE | SOIC | D | 14 | | TBD | Call TI | Call TI |
| SN74S30DR | OBSOLETE | SOIC | D | 14 | | TBD | Call TI | Call TI |
| SN74S30J | OBSOLETE | CDIP | J | 14 | | TBD | Call TI | Call TI |
| SN74S30J | OBSOLETE | CDIP | J | 14 | | TBD | Call TI | Call TI |
| SN74S30N | OBSOLETE | PDIP | N | 14 | | TBD | Call TI | Call TI |
| SN74S30N | OBSOLETE | PDIP | N | 14 | | TBD | Call TI | Call TI |
| SNJ5430J | ACTIVE | CDIP | J | 14 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SNJ5430J | ACTIVE | CDIP | J | 14 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SNJ5430W | ACTIVE | CFP | W | 14 | 1 | TBD | A42 | N / A for Pkg Type |
| SNJ5430W | ACTIVE | CFP | W | 14 | 1 | TBD | A42 | N / A for Pkg Type |
| SNJ54LS30FK | ACTIVE | LCCC | FK | 20 | 1 | TBD | POST-PLATE | N / A for Pkg Type |
| SNJ54LS30FK | ACTIVE | LCCC | FK | 20 | 1 | TBD | POST-PLATE | N / A for Pkg Type |
| SNJ54LS30J | ACTIVE | CDIP | J | 14 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SNJ54LS30J | ACTIVE | CDIP | J | 14 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SNJ54LS30W | ACTIVE | CFP | W | 14 | 1 | TBD | A42 | N / A for Pkg Type |
| SNJ54LS30W | ACTIVE | CFP | W | 14 | 1 | TBD | A42 | N / A for Pkg Type |
| SNJ54S30FK | ACTIVE | LCCC | FK | 20 | 1 | TBD | POST-PLATE | N / A for Pkg Type |
| SNJ54S30FK | ACTIVE | LCCC | FK | 20 | 1 | TBD | POST-PLATE | N / A for Pkg Type |
| SNJ54S30J | ACTIVE | CDIP | J | 14 | 1 | TBD | A42 SNPB | N / A for Pkg Type |

| Orderable Device | Status ⁽¹⁾ | Package Type | Package Drawing | Pins | Package Qty | Eco Plan ⁽²⁾ | Lead/Ball Finish | MSL Peak Temp ⁽³⁾ |
|------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| SNJ54S30J | ACTIVE | CDIP | J | 14 | 1 | TBD | A42 SNPB | N / A for Pkg Type |
| SNJ54S30W | ACTIVE | CFP | W | 14 | 1 | TBD | A42 | N / A for Pkg Type |
| SNJ54S30W | ACTIVE | CFP | W | 14 | 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 |
|-------------|--------------|-----------------|------|------|--------------------|--------------------|---------|---------|---------|---------|--------|---------------|
| SN74LS30DR | SOIC | D | 14 | 2500 | 330.0 | 16.4 | 6.5 | 9.0 | 2.1 | 8.0 | 16.0 | Q1 |
| SN74LS30NSR | SO | NS | 14 | 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) |
|-------------|--------------|-----------------|------|------|-------------|------------|-------------|
| SN74LS30DR | SOIC | D | 14 | 2500 | 346.0 | 346.0 | 33.0 |
| SN74LS30NSR | SO | NS | 14 | 2000 | 346.0 | 346.0 | 33.0 |

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:
- 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 STD 1835 GDIP1-T14, GDIP1-T16, GDIP1-T18 and GDIP1-T20.

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

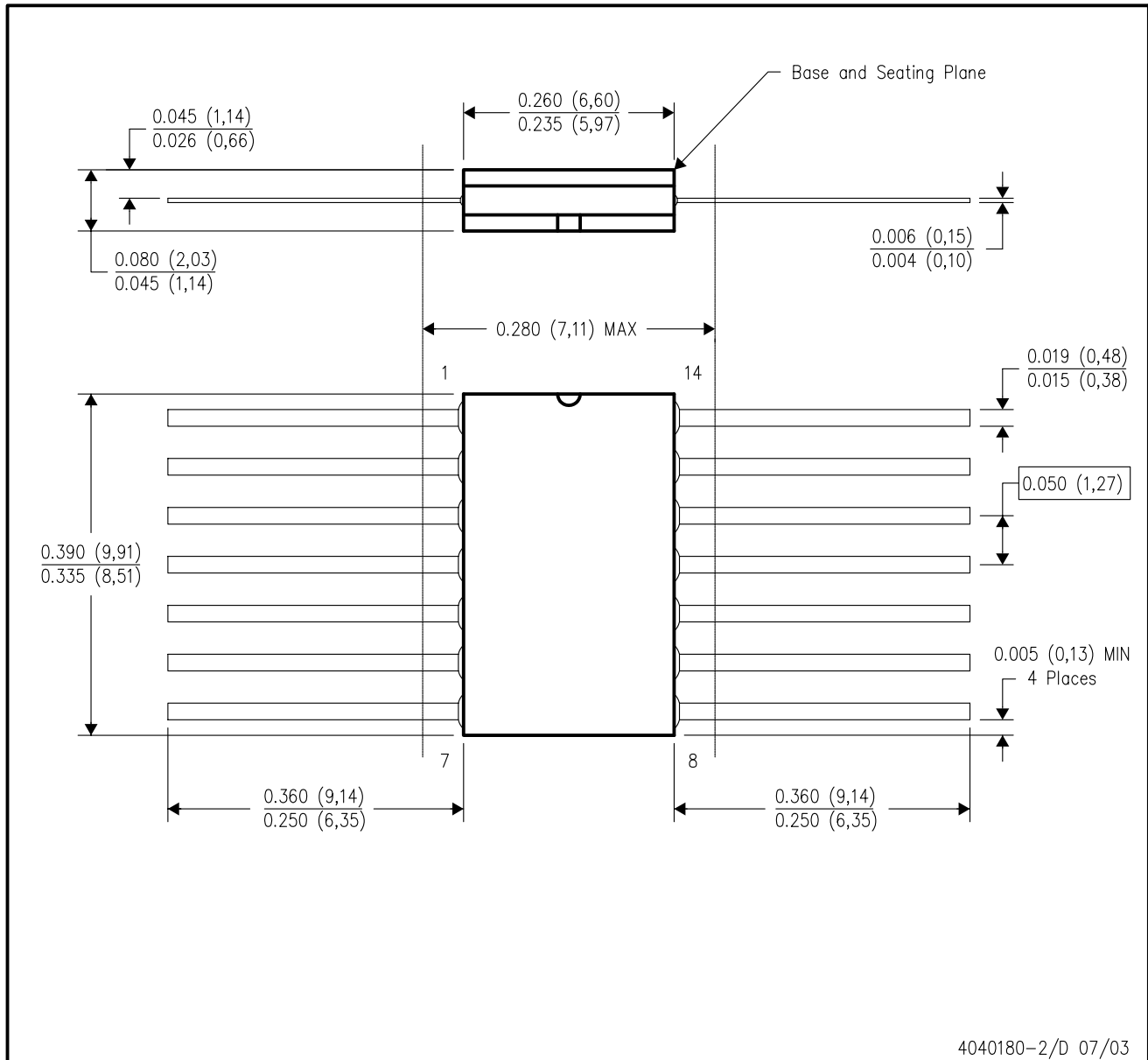
14-PINS SHOWN



- 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.

W (R-GDFP-F14)

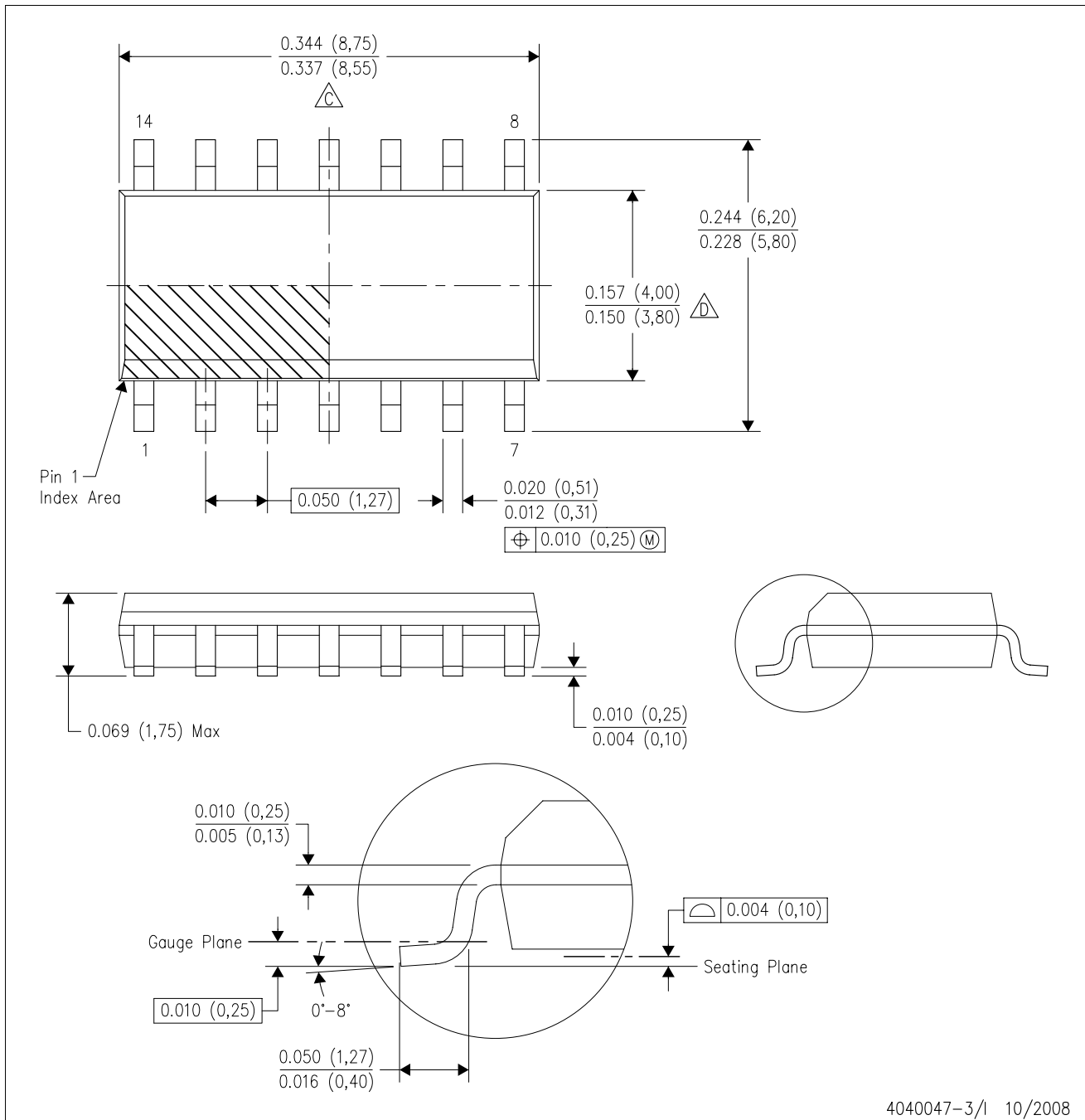
CERAMIC DUAL FLATPACK



- 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-F14 and JEDEC MO-092AB

D (R-PDSO-G14)

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 AB.

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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