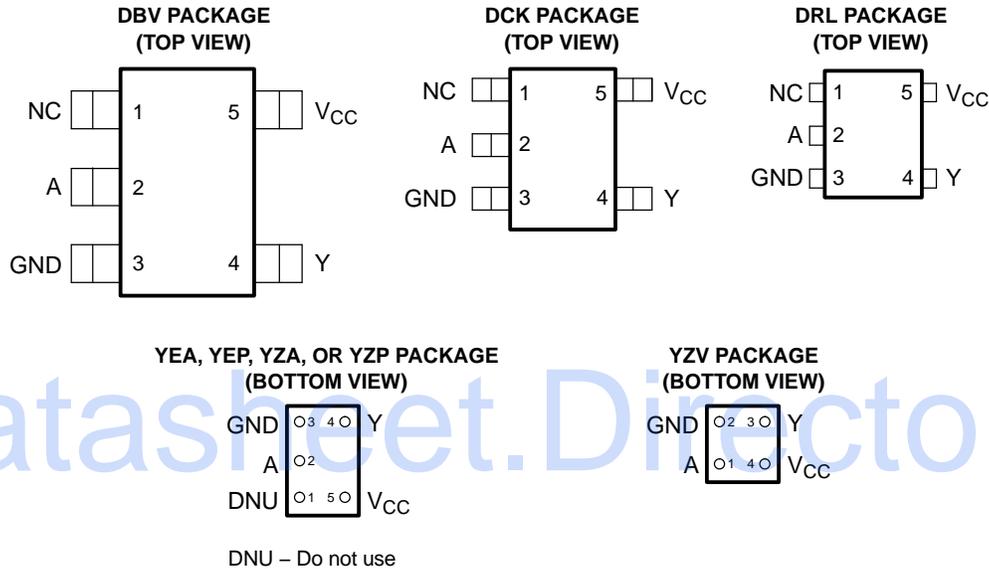


## FEATURES

- Available in the Texas Instruments NanoStar™ and NanoFree™ Packages
- Supports 5-V  $V_{CC}$  Operation
- Input and Open-Drain Output Accept Voltages up to 5.5 V
- Max  $t_{pd}$  of 4 ns at 3.3 V
- Low Power Consumption, 10- $\mu$ A Max  $I_{CC}$
- $\pm 24$ -mA Output Drive at 3.3 V
- $I_{off}$  Supports Partial-Power-Down Mode Operation
- Latch-Up Performance Exceeds 100 mA Per JESD 78, Class II
- ESD Protection Exceeds JESD 22
  - 2000-V Human-Body Model (A114-A)
  - 200-V Machine Model (A115-A)
  - 1000-V Charged-Device Model (C101)



See mechanical drawings for dimensions.

## DESCRIPTION/ORDERING INFORMATION

This single inverter buffer/driver is designed for 1.65-V to 5.5-V  $V_{CC}$  operation.

NanoStar™ and NanoFree™ package technology is a major breakthrough in IC packaging concepts, using the die as the package.

The output of the SN74LVC1G06 device is open drain and can be connected to other open-drain outputs to implement active-low wired-OR or active-high wired-AND functions. The maximum sink current is 32 mA.

This device is fully specified for partial-power-down applications using  $I_{off}$ . The  $I_{off}$  circuitry disables the outputs, preventing damaging current backflow through the device when it is powered down.



Please be aware that an important notice concerning availability, standard warranty, and use in critical applications of Texas Instruments semiconductor products and disclaimers thereto appears at the end of this data sheet.

NanoStar, NanoFree are trademarks of Texas Instruments.

# SN74LVC1G06

## SINGLE INVERTER BUFFER/DRIVER

### WITH OPEN-DRAIN OUTPUT

SCES295S–JUNE 2000–REVISED SEPTEMBER 2005

#### ORDERING INFORMATION

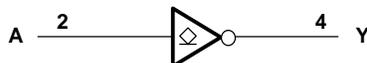
| T <sub>A</sub> | PACKAGE <sup>(1)</sup>   |              | ORDERABLE PART NUMBER | TOP-SIDE MARKING <sup>(2)</sup> |
|----------------|--|--------------|-----------------------|---------------------------------|
| –40°C to 85°C  | NanoStar™ – WCSP (DSBGA)<br>0.17-mm Small Bump – YEA           | Reel of 3000 | SN74LVC1G06YEAR       | _ _ _ CT _                      |
|                | NanoFree™ – WCSP (DSBGA)<br>0.17-mm Small Bump – YZA (Pb-free) |              | SN74LVC1G06YZAR       |                                 |
|                | NanoStar™ – WCSP (DSBGA)<br>0.23-mm Large Bump – YEP           |              | SN74LVC1G06YEPR       |                                 |
|                | NanoFree™ – WCSP (DSBGA)<br>0.23-mm Large Bump – YZP (Pb-free) |              | SN74LVC1G06YZPR       |                                 |
|                | NanoFree™ – WCSP (DSBGA)<br>0.23-mm Large Bump – YZV (Pb-free) | Reel of 3000 | SN74LVC1G06YZVR       | _ _ _ CT                        |
|                | SOT (SOT-23) – DBV   | Reel of 3000 | SN74LVC1G06DBVR       | C06_                            |
|                |  | Reel of 250  | SN74LVC1G06DBVT       |                                 |
|                | SOT (SC-70) – DCK  | Reel of 3000 | SN74LVC1G06DCKR       | CT_                             |
|                |  | Reel of 250  | SN74LVC1G06DCKT       |                                 |
|                | SOT (SOT-553) – DRL  | Reel of 4000 | SN74LVC1G06DRLR       | CT_                             |

- (1) Package drawings, standard packing quantities, thermal data, symbolization, and PCB design guidelines are available at [www.ti.com/sc/package](http://www.ti.com/sc/package).
- (2) DBV/DCK/DRL: The actual top-side marking has one additional character that designates the assembly/test site.  
 YEA/YZA, YEP/YZP: The actual top-side marking has three preceding characters to denote year, month, and sequence code, and one following character to designate the assembly/test site. Pin 1 identifier indicates solder-bump composition (1 = SnPb, • = Pb-free).  
 YZV: The actual top-side marking is on two lines. Line 1 has four characters to denote year, month, day, and assembly/test site. Line 2 has two characters which show the family and function code. Pin 1 identifier indicates solder-bump composition (1 = SnPb, • = Pb-free).

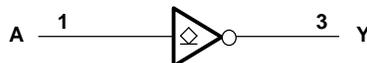
#### FUNCTION TABLE

| INPUT<br>A | OUTPUT<br>Y |
|------------|-------------|
| H          | L           |
| L          | H           |

#### LOGIC DIAGRAM (POSITIVE LOGIC) (DBV, DCK, DRL, YEA, YEP, YZA, AND YZP PACKAGE)



#### LOGIC DIAGRAM (POSITIVE LOGIC) (YZV PACKAGE)



**Absolute Maximum Ratings<sup>(1)</sup>**

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

|               |   | MIN             | MAX  | UNIT |
|---------------|---|-----------------|------|------|
| $V_{CC}$      | Supply voltage range  | -0.5            | 6.5  | V    |
| $V_I$         | Input voltage range <sup>(2)</sup>  | -0.5            | 6.5  | V    |
| $V_O$         | Voltage range applied to any output in the high-impedance or power-off state <sup>(2)</sup> | -0.5            | 6.5  | V    |
| $V_O$         | Voltage range applied to any output in the high or low state <sup>(2)(3)</sup>              | -0.5            | 6.5  | V    |
| $I_{IK}$      | Input clamp current   | $V_I < 0$       | -50  | mA   |
| $I_{OK}$      | Output clamp current  | $V_O < 0$       | -50  | mA   |
| $I_O$         | Continuous output current   |                 | ±50  | mA   |
|               | Continuous current through $V_{CC}$ or GND  |                 | ±100 | mA   |
| $\theta_{JA}$ | Package thermal impedance <sup>(4)</sup>  | DBV package     | 206  | °C/W |
|               |   | DCK package     | 252  |      |
|               |   | DRL package     | 142  |      |
|               |   | YEA/YZA package | 154  |      |
|               |   | YEP/YZP package | 132  |      |
|               |   | YZV package     | 123  |      |
| $T_{stg}$     | Storage temperature range   | -65             | 150  | °C   |

- (1) Stresses beyond those listed under "absolute maximum ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under "recommended operating conditions" is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.
- (2) The input and output negative-voltage ratings may be exceeded if the input and output current ratings are observed.
- (3) The value of  $V_{CC}$  is provided in the recommended operating conditions table.
- (4) The package thermal impedance is calculated in accordance with JESD 51-7.

**SN74LVC1G06**  
**SINGLE INVERTER BUFFER/DRIVER**  
**WITH OPEN-DRAIN OUTPUT**

SCES295S–JUNE 2000–REVISED SEPTEMBER 2005

**Recommended Operating Conditions<sup>(1)</sup>**

|                 |                                    |   | MIN                    | MAX | UNIT |
|-----------------|------------------------------------|---|------------------------|-----|------|
| V <sub>CC</sub> | Supply voltage                     | Operating                                       | 1.65                   | 5.5 | V    |
|                 |                                    | Data retention only                             | 1.5                    |     |      |
| V <sub>IH</sub> | High-level input voltage           | V <sub>CC</sub> = 1.65 V to 1.95 V              | 0.65 × V <sub>CC</sub> |     | V    |
|                 |                                    | V <sub>CC</sub> = 2.3 V to 2.7 V                | 1.7                    |     |      |
|                 |                                    | V <sub>CC</sub> = 3 V to 3.6 V                  | 2                      |     |      |
|                 |                                    | V <sub>CC</sub> = 4.5 V to 5.5 V                | 0.7 × V <sub>CC</sub>  |     |      |
| V <sub>IL</sub> | Low-level input voltage            | V <sub>CC</sub> = 1.65 V to 1.95 V              | 0.35 × V <sub>CC</sub> |     | V    |
|                 |                                    | V <sub>CC</sub> = 2.3 V to 2.7 V                | 0.7                    |     |      |
|                 |                                    | V <sub>CC</sub> = 3 V to 3.6 V                  | 0.8                    |     |      |
|                 |                                    | V <sub>CC</sub> = 4.5 V to 5.5 V                | 0.3 × V <sub>CC</sub>  |     |      |
| V <sub>I</sub>  | Input voltage                      |   | 0                      | 5.5 | V    |
| V <sub>O</sub>  | Output voltage                     |   | 0                      | 5.5 | V    |
| I <sub>OL</sub> | Low-level output current           | V <sub>CC</sub> = 1.65 V                        | 4                      |     | mA   |
|                 |                                    | V <sub>CC</sub> = 2.3 V                         | 8                      |     |      |
|                 |                                    | V <sub>CC</sub> = 3 V                           | 16                     |     |      |
|                 |                                    |   | 24                     |     |      |
|                 |                                    | V <sub>CC</sub> = 4.5 V                         | 32                     |     |      |
| Δt/Δv           | Input transition rise or fall rate | V <sub>CC</sub> = 1.8 V ± 0.15 V, 2.5 V ± 0.2 V | 20                     |     | ns/V |
|                 |                                    | V <sub>CC</sub> = 3.3 V ± 0.3 V                 | 10                     |     |      |
|                 |                                    | V <sub>CC</sub> = 5 V ± 0.5 V                   | 5                      |     |      |
| T <sub>A</sub>  | Operating free-air temperature     |   | -40                    | 85  | °C   |

(1) All unused inputs of the device must be held at V<sub>CC</sub> or GND to ensure proper device operation. Refer to the TI application report, *Implications of Slow or Floating CMOS Inputs*, literature number SCBA004.

**Electrical Characteristics**

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

| PARAMETER        | TEST CONDITIONS  | V <sub>CC</sub> | MIN | TYP <sup>(1)</sup> | MAX  | UNIT |
|------------------|--|-----------------|-----|--------------------|------|------|
| V <sub>OL</sub>  | I <sub>OL</sub> = 100 μA   | 1.65 V to 5.5 V |     |                    | 0.1  | V    |
|                  | I <sub>OL</sub> = 4 mA   | 1.65 V          |     |                    | 0.45 |      |
|                  | I <sub>OL</sub> = 8 mA   | 2.3 V           |     |                    | 0.3  |      |
|                  | I <sub>OL</sub> = 16 mA  | 3 V             |     |                    | 0.4  |      |
|                  |  |                 |     |                    | 0.55 |      |
|                  | I <sub>OL</sub> = 32 mA  | 4.5 V           |     |                    | 0.55 |      |
| I <sub>I</sub>   | A input<br>V <sub>I</sub> = 5.5 V or GND                                     | 0 to 5.5 V      |     |                    | ±1   | μA   |
| I <sub>off</sub> | V <sub>I</sub> or V <sub>O</sub> = 5.5 V                                     | 0               |     |                    | ±10  | μA   |
| I <sub>CC</sub>  | V <sub>I</sub> = 5.5 V or GND, I <sub>O</sub> = 0                            | 1.65 V to 5.5 V |     |                    | 10   | μA   |
| ΔI <sub>CC</sub> | One input at V <sub>CC</sub> – 0.6 V, Other inputs at V <sub>CC</sub> or GND | 3 V to 5.5 V    |     |                    | 500  | μA   |
| C <sub>i</sub>   | V <sub>I</sub> = V <sub>CC</sub> or GND                                      | 3.3 V           |     |                    | 4    | pF   |
| C <sub>o</sub>   | V <sub>O</sub> = V <sub>CC</sub> or GND                                      | 3.3 V           |     |                    | 5    | pF   |

(1) All typical values are at V<sub>CC</sub> = 3.3 V, T<sub>A</sub> = 25°C.

### Switching Characteristics

 over recommended operating free-air temperature range (unless otherwise noted) (see [Figure 1](#))

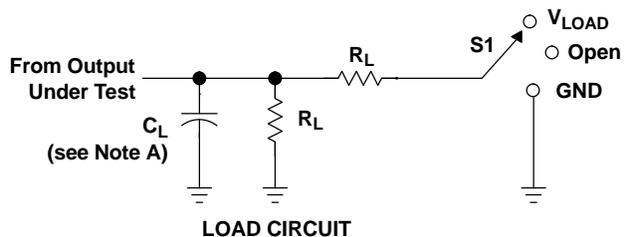
| PARAMETER | FROM<br>(INPUT) | TO<br>(OUTPUT) | $V_{CC} = 1.8\text{ V}$<br>$\pm 0.15\text{ V}$ |     | $V_{CC} = 2.5\text{ V}$<br>$\pm 0.2\text{ V}$ |     | $V_{CC} = 3.3\text{ V}$<br>$\pm 0.3\text{ V}$ |     | $V_{CC} = 5\text{ V}$<br>$\pm 0.5\text{ V}$ |     | UNIT |
|-----------|-----------------|----------------|--|-----|---|-----|---|-----|---|-----|------|
|           |                 |                | MIN  | MAX | MIN   | MAX | MIN   | MAX | MIN   | MAX |      |
| $t_{pd}$  | A               | Y              | 2.2  | 6.5 | 1.1   | 4   | 1.2   | 4   | 1   | 3   | ns   |

### Operating Characteristics

 $T_A = 25^\circ\text{C}$ 

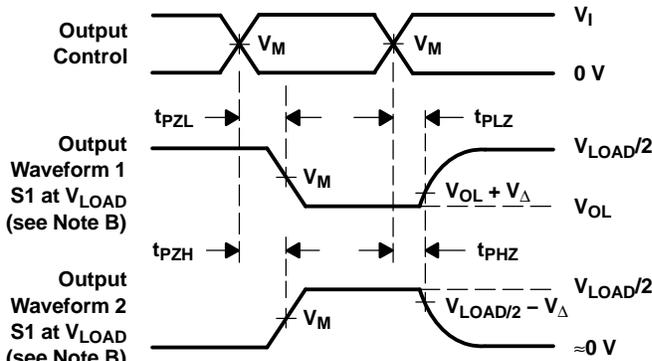
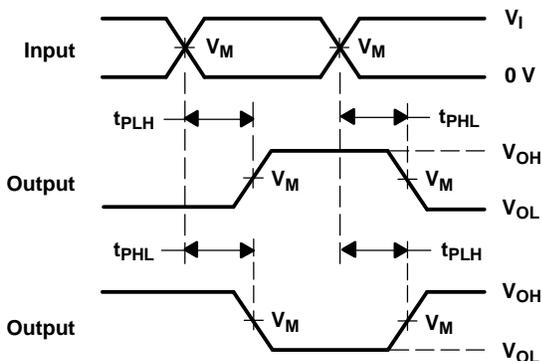
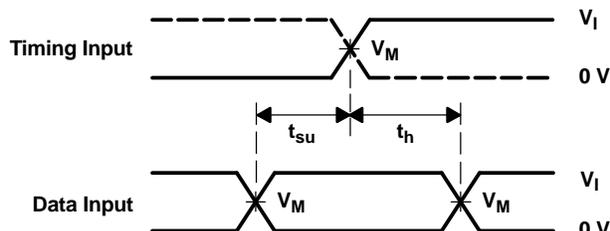
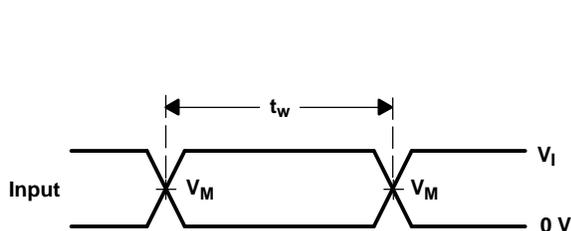
| PARAMETER                              | TEST CONDITIONS     | $V_{CC} = 1.8\text{ V}$ | $V_{CC} = 2.5\text{ V}$ | $V_{CC} = 3.3\text{ V}$ | $V_{CC} = 5\text{ V}$ | UNIT |
|--|---------------------|-------------------------|-------------------------|-------------------------|-----------------------|------|
|  |                     | TYP                     | TYP                     | TYP                     | TYP                   |      |
| $C_{pd}$ Power dissipation capacitance | $f = 10\text{ MHz}$ | 3                       | 3                       | 4                       | 6                     | pF   |

PARAMETER MEASUREMENT INFORMATION  
(OPEN DRAIN)



| TEST                          | S1         |
|-------------------------------|------------|
| $t_{PZL}$ (see Notes E and F) | $V_{LOAD}$ |
| $t_{PLZ}$ (see Notes E and G) | $V_{LOAD}$ |
| $t_{PHZ}/t_{PZH}$             | $V_{LOAD}$ |

| $V_{CC}$                         | INPUT    |                      | $V_M$      | $V_{LOAD}$        | $C_L$ | $R_L$        | $V_{\Delta}$ |
|----------------------------------|----------|----------------------|------------|-------------------|-------|--------------|--------------|
|                                  | $V_I$    | $t_r/t_f$            |            |                   |       |              |              |
| $1.8\text{ V} \pm 0.15\text{ V}$ | $V_{CC}$ | $\leq 2\text{ ns}$   | $V_{CC}/2$ | $2 \times V_{CC}$ | 30 pF | 1 k $\Omega$ | 0.15 V       |
| $2.5\text{ V} \pm 0.2\text{ V}$  | $V_{CC}$ | $\leq 2\text{ ns}$   | $V_{CC}/2$ | $2 \times V_{CC}$ | 30 pF | 500 $\Omega$ | 0.15 V       |
| $3.3\text{ V} \pm 0.3\text{ V}$  | 3 V      | $\leq 2.5\text{ ns}$ | 1.5 V      | 6 V               | 50 pF | 500 $\Omega$ | 0.3 V        |
| $5\text{ V} \pm 0.5\text{ V}$    | $V_{CC}$ | $\leq 2.5\text{ ns}$ | $V_{CC}/2$ | $2 \times V_{CC}$ | 50 pF | 500 $\Omega$ | 0.3 V        |



- NOTES:
- $C_L$  includes probe and jig capacitance.
  - Waveform 1 is for an output with internal conditions such that the output is low, except when disabled by the output control. Waveform 2 is for an output with internal conditions such that the output is high, except when disabled by the output control.
  - All input pulses are supplied by generators having the following characteristics: PRR  $\leq 10\text{ MHz}$ ,  $Z_O = 50\ \Omega$ .
  - The outputs are measured one at a time, with one transition per measurement.
  - Since this device has open-drain outputs,  $t_{PLZ}$  and  $t_{PZL}$  are the same as  $t_{pd}$ .
  - $t_{PZL}$  is measured at  $V_M$ .
  - $t_{PLZ}$  is measured at  $V_{OL} + V_{\Delta}$ .
  - All parameters and waveforms are not applicable to all devices.

Figure 1. Load Circuit and Voltage Waveforms

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> |
|-------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| SN74LVC1G06DBVR   | ACTIVE                | SOT-23       | DBV             | 5    | 3000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LVC1G06DBVRE4 | ACTIVE                | SOT-23       | DBV             | 5    | 3000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LVC1G06DBVRG4 | ACTIVE                | SOT-23       | DBV             | 5    | 3000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LVC1G06DBVT   | ACTIVE                | SOT-23       | DBV             | 5    | 250         | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LVC1G06DBVTE4 | ACTIVE                | SOT-23       | DBV             | 5    | 250         | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LVC1G06DCKR   | ACTIVE                | SC70         | DCK             | 5    | 3000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LVC1G06DCKRG4 | ACTIVE                | SC70         | DCK             | 5    | 3000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LVC1G06DCKT   | ACTIVE                | SC70         | DCK             | 5    | 250         | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LVC1G06DRLR   | ACTIVE                | SOP          | DRL             | 5    | 4000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LVC1G06YEAR   | ACTIVE                | WCSP         | YEA             | 5    | 3000        | TBD                     | SNPB             | Level-1-260C-UNLIM           |
| SN74LVC1G06YEPR   | ACTIVE                | WCSP         | YEP             | 5    | 3000        | TBD                     | SNPB             | Level-1-260C-UNLIM           |
| SN74LVC1G06YZAR   | ACTIVE                | WCSP         | YZA             | 5    | 3000        | Pb-Free (RoHS)          | SNAGCU           | Level-1-260C-UNLIM           |
| SN74LVC1G06YZPR   | ACTIVE                | WCSP         | YZP             | 5    | 3000        | Pb-Free (RoHS)          | SNAGCU           | Level-1-260C-UNLIM           |

<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) or Green (RoHS & no Sb/Br) - please check <http://www.ti.com/productcontent> for the latest availability information and additional product content details.

**TBD:** The Pb-Free/Green conversion plan has not been defined.

**Pb-Free (RoHS):** TI's terms "Lead-Free" or "Pb-Free" mean semiconductor products that are compatible with the current RoHS requirements for all 6 substances, including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI Pb-Free products are suitable for use in specified lead-free processes.

**Green (RoHS & no Sb/Br):** TI defines "Green" to mean Pb-Free (RoHS compatible), and free of Bromine (Br) and Antimony (Sb) based flame 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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to Customer on an annual basis.

**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> |
|-------------------|-----------------------|--------------|-----------------|------|-------------|-------------------------|------------------|------------------------------|
| SN74LVC1G06DBVR   | ACTIVE                | SOT-23       | DBV             | 5    | 3000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LVC1G06DBVRE4 | ACTIVE                | SOT-23       | DBV             | 5    | 3000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LVC1G06DBVRG4 | ACTIVE                | SOT-23       | DBV             | 5    | 3000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LVC1G06DBVT   | ACTIVE                | SOT-23       | DBV             | 5    | 250         | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LVC1G06DBVTE4 | ACTIVE                | SOT-23       | DBV             | 5    | 250         | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LVC1G06DCKR   | ACTIVE                | SC70         | DCK             | 5    | 3000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LVC1G06DCKRG4 | ACTIVE                | SC70         | DCK             | 5    | 3000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LVC1G06DCKT   | ACTIVE                | SC70         | DCK             | 5    | 250         | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LVC1G06DCKTE4 | ACTIVE                | SC70         | DCK             | 5    | 250         | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LVC1G06DRLR   | ACTIVE                | SOP          | DRL             | 5    | 4000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LVC1G06DRLRG4 | ACTIVE                | SOP          | DRL             | 5    | 4000        | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM           |
| SN74LVC1G06YEAR   | ACTIVE                | WCSP         | YEA             | 5    | 3000        | TBD                     | SNPB             | Level-1-260C-UNLIM           |
| SN74LVC1G06YEPR   | ACTIVE                | WCSP         | YEP             | 5    | 3000        | TBD                     | SNPB             | Level-1-260C-UNLIM           |
| SN74LVC1G06YZAR   | ACTIVE                | WCSP         | YZA             | 5    | 3000        | Pb-Free (RoHS)          | SNAGCU           | Level-1-260C-UNLIM           |
| SN74LVC1G06YZPR   | ACTIVE                | WCSP         | YZP             | 5    | 3000        | Pb-Free (RoHS)          | SNAGCU           | Level-1-260C-UNLIM           |

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<sup>(2)</sup> Eco Plan - The planned eco-friendly classification: Pb-Free (RoHS) or Green (RoHS & no Sb/Br) - please check <http://www.ti.com/productcontent> for the latest availability information and additional product content details.

**TBD:** The Pb-Free/Green conversion plan has not been defined.

**Pb-Free (RoHS):** TI's terms "Lead-Free" or "Pb-Free" mean semiconductor products that are compatible with the current RoHS requirements for all 6 substances, including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI Pb-Free products are suitable for use in specified lead-free processes.

**Green (RoHS & no Sb/Br):** TI defines "Green" to mean Pb-Free (RoHS compatible), and free of Bromine (Br) and Antimony (Sb) based flame 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.

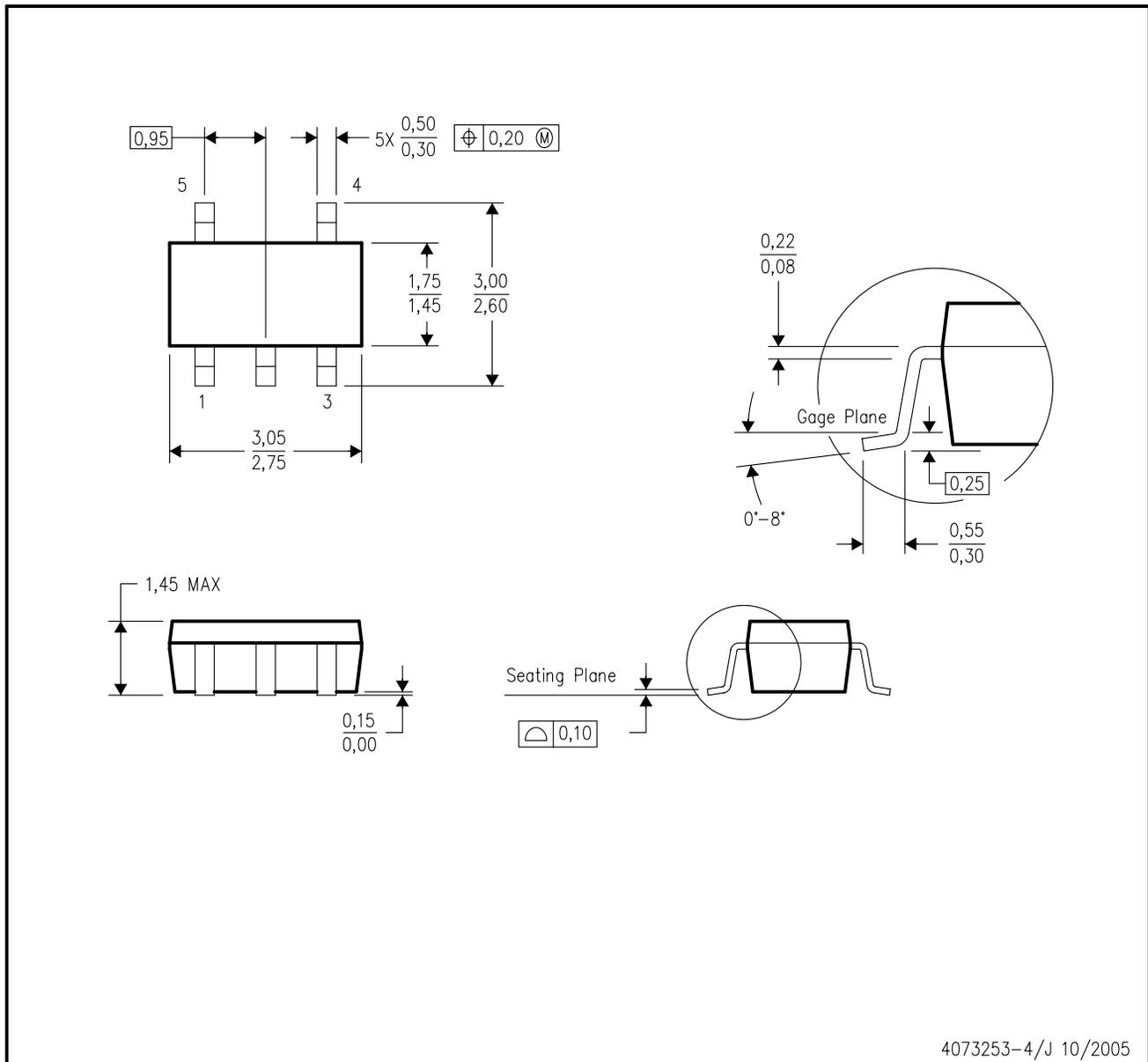
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DBV (R-PDSO-G5)

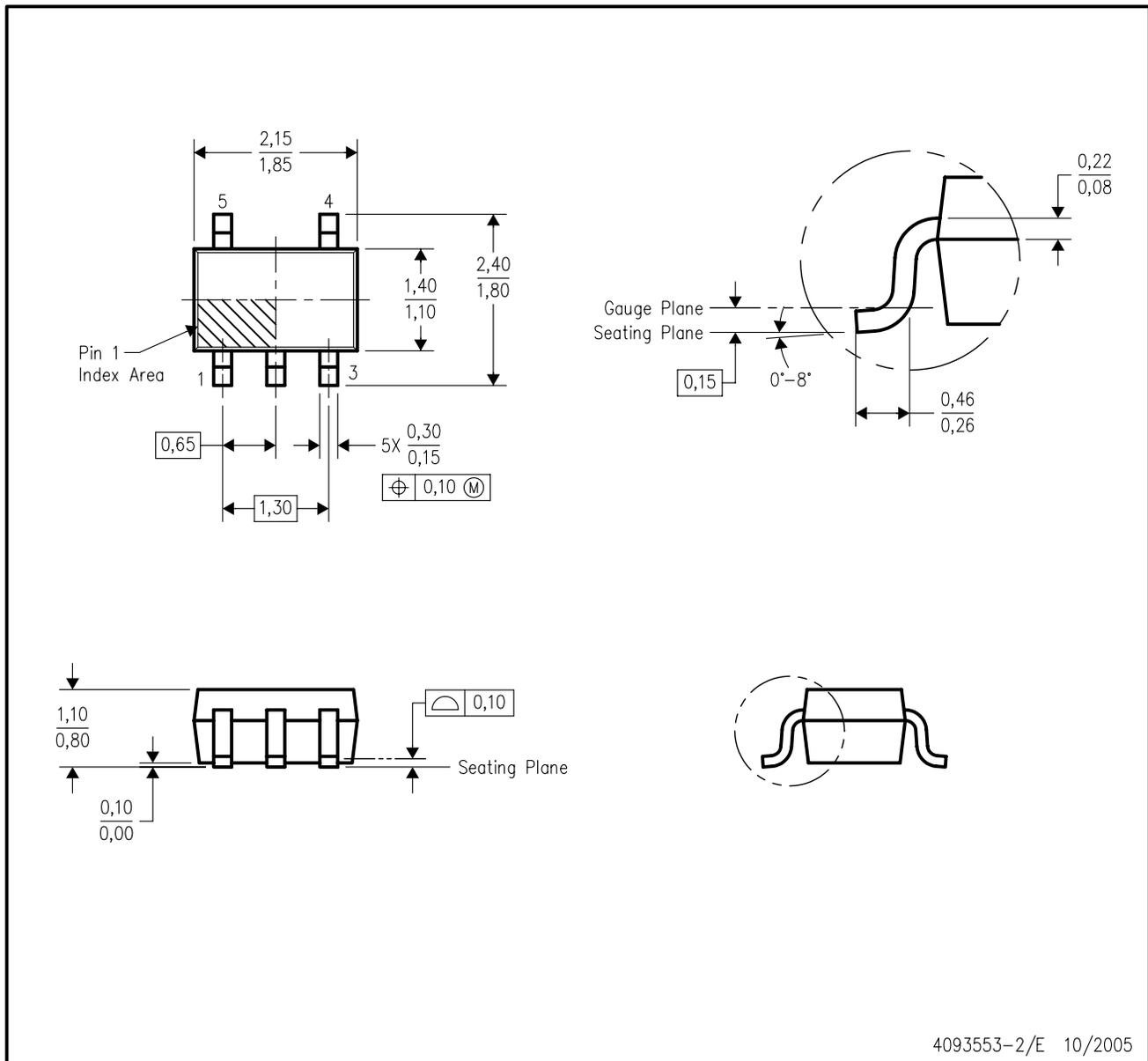
PLASTIC SMALL-OUTLINE PACKAGE



- 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. Mold flash and protrusion shall not exceed 0.15 per side.
  - D. Falls within JEDEC MO-178 Variation AA.

DCK (R-PDSO-G5)

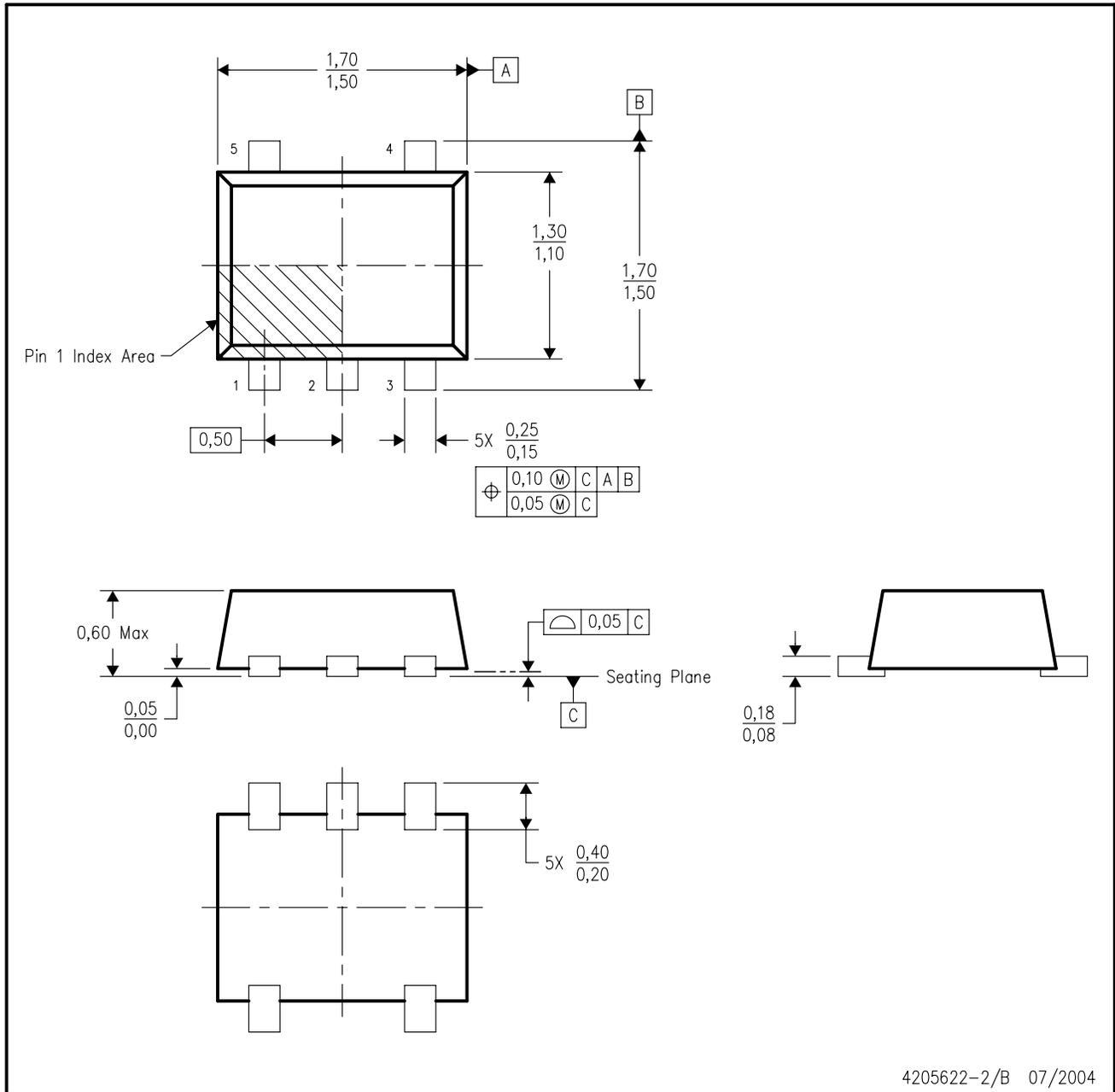
PLASTIC SMALL-OUTLINE PACKAGE



- 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. Mold flash and protrusion shall not exceed 0.15 per side.
  - D. Falls within JEDEC MO-203 variation AA.

DRL (R-PDSO-N5)

PLASTIC SMALL OUTLINE

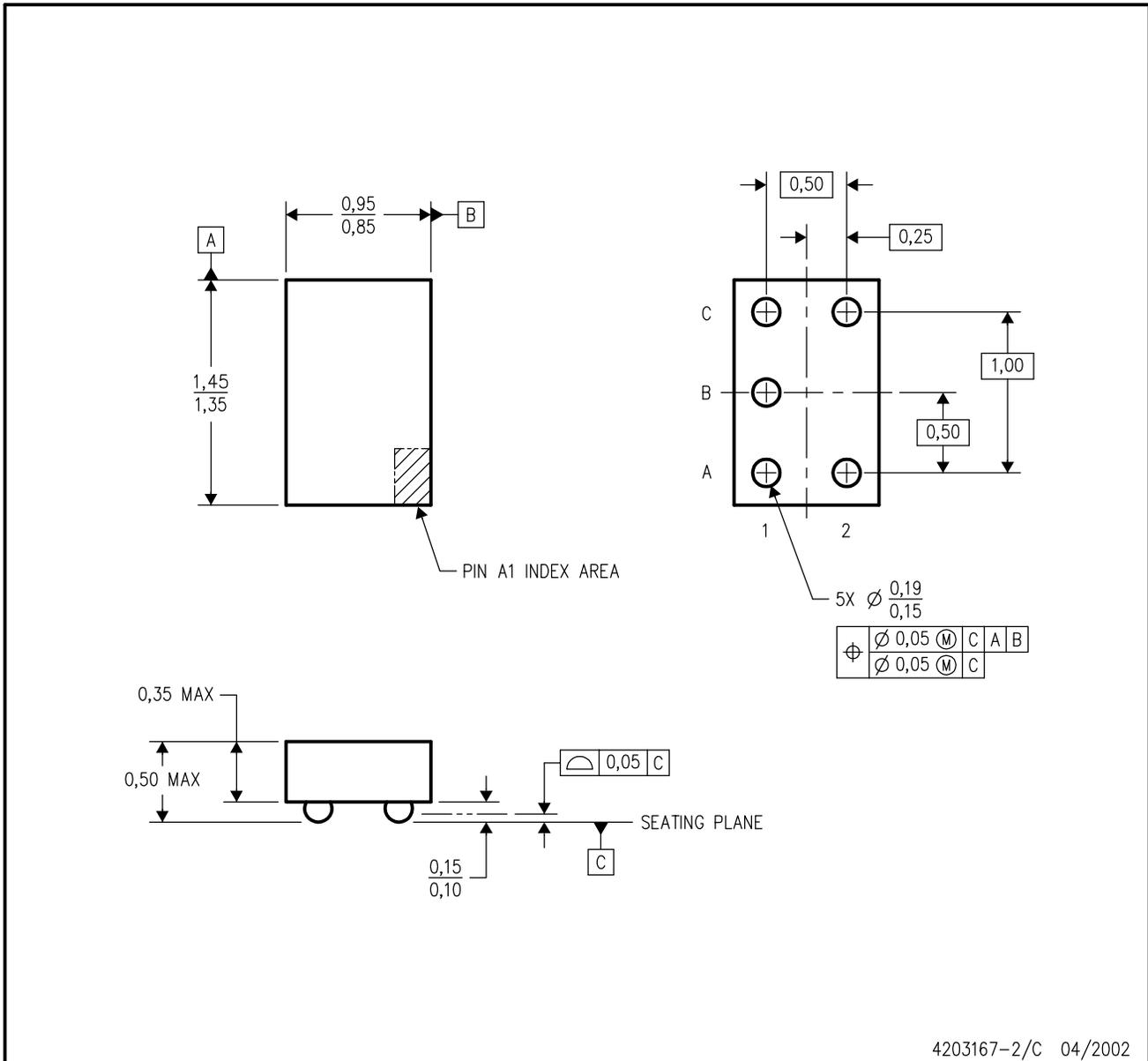


4205622-2/B 07/2004

- NOTES:
- A. All linear dimensions are in millimeters.
  - B. This drawing is subject to change without notice.
  - C. JEDEC package registration is pending.

YEA (R-XBGA-N5)

DIE-SIZE BALL GRID ARRAY

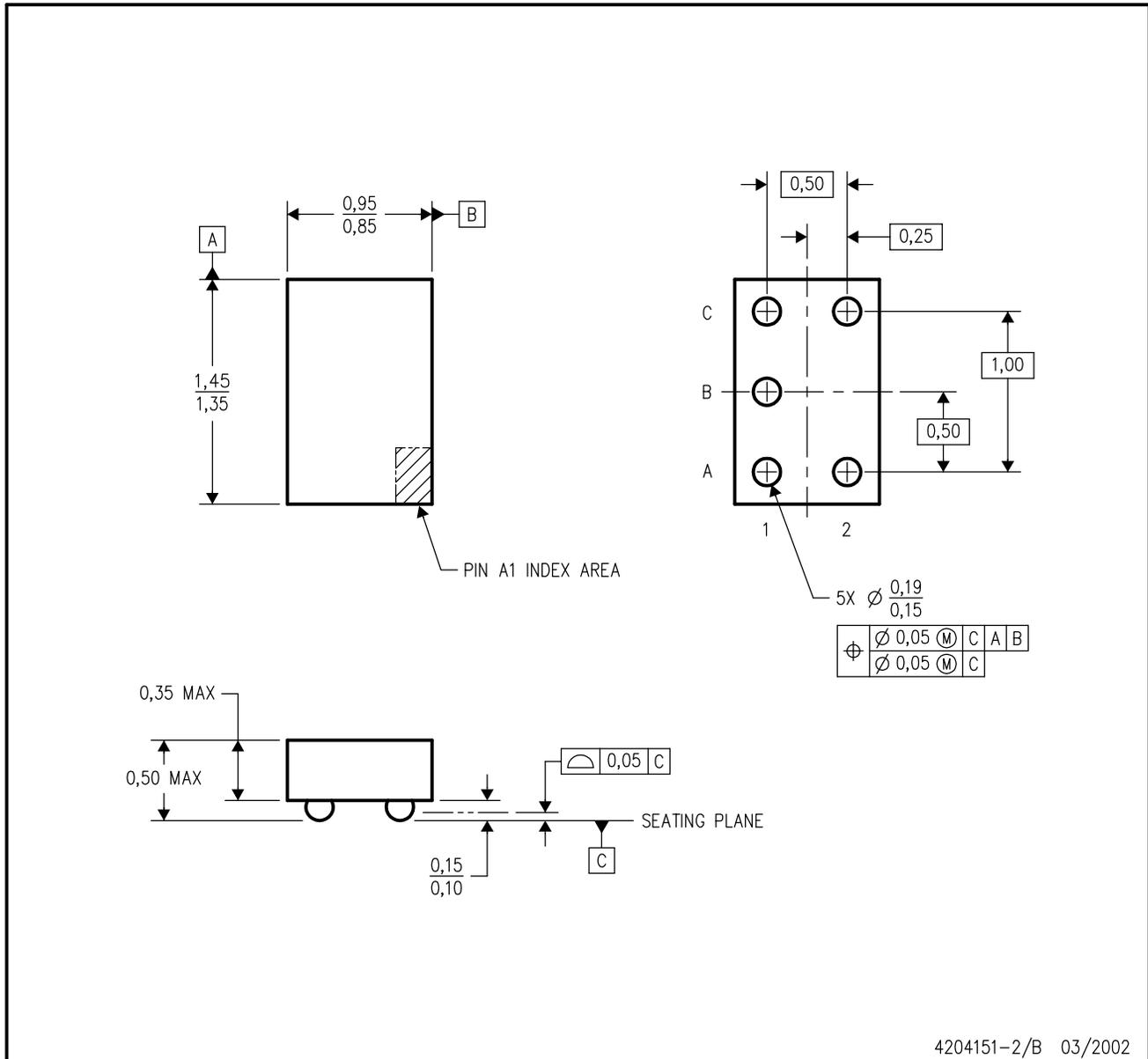


- NOTES:
- A. All linear dimensions are in millimeters.
  - B. This drawing is subject to change without notice.
  - C. NanoStar™ package configuration.
  - D. Package complies to JEDEC MO-211 variation EA.
  - E. This package is tin-lead (SnPb). Refer to the 5 YZA package (drawing 4204151) for lead-free.

NanoStar is a trademark of Texas Instruments.

YZA (R-XBGA-N5)

DIE-SIZE BALL GRID ARRAY

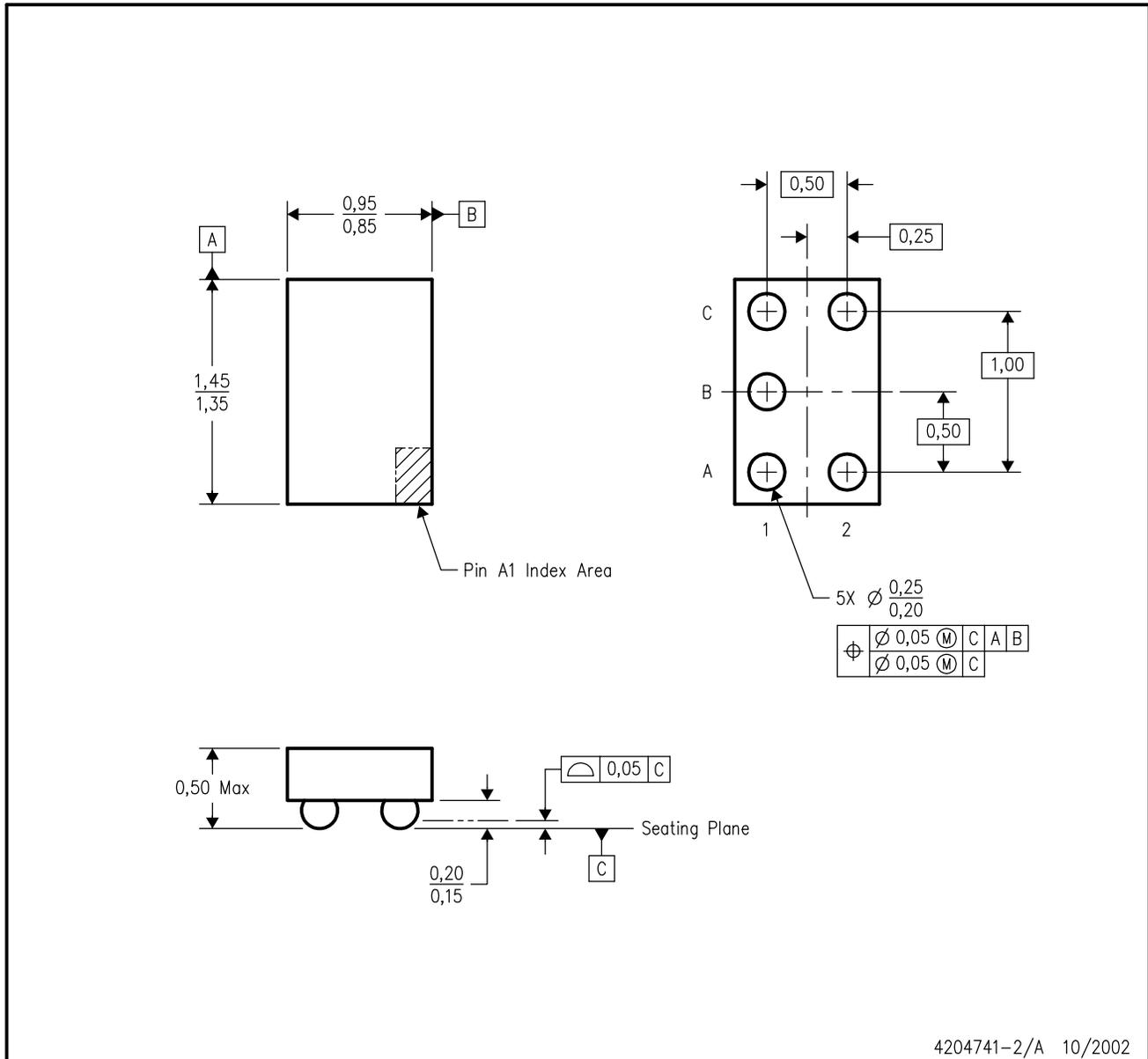


- NOTES:
- A. All linear dimensions are in millimeters.
  - B. This drawing is subject to change without notice.
  - C. NanoFree™ package configuration.
  - D. Package complies to JEDEC MO-211 variation EA.
  - E. This package is lead-free. Refer to the 5 YEA package (drawing 4203167) for tin-lead (SnPb).

NanoFree is a trademark of Texas Instruments.

YZP (R-XBGA-N5)

DIE-SIZE BALL GRID ARRAY

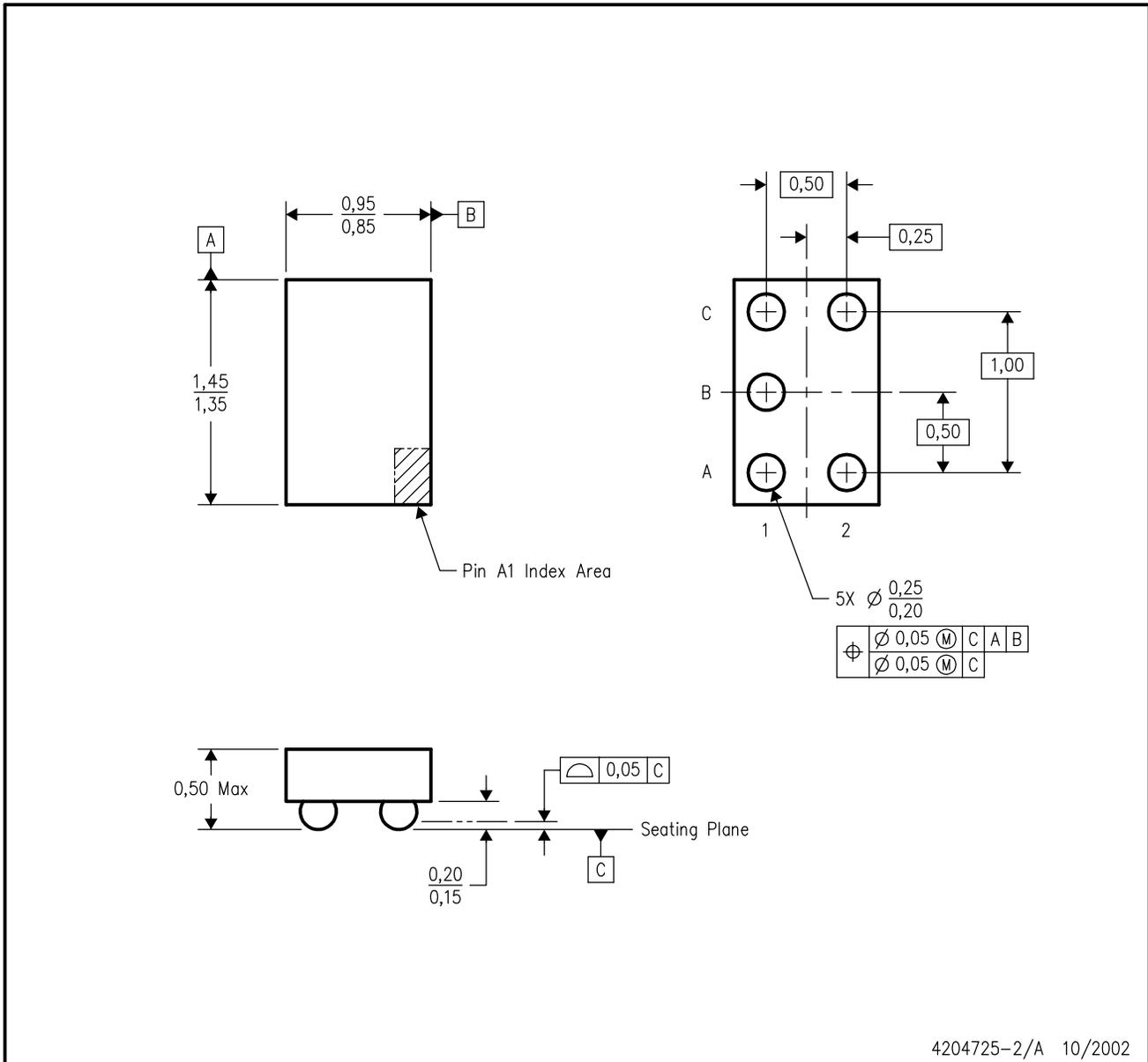


- NOTES:
- A. All linear dimensions are in millimeters.
  - B. This drawing is subject to change without notice.
  - C. NanoFree™ package configuration.
  - D. This package is lead-free. Refer to the 5 YEP package (drawing 4204725) for tin-lead (SnPb).

NanoFree is a trademark of Texas Instruments.

YEP (R-XBGA-N5)

DIE-SIZE BALL GRID ARRAY



- NOTES:
- A. All linear dimensions are in millimeters.
  - B. This drawing is subject to change without notice.
  - C. NanoStar™ package configuration.
  - D. This package is tin-lead (SnPb). Refer to the 5 YZP package (drawing 4204741) for lead-free.

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| Microcontrollers | <a href="http://microcontroller.ti.com">microcontroller.ti.com</a> | Security            | <a href="http://www.ti.com/security">www.ti.com/security</a>             |
|                  |  | Telephony           | <a href="http://www.ti.com/telephony">www.ti.com/telephony</a>           |
|                  |  | Video & Imaging     | <a href="http://www.ti.com/video">www.ti.com/video</a>                   |
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### SN74LVC1G06, Status: ACTIVE

Single Inverter Buffer/Driver With Open-Drain Output



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|   |   |  |
|---|---|--|
| <input type="checkbox"/> Features               | <input type="checkbox"/> Samples            | <input type="checkbox"/> Technical Documents |
| <input type="checkbox"/> Quality & Pb-Free Data | <input type="checkbox"/> Pricing/Packaging  | <input type="checkbox"/> Applications Notes  |
| <input type="checkbox"/> Related Products       | <input type="checkbox"/> Inventory          | <input type="checkbox"/> Simulation Models   |
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### Datasheet



Download Datasheet **SN74LVC1G06 (Rev. S)** (sn74lvc1g06.pdf, 451 KB)  
01 Sep 2005 [Download](#)

|                         | LVC1G06-1.8             | LVC1G06-2.5             | LVC1G06-3.3             | LVC1G06-5.0             |
|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| <b>Voltage Node(V)</b>  | 1.8                     | 2.5                     | 3.3                     | 5                       |
| <b>Voltage Nodes(V)</b> | 1.8                     | 2.5                     | 3.3                     | 5                       |
| <b>Performance</b>      |                         |                         | Optimized               |                         |
| <b>Vcc min(V)</b>       | 1.65                    | 1.65                    | 1.65                    | 1.65                    |
| <b>Vcc max(V)</b>       | 5.5                     | 5.5                     | 5.5                     | 5.5                     |
| <b>IOH(mA)</b>          | -4                      | -8                      | -24                     | -32                     |
| <b>IOL(mA)</b>          | 4                       | 8                       | 24                      | 32                      |
| <b>tpd max(ns)</b>      | 6.5                     | 4                       | 4                       | 3                       |
| <b>ICC(uA)</b>          | 10                      | 10                      | 10                      | 10                      |
| <b>Input Level</b>      | CMOS                    | 2.5V CMOS               | LV TTL                  | CMOS                    |
| <b>Output Level</b>     | CMOS                    | 2.5V CMOS               | LV TTL                  | CMOS                    |
| <b>No. of Gates</b>     | 1                       | 1                       | 1                       | 1                       |
|                         | <a href="#">Samples</a> | <a href="#">Samples</a> | <a href="#">Samples</a> | <a href="#">Samples</a> |
|                         | Inventory Not Available | Inventory Not Available | Inventory Not Available | Inventory Not Available |

### Product Information

Features [Save this to your personal library](#)

- Available in the Texas Instruments NanoStar™ and NanoFree™ Packages
- Supports 5-V V<sub>CC</sub> Operation
- Input and Open-Drain Output Accept Voltages up to 5.5 V
- Max t<sub>pd</sub> of 4 ns at 3.3 V
- Low Power Consumption, 10-µA Max I<sub>CC</sub>
- ±24-mA Output Drive at 3.3 V
- I<sub>off</sub> Supports Partial-Power-Down Mode Operation
- Latch-Up Performance Exceeds 100 mA Per JESD 78, Class II
- ESD Protection Exceeds JESD 22
  - 2000-V Human-Body Model (A114-A)
  - 200-V Machine Model (A115-A)
  - 1000-V Charged-Device Model (C101)

NanoStar, NanoFree are trademarks of Texas Instruments.

### Description

This single inverter buffer/driver is designed for 1.65-V to 5.5-V V<sub>CC</sub> operation.

NanoStar™ and NanoFree™ package technology is a major breakthrough in IC packaging concepts, using the die as the package.

The output of the SN74LVC1G06 device is open drain and can be connected to other open-drain outputs to implement active-low wired-OR or active-high wired-AND functions. The maximum sink current is 32

mA.

This device is fully specified for partial-power-down applications using I<sub>off</sub>.The I<sub>off</sub> circuitry disables the outputs, preventing damaging current backflow through the device when it is powered down.

| Pricing/Packaging/CAD Design Tools/Samples |        |           |                           |                                   |                  |                        |                          |                      |  |
|--|--------|-----------|---------------------------|-----------------------------------|------------------|------------------------|--------------------------|----------------------|--|
| Device                                     | Status | Temp (°C) | Price                     | Industry Standard (TI Pkg)   Pins | Packaging        | Standard Pack Quantity | CAD Design Tools         | Samples              |  |
|  |        |           | Budget Price (\$US)   QTY |                                   | Top Side Marking |                        | Footprints               | Samples              |  |
| SN74LVC1G06DBVR                            | ACTIVE | -40 to 85 | 0.13   1KU                | SOT-23 (DBV)   5                  | View             | 3000                   | <input type="checkbox"/> | Request Free Samples |  |
| SN74LVC1G06DBVRE4                          | ACTIVE | -40 to 85 | 0.13   1KU                | SOT-23 (DBV)   5                  | View             | 3000                   | <input type="checkbox"/> | Purchase Samples     |  |
| SN74LVC1G06DBVRG4                          | ACTIVE | -40 to 85 | 0.15   1KU                | SOT-23 (DBV)   5                  | View             | 3000                   | <input type="checkbox"/> | Purchase Samples     |  |
| SN74LVC1G06DBVT                            | ACTIVE | -40 to 85 | 0.46   1KU                | SOT-23 (DBV)   5                  | View             | 250                    | <input type="checkbox"/> | Purchase Samples     |  |
| SN74LVC1G06DBVTE4                          | ACTIVE | -40 to 85 | 0.46   1KU                | SOT-23 (DBV)   5                  | View             | 250                    | <input type="checkbox"/> | Purchase Samples     |  |
| SN74LVC1G06DCKR                            | ACTIVE | -40 to 85 | 0.15   1KU                | SC70 (DCK)   5                    | View             | 3000                   | <input type="checkbox"/> | Request Free Samples |  |
| SN74LVC1G06DCKRG4                          | ACTIVE | -40 to 85 | 0.17   1KU                | SC70 (DCK)   5                    | View             | 3000                   | <input type="checkbox"/> | Purchase Samples     |  |
| SN74LVC1G06DCKT                            | ACTIVE | -40 to 85 | 0.48   1KU                | SC70 (DCK)   5                    | View             | 250                    | <input type="checkbox"/> | Purchase Samples     |  |
| SN74LVC1G06DCKTE4                          | ACTIVE | -40 to 85 | 0.48   1KU                | SC70 (DCK)   5                    | View             | 250                    | <input type="checkbox"/> | Purchase Samples     |  |
| SN74LVC1G06DRLR                            | ACTIVE | -40 to 85 | 0.14   1KU                | SOP (DRL)   5                     |                  | 4000                   | <input type="checkbox"/> | Request Free Samples |  |
| SN74LVC1G06DRLRG4                          | ACTIVE | -40 to 85 | 0.14   1KU                | SOP (DRL)   5                     |                  | 4000                   | <input type="checkbox"/> | Request Free Samples |  |
| SN74LVC1G06YEAR                            | ACTIVE | -40 to 85 | 0.23   1KU                | WCSP (YEA)   5                    |                  | 3000                   | <input type="checkbox"/> | Request Free Samples |  |
| SN74LVC1G06YEPR                            | ACTIVE | -40 to 85 | 0.23   1KU                | WCSP (YEP)   5                    |                  | 3000                   | <input type="checkbox"/> | Request Free Samples |  |
| SN74LVC1G06YZAR                            | ACTIVE | -40 to 85 | 0.23   1KU                | WCSP (YZA)   5                    |                  | 3000                   | <input type="checkbox"/> | Request Free Samples |  |
| SN74LVC1G06YZPR                            | ACTIVE | -40 to 85 | 0.23   1KU                | WCSP (YZP)   5                    |                  | 3000                   | <input type="checkbox"/> | Purchase Samples     |  |

| Inventory           |                                |                        |           |  |               |          |                      |
|---------------------|--------------------------------|------------------------|-----------|--|---------------|----------|----------------------|
| TI Inventory Status | Reported Distributor Inventory |                        |           |  |               |          |                      |
| SN74LVC1G06DBVR     | As of 9:02 AM GMT, 25 Nov 2005 |                        |           | As of 9:02 AM GMT, 25 Nov 2005                     |               |          |                      |
|                     | In Stock                       | In Progress QTY   Date | Lead Time | Region   | Company       | In Stock | Purchase             |
|                     | 0*                             | >10k   8 Dec           | 6 Weeks   | Americas   | Avnet         | >1k      | <input type="text"/> |
|                     |                                |                        |           |  | DigiKey       | >1k      | <input type="text"/> |
|                     |                                |                        |           | Europe   | Farnell InOne | >1k      | <input type="text"/> |
|                     |                                |                        |           |  | Rutronik      | >1k      | <input type="text"/> |
| SN74LVC1G06DBVRE4   | As of 9:02 AM GMT, 25 Nov 2005 |                        |           | As of 9:02 AM GMT, 25 Nov 2005                     |               |          |                      |
|                     | In Stock                       | In Progress QTY   Date | Lead Time | Region   | Company       | In Stock | Purchase             |
|                     | 0*                             | >10k   9 Jan           | 7 Weeks   | None Reported<br><a href="#">View Distributors</a> |               |          |                      |
| SN74LVC1G06DBVRG4   | As of 9:02 AM GMT, 25 Nov 2005 |                        |           | As of 9:02 AM GMT, 25 Nov 2005                     |               |          |                      |
|                     | In Stock                       | In Progress QTY   Date | Lead Time | Region   | Company       | In Stock | Purchase             |

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|                          |                                |                               |                  |  |                 |                 |                      |
|--------------------------|--------------------------------|-------------------------------|------------------|--|-----------------|-----------------|----------------------|
|                          | 0*                             | >10k   4<br>Jan               | 6<br>Weeks       | None Reported<br><a href="#">View Distributors</a> |                 |                 |                      |
| <b>SN74LVC1G06DBVT</b>   | As of 9:02 AM GMT, 25 Nov 2005 |                               |                  | As of 9:02 AM GMT, 25 Nov 2005                     |                 |                 |                      |
|                          | <b>In Stock</b>                | <b>In Progress QTY   Date</b> | <b>Lead Time</b> | <b>Region</b>                                      | <b>Company</b>  | <b>In Stock</b> | <b>Purchase</b>      |
|                          | >10k*                          | >10k   10<br>Jan              | 6<br>Weeks       | None Reported<br><a href="#">View Distributors</a> |                 |                 |                      |
| <b>SN74LVC1G06DBVTE4</b> | As of 9:02 AM GMT, 25 Nov 2005 |                               |                  | As of 9:02 AM GMT, 25 Nov 2005                     |                 |                 |                      |
|                          | <b>In Stock</b>                | <b>In Progress QTY   Date</b> | <b>Lead Time</b> | <b>Region</b>                                      | <b>Company</b>  | <b>In Stock</b> | <b>Purchase</b>      |
|                          | >10k*                          | >10k   10<br>Jan              | 6<br>Weeks       | None Reported<br><a href="#">View Distributors</a> |                 |                 |                      |
| <b>SN74LVC1G06DCKR</b>   | As of 9:02 AM GMT, 25 Nov 2005 |                               |                  | As of 9:02 AM GMT, 25 Nov 2005                     |                 |                 |                      |
|                          | <b>In Stock</b>                | <b>In Progress QTY   Date</b> | <b>Lead Time</b> | <b>Region</b>                                      | <b>Company</b>  | <b>In Stock</b> | <b>Purchase</b>      |
|                          | 0*                             | >10k   26<br>Jan              | 9<br>Weeks       | Americas   | DigiKey         | >1k             | <input type="text"/> |
| <b>SN74LVC1G06DCKRG4</b> | As of 9:02 AM GMT, 25 Nov 2005 |                               |                  | As of 9:02 AM GMT, 25 Nov 2005                     |                 |                 |                      |
|                          | <b>In Stock</b>                | <b>In Progress QTY   Date</b> | <b>Lead Time</b> | <b>Region</b>                                      | <b>Company</b>  | <b>In Stock</b> | <b>Purchase</b>      |
|                          | 0*                             | >10k   8<br>Dec               | 6<br>Weeks       | None Reported<br><a href="#">View Distributors</a> |                 |                 |                      |
| <b>SN74LVC1G06DCKT</b>   | As of 9:02 AM GMT, 25 Nov 2005 |                               |                  | As of 9:02 AM GMT, 25 Nov 2005                     |                 |                 |                      |
|                          | <b>In Stock</b>                | <b>In Progress QTY   Date</b> | <b>Lead Time</b> | <b>Region</b>                                      | <b>Company</b>  | <b>In Stock</b> | <b>Purchase</b>      |
|                          | >10k*                          | >10k   31<br>Jan              | 6<br>Weeks       | Asia   | P&S             | 189             | <input type="text"/> |
| <b>SN74LVC1G06DCKTE4</b> | As of 9:02 AM GMT, 25 Nov 2005 |                               |                  | As of 9:02 AM GMT, 25 Nov 2005                     |                 |                 |                      |
|                          | <b>In Stock</b>                | <b>In Progress QTY   Date</b> | <b>Lead Time</b> | <b>Region</b>                                      | <b>Company</b>  | <b>In Stock</b> | <b>Purchase</b>      |
|                          | >10k*                          | >10k   31<br>Jan              | 6<br>Weeks       | None Reported<br><a href="#">View Distributors</a> |                 |                 |                      |
| <b>SN74LVC1G06DRLR</b>   | As of 9:02 AM GMT, 25 Nov 2005 |                               |                  | As of 9:02 AM GMT, 25 Nov 2005                     |                 |                 |                      |
|                          | <b>In Stock</b>                | <b>In Progress QTY   Date</b> | <b>Lead Time</b> | <b>Region</b>                                      | <b>Company</b>  | <b>In Stock</b> | <b>Purchase</b>      |
|                          | 0*                             | >10k   8<br>Dec               | 4<br>Weeks       | Americas   | DigiKey         | >1k             | <input type="text"/> |
| <b>SN74LVC1G06DRLRG4</b> | As of 9:02 AM GMT, 25 Nov 2005 |                               |                  | As of 9:02 AM GMT, 25 Nov 2005                     |                 |                 |                      |
|                          | <b>In Stock</b>                | <b>In Progress QTY   Date</b> | <b>Lead Time</b> | <b>Region</b>                                      | <b>Company</b>  | <b>In Stock</b> | <b>Purchase</b>      |
|                          | 0*                             | >10k   8<br>Dec               | 4<br>Weeks       | None Reported<br><a href="#">View Distributors</a> |                 |                 |                      |
| <b>SN74LVC1G06YEAR</b>   | As of 9:02 AM GMT, 25 Nov 2005 |                               |                  | As of 9:02 AM GMT, 25 Nov 2005                     |                 |                 |                      |
|                          | <b>In Stock</b>                | <b>In Progress QTY   Date</b> | <b>Lead Time</b> | <b>Region</b>                                      | <b>Company</b>  | <b>In Stock</b> | <b>Purchase</b>      |
|                          | 0*                             | >10k   28<br>Dec              | 6<br>Weeks       | Americas   | DigiKey         | >1k             | <input type="text"/> |
|                          |                                |                               |                  |  | Newark<br>InOne | >1k             | <input type="text"/> |
|                          |                                |                               |                  | Asia   | P&S             | >1k             | <input type="text"/> |
| <b>SN74LVC1G06YEPR</b>   | As of 9:02 AM GMT, 25 Nov 2005 |                               |                  | As of 9:02 AM GMT, 25 Nov 2005                     |                 |                 |                      |
|                          | <b>In Stock</b>                | <b>In Progress QTY   Date</b> | <b>Lead Time</b> | <b>Region</b>                                      | <b>Company</b>  | <b>In Stock</b> | <b>Purchase</b>      |
|                          | 0*                             | >10k   8<br>Dec               | 6<br>Weeks       | Americas   | DigiKey         | >1k             | <input type="text"/> |
| <b>SN74LVC1G06YZAR</b>   | As of 9:02 AM GMT, 25 Nov 2005 |                               |                  | As of 9:02 AM GMT, 25 Nov 2005                     |                 |                 |                      |
|                          | <b>In Stock</b>                | <b>In Progress QTY   Date</b> | <b>Lead Time</b> | <b>Region</b>                                      | <b>Company</b>  | <b>In Stock</b> | <b>Purchase</b>      |
|                          | 0*                             |                               | 10<br>Weeks      | Americas   | DigiKey         | >1k             | <input type="text"/> |
| <b>SN74LVC1G06YZPR</b>   | As of 9:02 AM GMT, 25 Nov 2005 |                               |                  | As of 9:02 AM GMT, 25 Nov 2005                     |                 |                 |                      |
|                          | <b>In Stock</b>                | <b>In Progress QTY   Date</b> | <b>Lead Time</b> | <b>Region</b>                                      | <b>Company</b>  | <b>In Stock</b> | <b>Purchase</b>      |

0\*

10  
WeeksNone Reported  
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\* Our information is updated daily, so please check back with us soon if this does not meet your needs. You may also contact your [TI Authorized Distributor](#), including those [listed above](#), for real time stock information.

\*\* Lead time information is not available at this time. However, our information is updated daily so please check back with us soon. Please contact your preferred [TI Authorized Distributor](#) for additional information.

### Quality & Lead (Pb)-Free Data

| Quality & Lead (Pb)-Free Data              |                         |                  |                        |                      |                      |
|--|-------------------------|------------------|------------------------|----------------------|----------------------|
| Device                                     | Eco Plan*               | Lead/Ball Finish | MSL Rating/Peak Reflow | Details              | MTBF/FIT Rate        |
| SN74LVC1G06DBVR <input type="checkbox"/>   | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM     | <a href="#">View</a> | <a href="#">View</a> |
| SN74LVC1G06DBVRE4 <input type="checkbox"/> | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM     | <a href="#">View</a> | <a href="#">View</a> |
| SN74LVC1G06DBVRG4 <input type="checkbox"/> | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM     | <a href="#">View</a> | <a href="#">View</a> |
| SN74LVC1G06DBVT <input type="checkbox"/>   | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM     | <a href="#">View</a> | <a href="#">View</a> |
| SN74LVC1G06DBVTE4 <input type="checkbox"/> | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM     | <a href="#">View</a> | <a href="#">View</a> |
| SN74LVC1G06DCKR <input type="checkbox"/>   | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM     | <a href="#">View</a> | <a href="#">View</a> |
| SN74LVC1G06DCKRG4 <input type="checkbox"/> | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM     | <a href="#">View</a> | <a href="#">View</a> |
| SN74LVC1G06DCKT <input type="checkbox"/>   | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM     | <a href="#">View</a> | <a href="#">View</a> |
| SN74LVC1G06DCKTE4 <input type="checkbox"/> | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM     | <a href="#">View</a> | <a href="#">View</a> |
| SN74LVC1G06DRLR <input type="checkbox"/>   | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM     | <a href="#">View</a> | <a href="#">View</a> |
| SN74LVC1G06DRLRG4 <input type="checkbox"/> | Green (RoHS & no Sb/Br) | CU NIPDAU        | Level-1-260C-UNLIM     | <a href="#">View</a> | <a href="#">View</a> |
| SN74LVC1G06YEAR                            | TBD                     | SNPB             | Level-1-260C-UNLIM     | <a href="#">View</a> | <a href="#">View</a> |
| SN74LVC1G06YEPR                            | TBD                     | SNPB             | Level-1-260C-UNLIM     | <a href="#">View</a> | <a href="#">View</a> |
| SN74LVC1G06YZAR <input type="checkbox"/>   | Pb-Free (RoHS)          | SNAGCU           | Level-1-260C-UNLIM     | <a href="#">View</a> | <a href="#">View</a> |
| SN74LVC1G06YZPR <input type="checkbox"/>   | Pb-Free (RoHS)          | SNAGCU           | Level-1-260C-UNLIM     | <a href="#">View</a> | <a href="#">View</a> |

\* The planned eco-friendly classification: Pb-Free (RoHS) or Green (RoHS & no Sb/Br) - please click on the Product Content Details "View" link in the table above for the latest availability information and additional product content details.

If the information you are requesting is not available online at this time, contact one of our [Product Information Centers](#) regarding the availability of this information.

### Technical Documents

| Datasheets  | Keep track of what's new |
|---|--------------------------|
| <b>SN74LVC1G06 (Rev. S)</b> (sn74lvc1g06.pdf, 451 KB)   |                          |
| 01 Sep 2005 <a href="#">Download</a>  |                          |
| <b>Application Notes</b>  |                          |
| <b>Semiconductor Packing Material Electrostatic Discharge (ESD) Protection</b> (szza047.htm, 9 KB)                    |                          |
| 08 Jul 2004 <a href="#">Abstract</a>  |                          |
| <b>Selecting the Right Level Translation Solution (Rev. A)</b> (scea035a.htm, 9 KB)                                   |                          |
| 22 Jun 2004 <a href="#">Abstract</a>  |                          |
| <b>Shelf-Life Evaluation of Lead-Free Component Finishes</b> (szza046.htm, 9 KB)                                      |                          |
| 24 May 2004 <a href="#">Abstract</a>  |                          |
| <b>Use of the CMOS Unbuffered Inverter in Oscillator Circuits</b> (szza043.htm, 9 KB)                                 |                          |
| 06 Nov 2003 <a href="#">Abstract</a>  |                          |
| <b>Understanding and Interpreting Standard-Logic Data Sheets (Rev. B)</b> (szza036b.htm, 8 KB)                        |                          |
| 28 May 2003 <a href="#">Abstract</a>  |                          |
| <b>Texas Instruments Little Logic Application Report</b> (scea029.htm, 9 KB)  |                          |
| 01 Nov 2002 <a href="#">Abstract</a>  |                          |
| <b>TI IBIS File Creation, Validation, and Distribution Processes</b> (szza034.htm, 9 KB)                              |                          |
| 29 Aug 2002 <a href="#">Abstract</a>  |                          |
| <b>16-Bit Widebus Logic Families in 56-Ball, 0.65-mm Pitch Very Thin Fine-Pitch BGA (Rev. B)</b> (szza029b.htm, 9 KB) |                          |
| 22 May 2002 <a href="#">Abstract</a>  |                          |
| <b>Power-Up 3-State (PU3S) Circuits in TI Standard Logic Devices</b> (szza033.htm, 9 KB)                              |                          |
| 10 May 2002 <a href="#">Abstract</a>  |                          |
| <b>Selecting the Right Texas Instruments Signal Switch</b> (szza030.htm, 9 KB)  |                          |
| 07 Sep 2001 <a href="#">Abstract</a>  |                          |
| <b>Implications of Slow or Floating CMOS Inputs (Rev. C)</b> (scba004c.htm, 9 KB)                                     |                          |
| 01 Feb 1998 <a href="#">Abstract</a>  |                          |
| <b>Bus-Interface Devices With Output-Damping Resistors Or Reduced-Drive Outputs (Rev. A)</b> (scba012a.htm, 9 KB)     |                          |
| 01 Aug 1997 <a href="#">Abstract</a>  |                          |

**CMOS Power Consumption and CPD Calculation (Rev. B)** (scaa035b.htm, 9 KB)

01 Jun 1997 [Abstract](#)

**LVC Characterization Information** (scba011.htm, 9 KB)

01 Dec 1996 [Abstract](#)

**Live Insertion** (sdya012.htm, 9 KB)

01 Oct 1996 [Abstract](#)

**Input and Output Characteristics of Digital Integrated Circuits** (sdya010.htm, 9 KB)

01 Oct 1996 [Abstract](#)

**Understanding Advanced Bus-Interface Products Design Guide** (scaa029.pdf, 253 KB)

01 May 1996 [Download](#)

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#### **User Guides**

**Signal Switch Data Book (Rev. A)** (scdd003a.pdf, 19732 KB)

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**LVC and LV Low-Voltage CMOS Logic Data Book (Rev. B)** (scbd152b.pdf, 13291 KB)

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**LOGIC Pocket Data Book** (scyd013.pdf, 4835 KB)

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#### **Simulation Models**

##### **Spice Model**

**SPICE Model of SN74LVC1G06** (scaj004.zip, 38 KB)

12 Sep 2000 [zip](#)

##### **IBIS Model**

**IBIS Model of SN74LVC1G06 (Rev. C)** (scam004c.ibs, 136 KB)

18 Aug 2003 [ibis](#) / [zip](#)

#### **More Literature**

**Logic Selection Guide 2005 (Rev. X)** (sdyu001x.pdf, 6909 KB)

15 Mar 2005 [Download](#)

**Wireless Infrastructure Solutions Guide (2Q2005) (Rev. E)** (sstc001e.pdf, 734 KB)

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**Design Summary for WCSP Little Logic (Rev. B)** (scet007b.pdf, 295 KB)

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**Dual- Supply Translation Product Clip** (scyb033.pdf, 230 KB)

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**Military Semiconductors Selection Guide 2004-2005 (Rev. D)** (sgyc003d.pdf, 964 KB)

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**SN74LVC1G97 and SN74LVC1G98 Product Clip (Rev. A)** (scyb010a.pdf, 253 KB)

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**Logic Cross-Reference (Rev. A)** (scyb017a.pdf, 2938 KB)

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**SN74LVC1G3157 and SNS74LVC2G53 SPDT Analog Switches** (scyb014.pdf, 65 KB)

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**Standard Linear & Logic for PCs, Servers & Motherboards** (scyb005.pdf, 3997 KB)

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**STANDARD LINEAR AND LOGIC FOR DVD/VCD PLAYERS** (scym001.pdf, 5872 KB)

27 Mar 2002 [Download](#)

**Military Low Voltage Solutions** (sgyn139.pdf, 103 KB)

04 Apr 2001 [Download](#)

**Low-Voltage Logic (LVC) Designer's Guide** (scba010.htm, 9 KB)

01 Sep 1996 [Abstract](#)

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