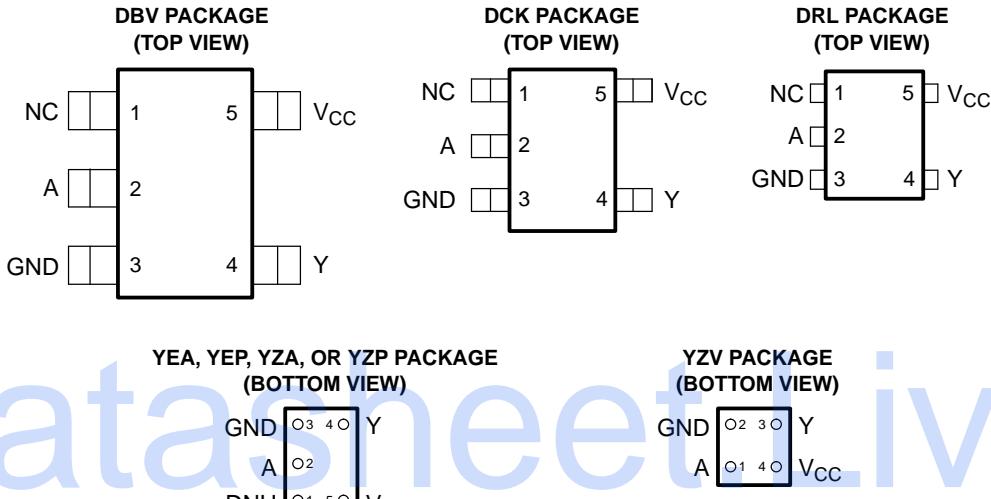


FEATURES

- 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 4.2 ns at 3.3 V
- Low Power Consumption, 10- μ A Max I_{cc}
- ± 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)



DNU – Do not use

See mechanical drawings for dimensions.

DESCRIPTION/ORDERING INFORMATION

This single 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 SN74LVC1G07 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.

SN74LVC1G07
SINGLE BUFFER/DRIVER
WITH OPEN-DRAIN OUTPUT

SCES296T—FEBRUARY 2000—REVISED OCTOBER 2005

 **TEXAS
INSTRUMENTS**
www.ti.com

ORDERING INFORMATION

T _A	PACKAGE ⁽¹⁾	ORDERABLE PART NUMBER	TOP-SIDE MARKING ⁽²⁾
-40°C to 85°C	NanoStar™ – WCSP (DSBGA) 0.17-mm Small Bump – YEA	Reel of 3000	SN74LVC1G07YEAR
	NanoFree™ – WCSP (DSBGA) 0.17-mm Small Bump – YZA (Pb-free)		SN74LVC1G07YZAR
	NanoStar™ – WCSP (DSBGA) 0.23-mm Large Bump – YEP		SN74LVC1G07YEPR
	NanoFree™ – WCSP (DSBGA) 0.23-mm Large Bump – YZP (Pb-free)		SN74LVC1G07YZPR
	NanoFree™ – WCSP (DSBGA) 0.23-mm Large Bump – YZV (Pb-free)	Reel of 3000	SN74LVC1G07YZVR
	SOT (SOT-23) – DBV	Reel of 3000	SN74LVC1G07DBVR
		Reel of 250	SN74LVC1G07DBVT
	SOT (SC-70) – DCK	Reel of 3000	SN74LVC1G07DCKR
		Reel of 250	SN74LVC1G07DCKT
	SOT (SOT-553) – DRL	Reel of 4000	SN74LVC1G07DRLR
			CV_
			-- CV
			C07_
			CV_
			CV_

(1) Package drawings, standard packing quantities, thermal data, symbolization, and PCB design guidelines are available at www.ti.com/sc/package.

(2) DBV/DCK/DRL: The actual top-side marking has one additional character that designates the assembly/test site.

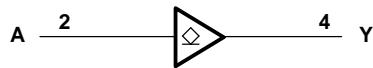
YEA/YEP, YZA/YZP: The actual top-side marking has three preceding characters to denote year, month, and sequence code, and one following character to designate the assembly/test site. Pin 1 identifier indicates solder-bump composition (1 = SnPb, • = Pb-free).

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).

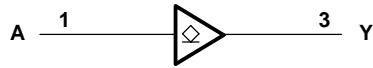
FUNCTION TABLE

INPUT A	OUTPUT Y
H	H
L	L

**LOGIC DIAGRAM (POSITIVE LOGIC)
(DBV, DCK, DRL, YEA, YEP, YZA, and YZP Package)**



**LOGIC DIAGRAM (POSITIVE LOGIC)
(YZV Package)**



Absolute Maximum Ratings⁽¹⁾

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 ⁽²⁾	-0.5	6.5	V
V _O	Voltage range applied to any output in the high-impedance or power-off state ⁽²⁾	-0.5	6.5	V
V _O	Voltage range applied to any output in the high or low state ⁽²⁾⁽³⁾	-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
θ _{JA}	Package thermal impedance ⁽⁴⁾	DBV package	206	°C/W
		DCK package	252	
		DRL package	142	
		YEA/YZA package	154	
		YEP/YZP package	132	
		YZV package	116	
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.

SN74LVC1G07
SINGLE BUFFER/DRIVER
WITH OPEN-DRAIN OUTPUT

SCES296T—FEBRUARY 2000—REVISED OCTOBER 2005



Recommended Operating Conditions⁽¹⁾

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

- (1) All unused inputs of the device must be held at V_{CC} 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 _{CC}	MIN	TYP ⁽¹⁾	MAX	UNIT
	I _{OL} = 100 μA	I _{OL} = 4 mA					
V _{OL}	I _{OL} = 8 mA		2.3 V		0.3		V
	I _{OL} = 16 mA		3 V		0.4		
	I _{OL} = 24 mA				0.55		
	I _{OL} = 32 mA		4.5 V		0.55		
I _I	A input	V _I = 5.5 V or GND	0 to 5.5 V		±5	μA	
I _{off}		V _I or V _O = 5.5 V	0		±10	μA	
I _{CC}	V _I = 5.5 V or GND,	I _O = 0	1.65 V to 5.5 V		10	μA	
ΔI _{CC}	One input at V _{CC} – 0.6 V,	Other inputs at V _{CC} or GND	3 V to 5.5 V		500	μA	
C _i	V _I = V _{CC} or GND		3.3 V		4	pF	
C _o	V _O = V _{CC} or GND		3.3 V		5	pF	

- (1) All typical values are at V_{CC} = 3.3 V, T_A = 25°C.

Switching Characteristics

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

PARAMETER	FROM (INPUT)	TO (OUTPUT)	V _{CC} = 1.8 V ± 0.15 V	V _{CC} = 2.5 V ± 0.2 V	V _{CC} = 3.3 V ± 0.3 V	V _{CC} = 5 V ± 0.5 V	UNIT				
			MIN	MAX	MIN	MAX					
t _{pd}	A	Y	2.4	8.3	1	5.5	1.5	4.2	1	3.5	ns

Operating Characteristics

T_A = 25°C

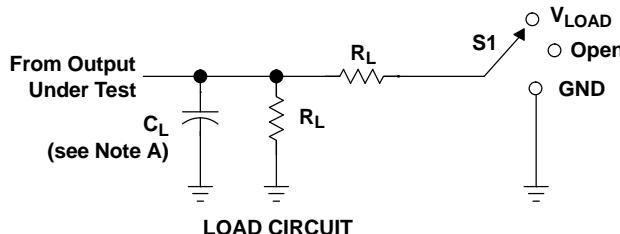
PARAMETER	TEST CONDITIONS	V _{CC} = 1.8 V	V _{CC} = 2.5 V	V _{CC} = 3.3 V	V _{CC} = 5 V	UNIT
		TYP	TYP	TYP	TYP	
C _{pd} Power dissipation capacitance	f = 10 MHz	3	3	4	6	pF

SN74LVC1G07
SINGLE BUFFER/DRIVER
WITH OPEN-DRAIN OUTPUT

SCES296T—FEBRUARY 2000—REVISED OCTOBER 2005

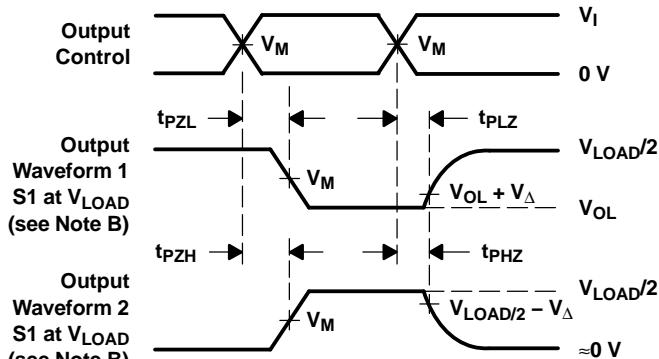
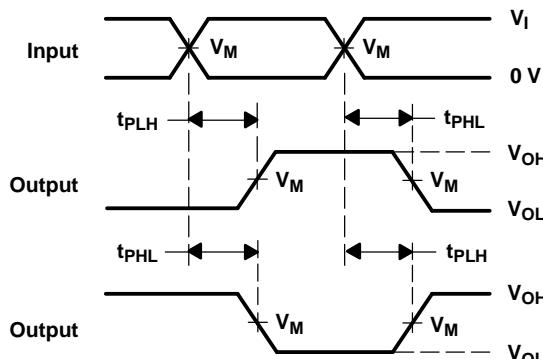
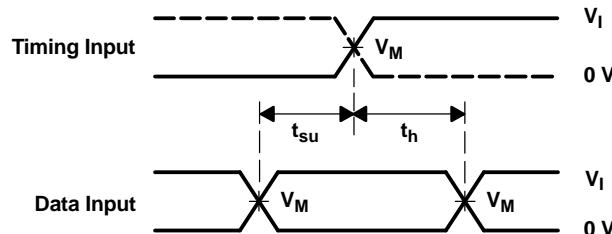
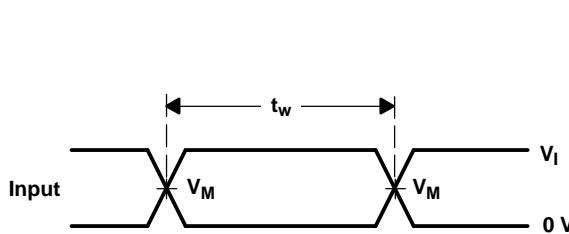
 **TEXAS
INSTRUMENTS**
www.ti.com

**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_Δ
	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 Ω	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 Ω	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 Ω	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 Ω	0.3 V



- NOTES:
- A. C_L includes probe and jig capacitance.
 - B. 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.
 - C. All input pulses are supplied by generators having the following characteristics: PRR $\leq 10 \text{ MHz}$, $Z_O = 50 \Omega$.
 - D. The outputs are measured one at a time, with one transition per measurement.
 - E. Since this device has open-drain outputs, t_{PLZ} and t_{PZL} are the same as t_{pd} .
 - F. t_{PZL} is measured at V_M .
 - G. t_{PLZ} is measured at $V_{OL} + V_\Delta$.
 - H. All parameters and waveforms are not applicable to all devices.

Figure 1. Load Circuit and Voltage Waveforms

PACKAGING INFORMATION

Orderable Device	Status ⁽¹⁾	Package Type	Package Drawing	Pins	Package Qty	Eco Plan ⁽²⁾	Lead/Ball Finish	MSL Peak Temp ⁽³⁾
SN74LVC1G07DBVR	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LVC1G07DBVRG4	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LVC1G07DBVT	ACTIVE	SOT-23	DBV	5	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LVC1G07DBVTE4	ACTIVE	SOT-23	DBV	5	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LVC1G07DCKR	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LVC1G07DCKRE4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LVC1G07DCKRG4	ACTIVE	SC70	DCK	5	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LVC1G07DCKT	ACTIVE	SC70	DCK	5	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LVC1G07DCKTE4	ACTIVE	SC70	DCK	5	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LVC1G07DRLR	ACTIVE	SOP	DRL	5	4000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LVC1G07DRLRG4	ACTIVE	SOP	DRL	5	4000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LVC1G07YEAR	ACTIVE	WCSP	YEA	5	3000	TBD	SNPB	Level-1-260C-UNLIM
SN74LVC1G07YEPR	ACTIVE	WCSP	YEP	5	3000	TBD	SNPB	Level-1-260C-UNLIM
SN74LVC1G07YZAR	ACTIVE	WCSP	YZA	5	3000	Pb-Free (RoHS)	SNAGCU	Level-1-260C-UNLIM
SN74LVC1G07YZPR	ACTIVE	WCSP	YZP	5	3000	Pb-Free (RoHS)	SNAGCU	Level-1-260C-UNLIM

⁽¹⁾ The marketing status values are defined as follows:

ACTIVE: Product device recommended for new designs.

LIFEBUY: TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.

NRND: Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new design.

PREVIEW: Device has been announced but is not in production. Samples may or may not be available.

OBSOLETE: TI has discontinued the production of the device.

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

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

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

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

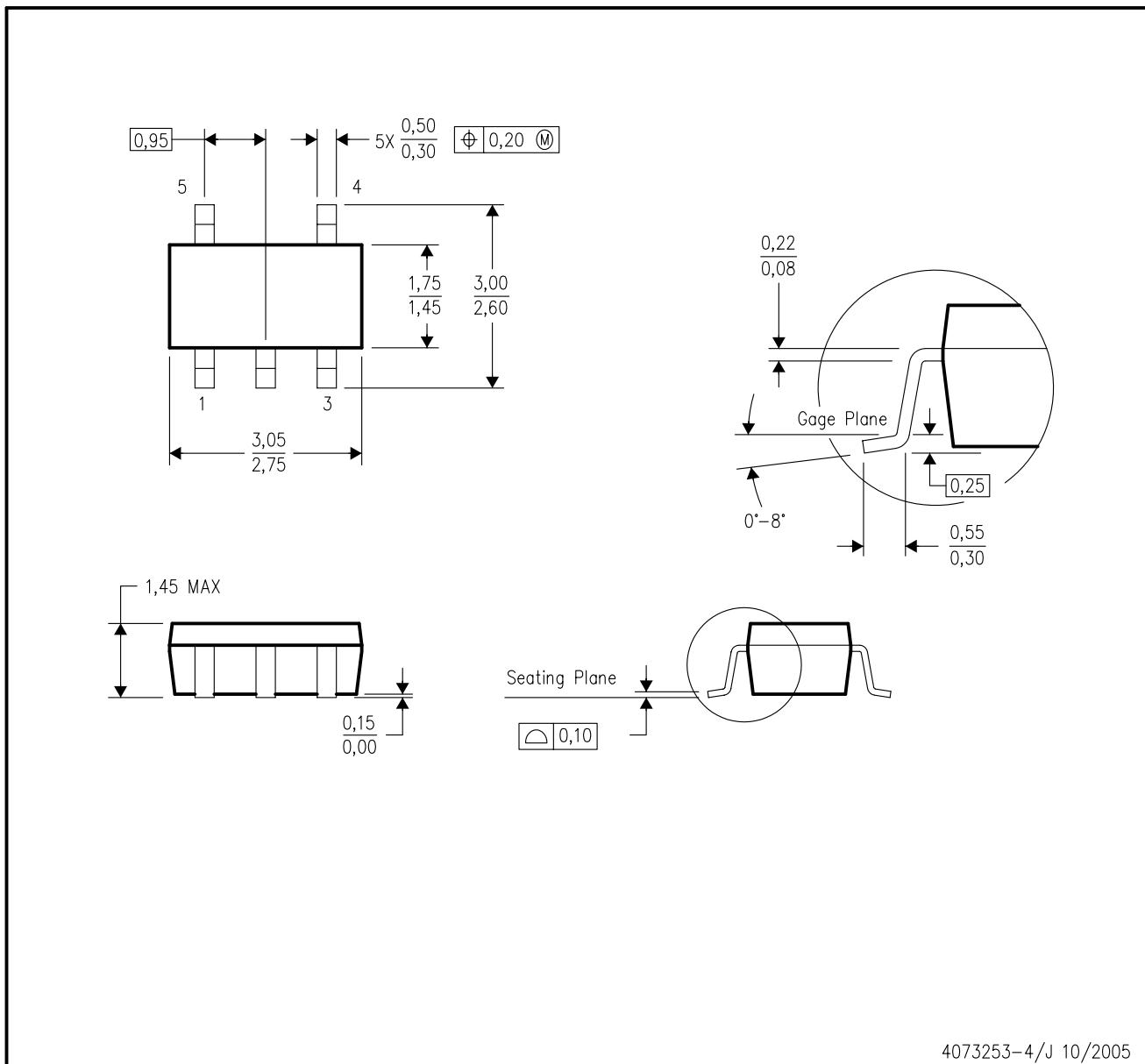
Important Information and Disclaimer: The information provided on this page represents TI's knowledge and belief as of the date that it is provided. TI bases its knowledge and belief on information provided by third parties, and makes no representation or warranty as to the accuracy of such information. Efforts are underway to better integrate information from third parties. TI has taken and continues to take reasonable steps to provide representative and accurate information but may not have conducted destructive testing or chemical analysis on

incoming materials and chemicals. TI and TI suppliers consider certain information to be proprietary, and thus CAS numbers and other limited information may not be available for release.

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.

DBV (R-PDSO-G5)

PLASTIC SMALL-OUTLINE PACKAGE

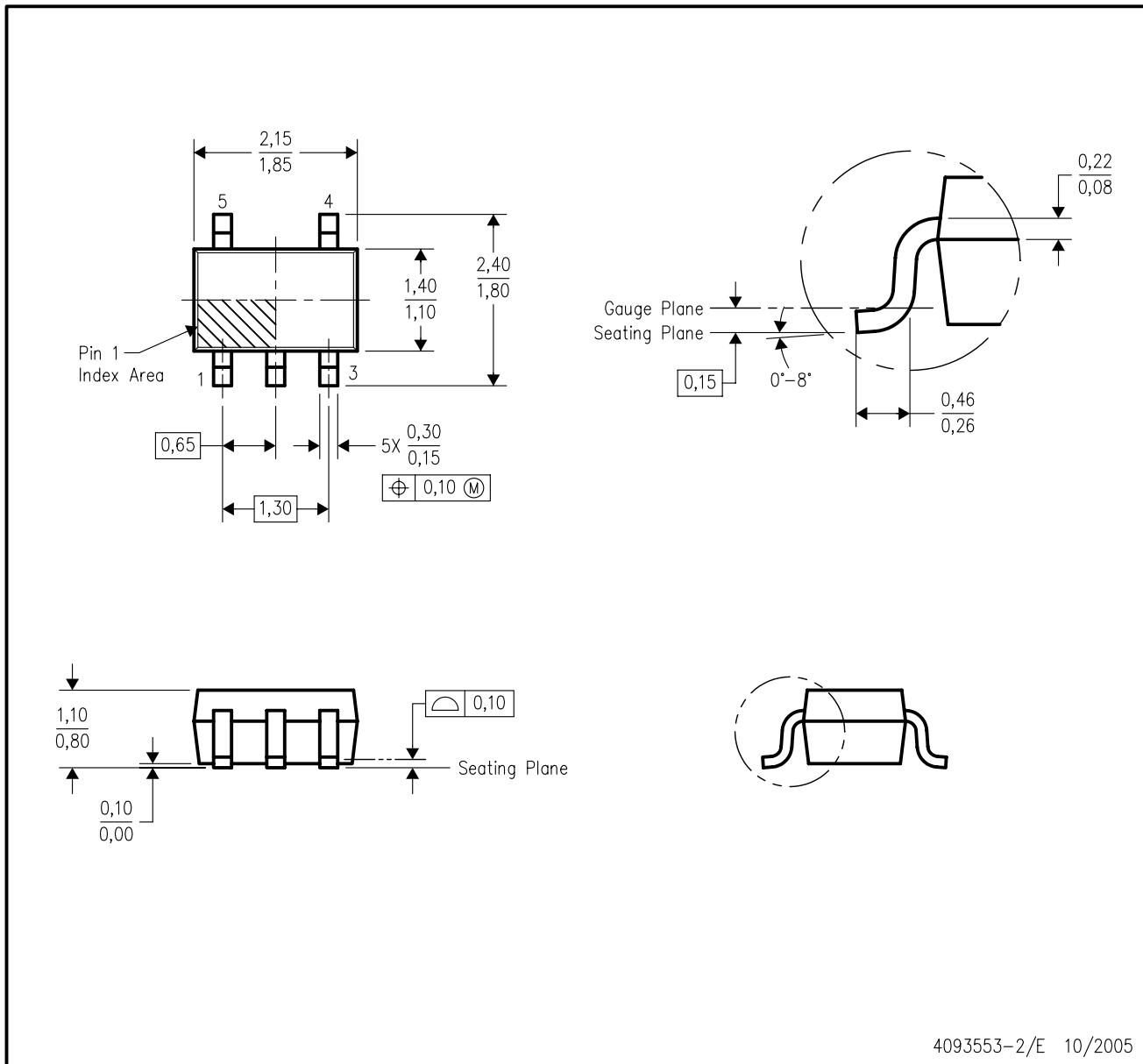


4073253-4/J 10/2005

- NOTES:
- All linear dimensions are in millimeters.
 - This drawing is subject to change without notice.
 - Body dimensions do not include mold flash or protrusion. Mold flash and protrusion shall not exceed 0.15 per side.
 - Falls within JEDEC MO-178 Variation AA.

DCK (R-PDSO-G5)

PLASTIC SMALL-OUTLINE PACKAGE

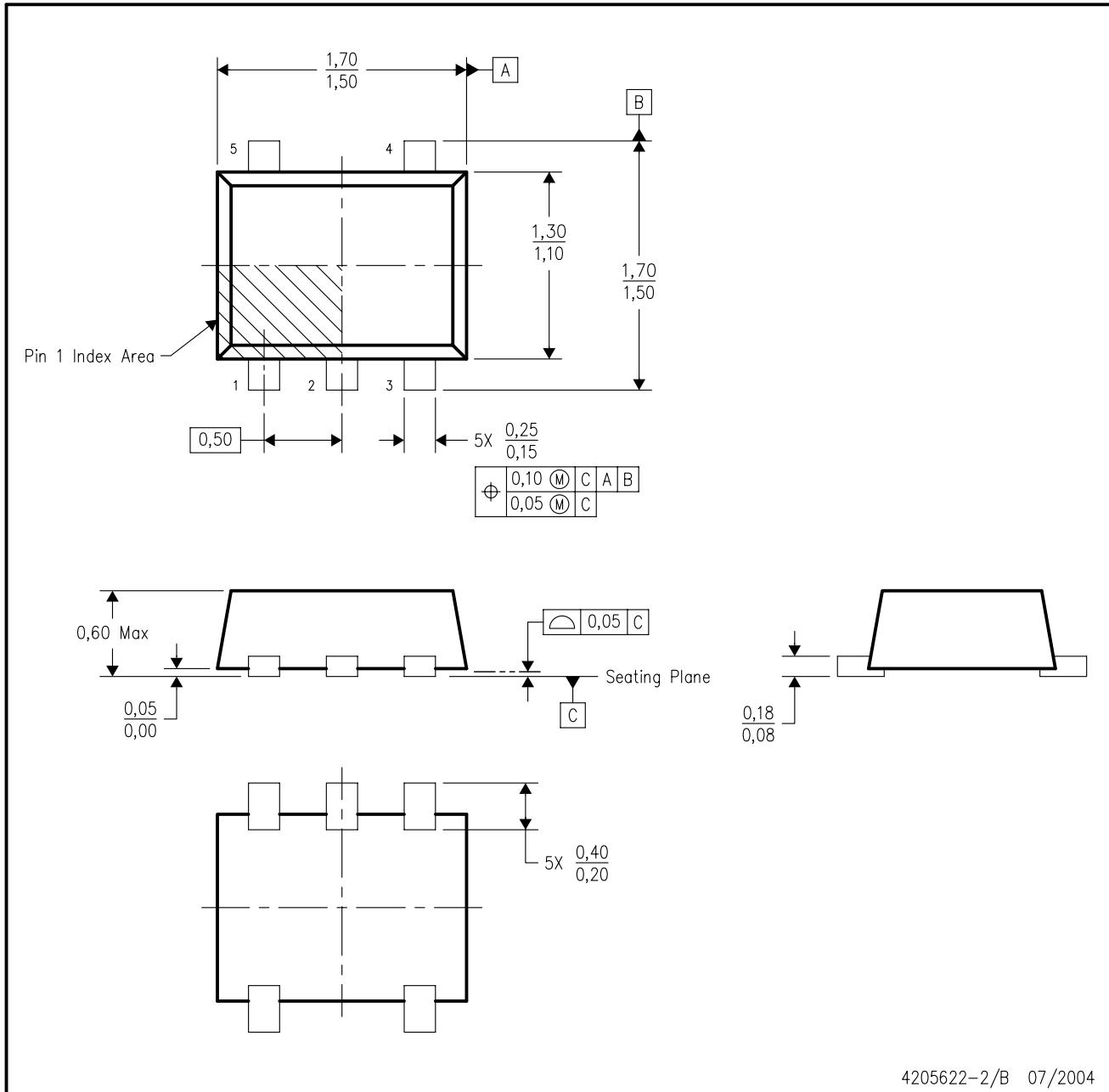


4093553-2/E 10/2005

- NOTES:
- All linear dimensions are in millimeters.
 - This drawing is subject to change without notice.
 - Body dimensions do not include mold flash or protrusion. Mold flash and protrusion shall not exceed 0.15 per side.
 - Falls within JEDEC MO-203 variation AA.

DRL (R-PDSO-N5)

PLASTIC SMALL OUTLINE

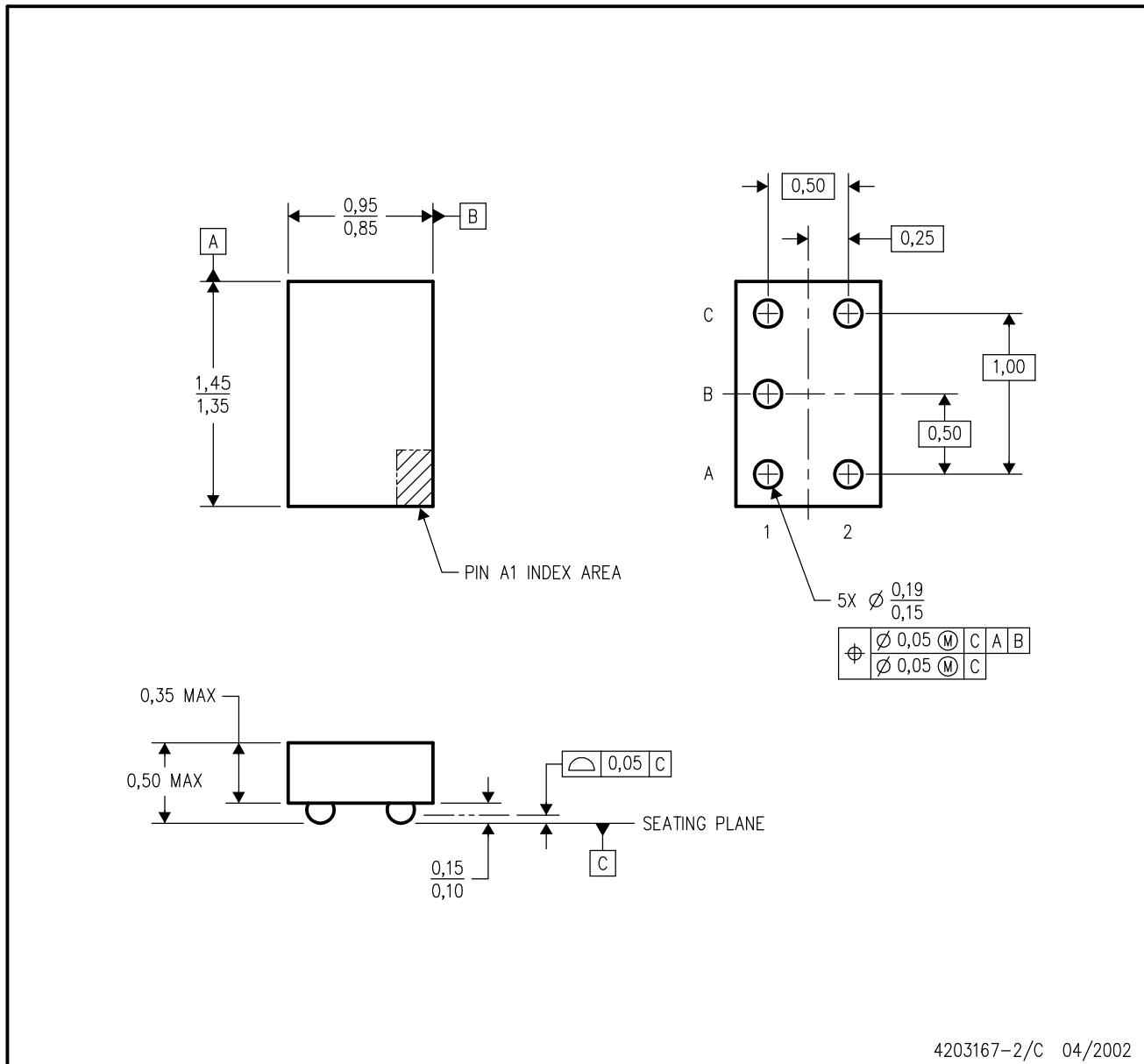


4205622-2/B 07/2004

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

YEA (R-XBGA-N5)

DIE-SIZE BALL GRID ARRAY



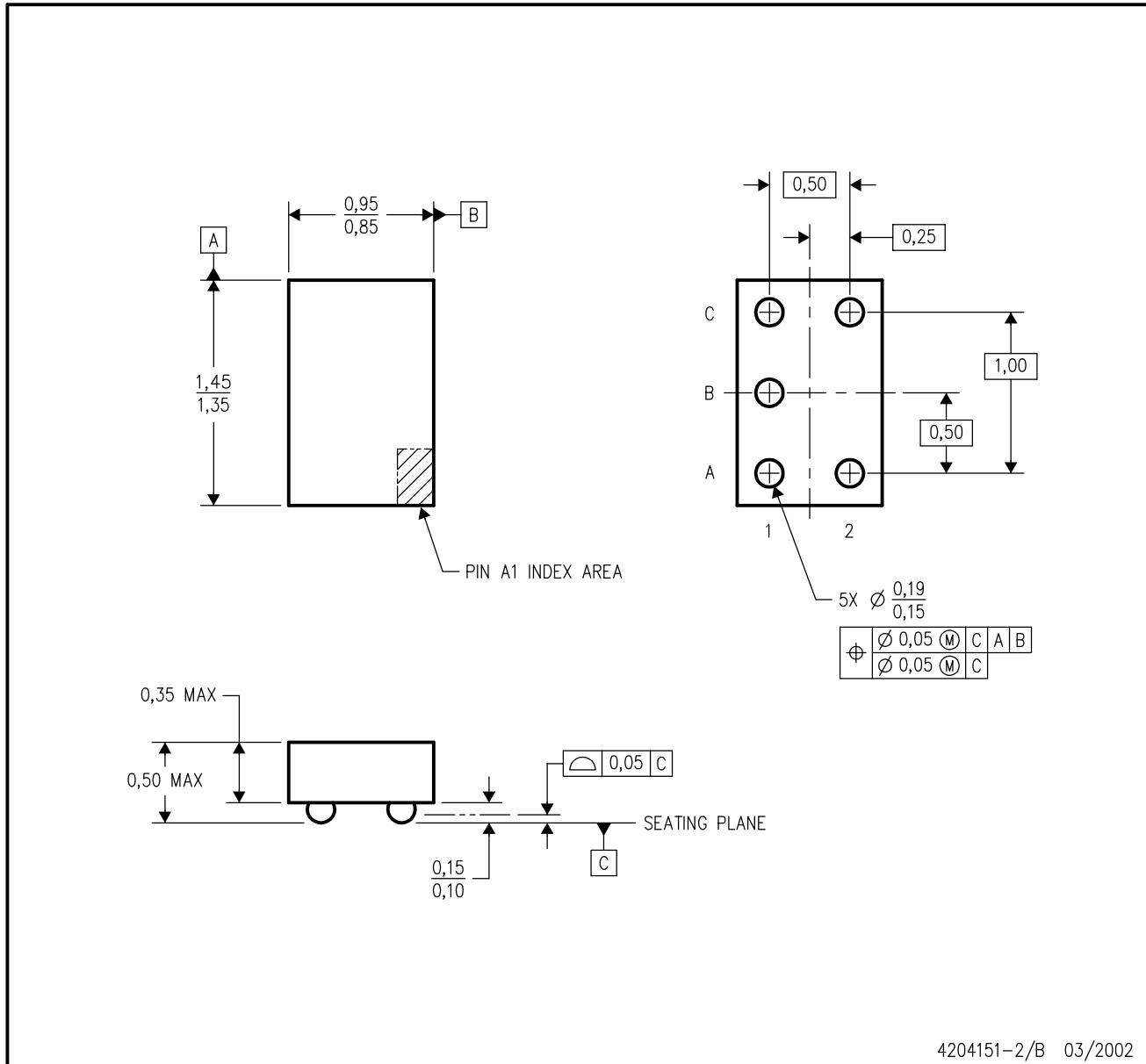
4203167-2/C 04/2002

- NOTES:
- All linear dimensions are in millimeters.
 - This drawing is subject to change without notice.
 - NanoStar™ package configuration.
 - Package complies to JEDEC MO-211 variation EA.
 - 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

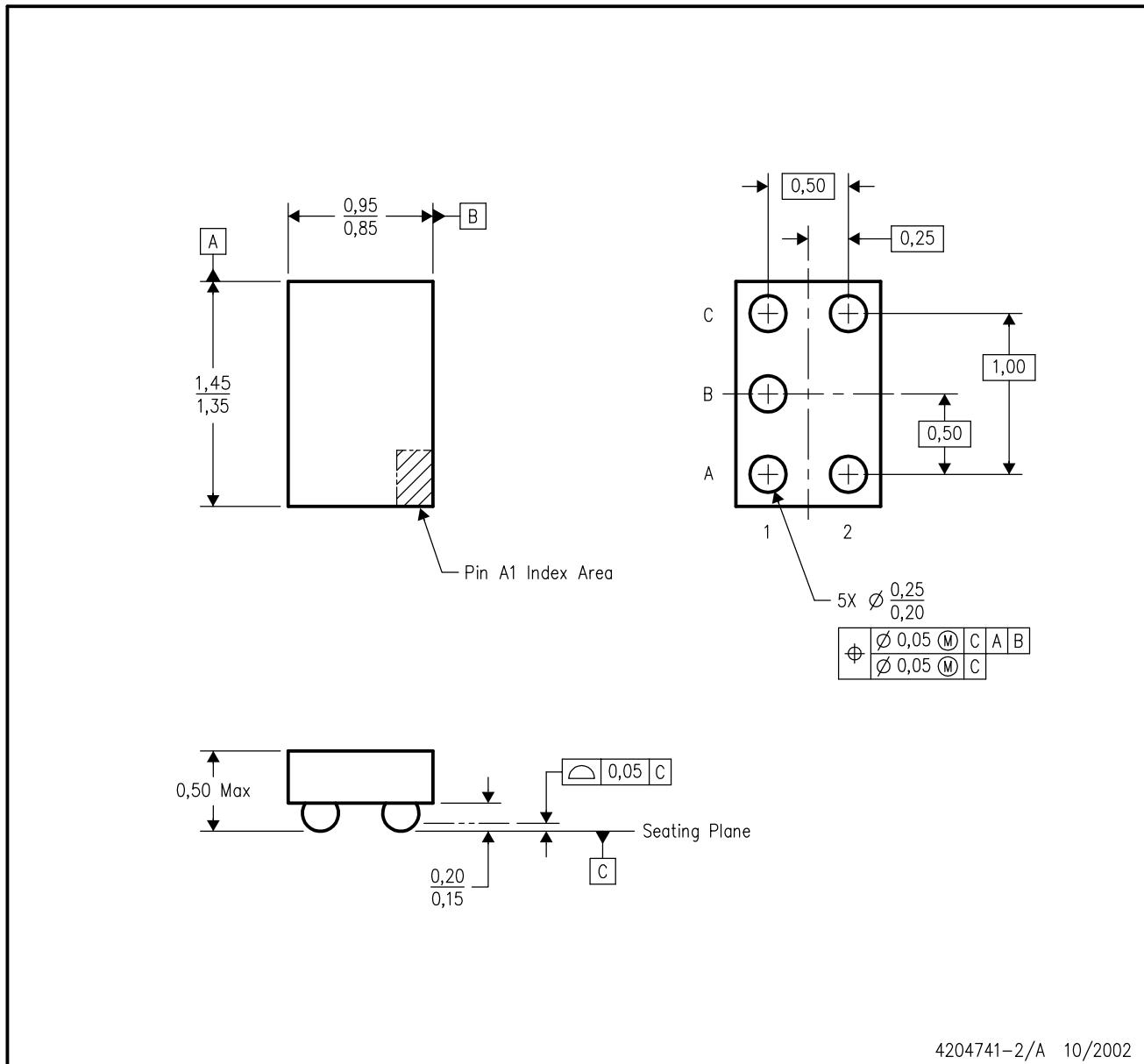


- NOTES:
- All linear dimensions are in millimeters.
 - This drawing is subject to change without notice.
 - NanoFree™ package configuration.
 - Package complies to JEDEC MO-211 variation EA.
 - This package is lead-free. Refer to the 5 YEA package (drawing 4203167) for tin-lead (SnPb).

NanoFree is a trademark of Texas Instruments.

YZP (R-XBGA-N5)

DIE-SIZE BALL GRID ARRAY



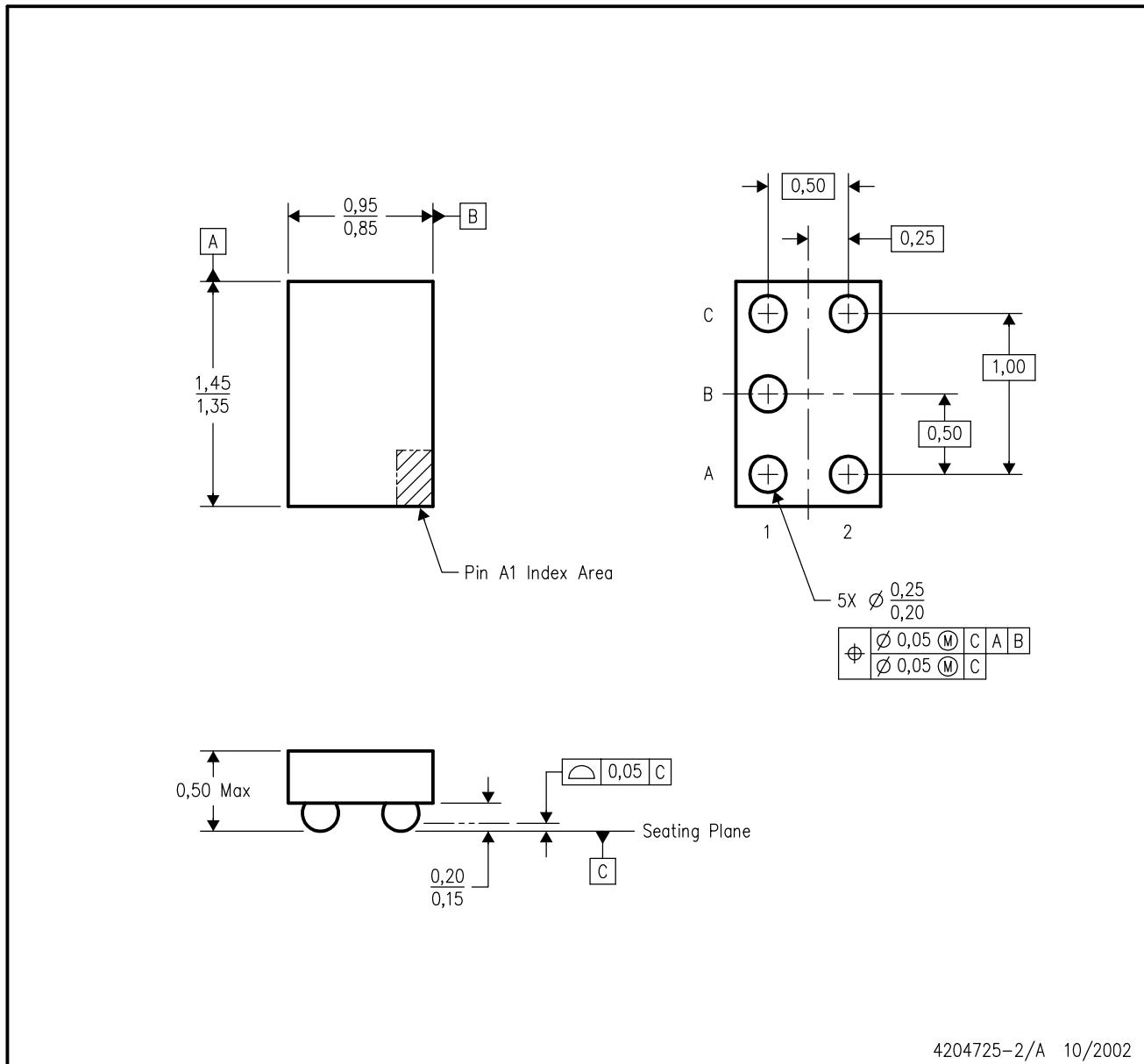
4204741-2/A 10/2002

- NOTES:
- All linear dimensions are in millimeters.
 - This drawing is subject to change without notice.
 - NanoFree™ package configuration.
 - 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



4204725-2/A 10/2002

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

NanoStar is a trademark of Texas Instruments.

IMPORTANT NOTICE

Texas Instruments Incorporated and its subsidiaries (TI) reserve the right to make corrections, modifications, enhancements, improvements, and other changes to its products and services at any time and to discontinue any product or service without notice. Customers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. All products are sold subject to TI's terms and conditions of sale supplied at the time of order acknowledgment.

TI warrants performance of its hardware products to the specifications applicable at the time of sale in accordance with TI's standard warranty. Testing and other quality control techniques are used to the extent TI deems necessary to support this warranty. Except where mandated by government requirements, testing of all parameters of each product is not necessarily performed.

TI assumes no liability for applications assistance or customer product design. Customers are responsible for their products and applications using TI components. To minimize the risks associated with customer products and applications, customers should provide adequate design and operating safeguards.

TI does not warrant or represent that any license, either express or implied, is granted under any TI patent right, copyright, mask work right, or other TI intellectual property right relating to any combination, machine, or process in which TI products or services are used. Information published by TI regarding third-party products or services does not constitute a license from TI to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

Reproduction of information in TI data books or data sheets is permissible only if reproduction is without alteration and is accompanied by all associated warranties, conditions, limitations, and notices. Reproduction of this information with alteration is an unfair and deceptive business practice. TI is not responsible or liable for such altered documentation.

Resale of TI products or services with statements different from or beyond the parameters stated by TI for that product or service voids all express and any implied warranties for the associated TI product or service and is an unfair and deceptive business practice. TI is not responsible or liable for any such statements.

Following are URLs where you can obtain information on other Texas Instruments products and application solutions:

Products		Applications	
Amplifiers	amplifier.ti.com	Audio	www.ti.com/audio
Data Converters	dataconverter.ti.com	Automotive	www.ti.com/automotive
DSP	dsp.ti.com	Broadband	www.ti.com/broadband
Interface	interface.ti.com	Digital Control	www.ti.com/digitalcontrol
Logic	logic.ti.com	Military	www.ti.com/military
Power Mgmt	power.ti.com	Optical Networking	www.ti.com/opticalnetwork
Microcontrollers	microcontroller.ti.com	Security	www.ti.com/security
		Telephony	www.ti.com/telephony
		Video & Imaging	www.ti.com/video
		Wireless	www.ti.com/wireless

Mailing Address: Texas Instruments
Post Office Box 655303 Dallas, Texas 75265

Copyright © 2005, Texas Instruments Incorporated

[products](#)[applications](#)[design support](#)[buy](#)[View ROHS Compliant Devices](#)[View RoHS Compliant Devices](#)[clear gif](#)

SN74LVC1G07, Status: ACTIVE
Single Buffer/Driver With Open-Drain Output

[Features](#)[Quality & Pb-Free Data](#)[Related Products](#)[Tools & Software](#)[Samples](#)[Pricing/Packaging](#)[Inventory](#)[Symbols/Footprints](#)[Technical Documents](#)[Applications Notes](#)[Simulation Models](#)[Reference Designs](#)**Refine Your Selection**

- Logic: Single-Gates

Support

- KnowledgeBase
- Contact Technical Supp
- TI Cross Reference
- Training
- Part Marking Lookup
- Part Number Nomenda

Datasheet[Download Datasheet](#)**SN74LVC1G07 (Rev. T)** (sn74lvc1g07.pdf, 439 KB)12 Oct 2005 [Download](#)

	LVC1G07-1.8	LVC1G07-2.5	LVC1G07-3.3	LVC1G07-5.0
Voltage Node(V)	1.8	2.5	3.3	5
Voltage Nodes(V)	1.8	2.5	3.3	5
Performance			Optimized	
Vcc min(V)	1.65	1.65	1.65	1.65
Vcc max(V)	5.5	5.5	5.5	5.5
IOH(mA)	-4	-8	-24	-32
IOL(mA)	4	8	24	32
tpd max(ns)	8.3	5.5	4.2	3.5
ICC(µA)	10	10	10	10
Input Level	CMOS	2.5V CMOS	LV TTL	CMOS
Output Level	CMOS	2.5V CMOS	LV TTL	CMOS
No. of Gates	1	1	1	1
	Samples	Samples	Samples	Samples
	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_{CC} Operation
 Input and Open-Drain Output Accept Voltages up to 5.5 V
 Max t_{pd} of 4.2 ns at 3.3 V
 Low Power Consumption, 10-µA Max I_{CC}
 ±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)

NanoStar, NanoFree are trademarks of Texas Instruments.

DESCRIPTION/ORDERING INFORMATIONThis single 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 SN74LVC1G07 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.

Pricing/Packaging/CAD Design Tools/Samples

			Price	Packaging			CAD Design Tools	Samples
Device	Status	Temp (°C)	Budget Price (\$US) QTY	Industry Standard (TI Pkg) Pins	Top Side Marking	Standard Pack Quantity	Footprints	Samples
SN74LVC1G07DBVR	ACTIVE	-40 to 85	0.15 1KU	SOT-23 (DBV) 5	View	3000	<input type="checkbox"/>	Request Free Samples
SN74LVC1G07DBVRG4	ACTIVE		0.18 1KU	SOT-23 (DBV) 5	View	3000	<input type="checkbox"/>	Purchase Samples
SN74LVC1G07DBVT	ACTIVE	-40 to 85	0.48 1KU	SOT-23 (DBV) 5	View	250	<input type="checkbox"/>	Purchase Samples
SN74LVC1G07DBVTE4	ACTIVE	-40 to 85	0.48 1KU	SOT-23 (DBV) 5	View	250	<input type="checkbox"/>	Purchase Samples
SN74LVC1G07DCKR	ACTIVE	-40 to 85	0.15 1KU	SC70 (DCK) 5	View	3000	<input type="checkbox"/>	Request Free Samples
SN74LVC1G07DCKRE4	ACTIVE	-40 to 85	0.15 1KU	SC70 (DCK) 5	View	3000	<input type="checkbox"/>	Request Free Samples
SN74LVC1G07DCKRG4	ACTIVE	-40 to 85	0.13 1KU	SC70 (DCK) 5	View	3000	<input type="checkbox"/>	Purchase Samples
SN74LVC1G07DCKT	ACTIVE	-40 to 85	0.48 1KU	SC70 (DCK) 5	View	250	<input type="checkbox"/>	Purchase Samples
SN74LVC1G07DCKTE4	ACTIVE	-40 to 85	0.48 1KU	SC70 (DCK) 5	View	250	<input type="checkbox"/>	Purchase Samples
SN74LVC1G07DRLR	ACTIVE	-40 to 85	0.15 1KU	SOP (DRL) 5		4000	<input type="checkbox"/>	Request Free Samples
SN74LVC1G07DRLRG4	ACTIVE	-40 to 85	0.15 1KU	SOP (DRL) 5		4000	<input type="checkbox"/>	Request Free Samples
SN74LVC1G07YEAR	ACTIVE	-40 to 85	0.23 1KU	WCSP (YEA) 5		3000	<input type="checkbox"/>	Request Free Samples
SN74LVC1G07YEPR	ACTIVE	-40 to 85	0.23 1KU	WCSP (YEP) 5		3000	<input type="checkbox"/>	Purchase Samples
SN74LVC1G07YZAR	ACTIVE	-40 to 85	0.23 1KU	WCSP (YZA) 5		3000	<input type="checkbox"/>	Request Free Samples
SN74LVC1G07YZPR	ACTIVE	-40 to 85	0.23 1KU	WCSP (YZP) 5		3000	<input type="checkbox"/>	Purchase Samples

Inventory

	TI Inventory Status			Reported Distributor Inventory			
SN74LVC1G07DBVR	As of 9:07 AM GMT, 29 Nov 2005			As of 9:07 AM GMT, 29 Nov 2005			
	In Stock	In Progress QTY Date	Lead Time	Region	Company	In Stock	Purchase
	0*	>10k 9 Jan	6 Weeks	Americas	DigiKey	>1k	<input type="checkbox"/>
					Newark InOne	>1k	<input type="checkbox"/>
				Europe	Arrow Southern Europe	>1k	<input type="checkbox"/>
					Farnell InOne	>1k	<input type="checkbox"/>
SN74LVC1G07DBVRG4	As of 9:07 AM GMT, 29 Nov 2005			As of 9:07 AM GMT, 29 Nov 2005			
	In Stock	In Progress QTY Date	Lead Time	Region	Company	In Stock	Purchase
	0*	>10k 9 Jan	6 Weeks	None Reported			
	View Distributors						
SN74LVC1G07DBVT	As of 9:07 AM GMT, 29 Nov 2005			As of 9:07 AM GMT, 29 Nov 2005			
	In Stock	In Progress QTY Date	Lead Time	Region	Company	In Stock	Purchase

[View all Distributors](#)

[Choose a Region](#)



	0*	>10k 26 Jan	8 Weeks	Americas	Arrow	480	
					Newark InOne	70	
					Europe	Arrow Southern Europe	465
					Spoerle	233	

SN74LVC1G07DBVTE4	As of 9:07 AM GMT, 29 Nov 2005			As of 9:07 AM GMT, 29 Nov 2005			
	In Stock	In Progress QTY Date	Lead Time	Region	Company	In Stock	Purchase
	0*	>10k 26 Jan	8 Weeks	None Reported	View Distributors		

SN74LVC1G07DCKR	As of 9:07 AM GMT, 29 Nov 2005			As of 9:07 AM GMT, 29 Nov 2005			
	In Stock	In Progress QTY Date	Lead Time	Region	Company	In Stock	Purchase
	0*	>10k 23 Jan	8 Weeks	Asia	P&S	543	
				Europe	Arrow Northern Europe	>1k	

SN74LVC1G07DCKRE4	As of 9:07 AM GMT, 29 Nov 2005			As of 9:07 AM GMT, 29 Nov 2005			
	In Stock	In Progress QTY Date	Lead Time	Region	Company	In Stock	Purchase
	0*	>10k 23 Jan	8 Weeks	None Reported	View Distributors		

SN74LVC1G07DCKRG4	As of 9:07 AM GMT, 29 Nov 2005			As of 9:07 AM GMT, 29 Nov 2005			
	In Stock	In Progress QTY Date	Lead Time	Region	Company	In Stock	Purchase
	0*	1844 30 Nov	6 Weeks	Americas	Avnet	>1k	
		1157 12 Jan					
		>10k 23 Jan					

SN74LVC1G07DCKT	As of 9:07 AM GMT, 29 Nov 2005			As of 9:07 AM GMT, 29 Nov 2005			
	In Stock	In Progress QTY Date	Lead Time	Region	Company	In Stock	Purchase
	3000*	>10k 7 Feb	6 Weeks	Americas	Arrow	245	
				Avnet	500		
				Newark InOne	250		
				Asia	P&S	228	

SN74LVC1G07DCKTE4	As of 9:07 AM GMT, 29 Nov 2005			As of 9:07 AM GMT, 29 Nov 2005			
	In Stock	In Progress QTY Date	Lead Time	Region	Company	In Stock	Purchase
	3000*	>10k 7 Feb	6 Weeks	None Reported	View Distributors		

SN74LVC1G07DRLR	As of 9:07 AM GMT, 29 Nov 2005			As of 9:07 AM GMT, 29 Nov 2005			
	In Stock	In Progress QTY Date	Lead Time	Region	Company	In Stock	Purchase
	0*	>10k 12 Dec	4 Weeks	Americas	DigiKey	>1k	

SN74LVC1G07DRLRG4	As of 9:07 AM GMT, 29 Nov 2005			As of 9:07 AM GMT, 29 Nov 2005			
	In Stock	In Progress QTY Date	Lead Time	Region	Company	In Stock	Purchase
	0*	>10k 12 Dec	4 Weeks	None Reported	View Distributors		

SN74LVC1G07YEAR	As of 9:07 AM GMT, 29 Nov 2005			As of 9:07 AM GMT, 29 Nov 2005			
	In Stock	In Progress QTY Date	Lead Time	Region	Company	In Stock	Purchase
	0*	3000 12 Dec	6 Weeks	Americas	Avnet	>1k	
		>10k 12 Jan		DigiKey	>1k		

SN74LVC1G07YEPR	As of 9:07 AM GMT, 29 Nov 2005			As of 9:07 AM GMT, 29 Nov 2005			
	In Stock	In Progress QTY Date	Lead Time	Region	Company	In Stock	Purchase
	>10k*		6 Weeks	Americas	Avnet	>1k	
SN74LVC1G07YZAR	As of 9:07 AM GMT, 29 Nov 2005			As of 9:07 AM GMT, 29 Nov 2005			
	In Stock	In Progress QTY Date	Lead Time	Region	Company	In Stock	Purchase
	0*	>10k 17 Jan	7 Weeks	Americas	DigiKey	>1k	
SN74LVC1G07YZPR	As of 9:07 AM GMT, 29 Nov 2005			As of 9:07 AM GMT, 29 Nov 2005			
	In Stock	In Progress QTY Date	Lead Time	Region	Company	In Stock	Purchase
	0*	>10k 9 Jan	6 Weeks	None Reported	View Distributors		

* 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

	Product Content				MTBF/FIT Rate
Device	Eco Plan*	Lead/Ball Finish	MSL Rating/Peak Reflow	Details	Details
SN74LVC1G07DBVR	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	View	View
SN74LVC1G07DBVRG4	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	View	View
SN74LVC1G07DBVT	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	View	View
SN74LVC1G07DBVTE4	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	View	View
SN74LVC1G07DCKR	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	View	View
SN74LVC1G07DCKRE4	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	View	View
SN74LVC1G07DCKRG4	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	View	View
SN74LVC1G07DCKT	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	View	View
SN74LVC1G07DCKTE4	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	View	View
SN74LVC1G07DRLR	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	View	View
SN74LVC1G07DRLRG4	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	View	View
SN74LVC1G07YEAR	TBD	SNPB	Level-1-260C-UNLIM	View	View
SN74LVC1G07YEPR	TBD	SNPB	Level-1-260C-UNLIM	View	View
SN74LVC1G07YZAR	Pb-Free (RoHS)	SNAGCU	Level-1-260C-UNLIM	View	View
SN74LVC1G07YZPR	Pb-Free (RoHS)	SNAGCU	Level-1-260C-UNLIM	View	View

* 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

SN74LVC1G07 (Rev. T) (sn74lvc1g07.pdf, 439 KB)

12 Oct 2005 [Download](#)

Keep track of what's new

Application Notes

08 Jul 2004 [Abstract](#)

Selecting the Right Level Translation Solution (Rev. A) (scea035a.htm, 9 KB)

22 Jun 2004 [Abstract](#)

Shelf-Life Evaluation of Lead-Free Component Finishes (szza046.htm, 9 KB)

24 May 2004 [Abstract](#)

Use of the CMOS Unbuffered Inverter in Oscillator Circuits (szza043.htm, 9 KB)

06 Nov 2003 [Abstract](#)

Understanding and Interpreting Standard-Logic Data Sheets (Rev. B) (szza036b.htm, 8 KB)

28 May 2003 [Abstract](#)

Texas Instruments Little Logic Application Report (scea029.htm, 9 KB)

01 Nov 2002 [Abstract](#)

TI IBIS File Creation, Validation, and Distribution Processes (szza034.htm, 9 KB)

29 Aug 2002 [Abstract](#)

16-Bit Widebus Logic Families in 56-Ball, 0.65-mm Pitch Very Thin Fine-Pitch BGA (Rev. B) (szza029b.htm, 9 KB)

22 May 2002 [Abstract](#)

Power-Up 3-State (PUS) Circuits in TI Standard Logic Devices (szza033.htm, 9 KB)

10 May 2002 [Abstract](#)

Selecting the Right Texas Instruments Signal Switch (szza030.htm, 9 KB)

07 Sep 2001 [Abstract](#)

Implications of Slow or Floating CMOS Inputs (Rev. C) (scba004c.htm, 9 KB)

01 Feb 1998 [Abstract](#)

Bus-Interface Devices With Output-Damping Resistors Or Reduced-Drive Outputs (Rev. A) (scba012a.htm, 9 KB)

01 Aug 1997 [Abstract](#)

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](#)

[View Application Notes for SINGLE-GATES](#)

User Guides

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

14 Nov 2003 [Download](#)

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

18 Dec 2002 [Download](#)

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

05 Dec 2002 [Download](#)

Simulation Models

Spice Model

SPICE Model of SN74LVC1G07 (scaj005.zip, 38 KB)

12 Sep 2000 [zip](#)

IBIS Model

IBIS Model of SN74LVC1G07 (Rev. D) (scam005d.ibs, 180 KB)

23 Feb 2005 [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)

14 Jan 2005 [Download](#)

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

04 Nov 2004 [Download](#)

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

07 Sep 2004 [Download](#)

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

10 Aug 2004 [Download](#)

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

13 Jul 2004 [Download](#)

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

07 Oct 2003 [Download](#)

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

12 Jun 2003 [Download](#)

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

13 Jun 2002 [Download](#)

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](#)

[View More Literature for SINGLE-GATES](#)



[Products](#) | [Applications](#) | [Design Support](#) | [Buy](#) | [Contact Us](#) | [TI Worldwide](#) | [my.TI Login](#) | [All Searches](#) | [Company Info](#) | [Press Releases](#) | [RSS](#) | [Site Map](#)

© Copyright 1995-2005 Texas Instruments Incorporated. All rights reserved. [Trademarks](#) | [Privacy Policy](#) | [Terms of Use](#)