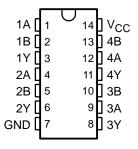
# SN54AHCT00, SN74AHCT00 QUADRUPLE 2-INPUT POSITIVE-NAND GATES

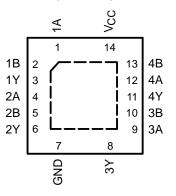
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- Inputs Are TTL-Voltage Compatible
- Latch-Up Performance Exceeds 250 mA Per JESD 17
- ESD Protection Exceeds JESD 22
  - 2000-V Human-Body Model (A114-A)
  - 200-V Machine Model (A115-A)

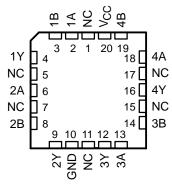
SN54AHCT00 . . . J OR W PACKAGE SN74AHCT00 . . . D, DB, DGV, N, NS, OR PW PACKAGE (TOP VIEW)



SN74AHCT00 . . . RGY PACKAGE (TOP VIEW)



SN54AHCT00 . . . FK PACKAGE (TOP VIEW)



NC - No internal connection

#### description/ordering information

The 'AHCT00 devices perform the Boolean function  $Y = \overline{A \bullet B}$  or  $Y = \overline{A} + \overline{B}$  in positive logic.

#### ORDERING INFORMATION

TA	PACKAGE†		ORDERABLE PART NUMBER	TOP-SIDE MARKING
	QFN – RGY	Tape and reel	SN74AHCT00RGYR	HB00
	PDIP – N	Tube	SN74AHCT00N	SN74AHCT00N
	SOIC - D	Tube	SN74AHCT00D	AHCT00
	3010 - 15	Tape and reel	SN74AHCT00DR	ALICTOO
–40°C to 85°C	SOP – NS	Tape and reel	SN74AHCT00NSR	AHCT00
	SSOP – DB	Tape and reel	SN74AHCT00DBR	HB00
	TSSOP – PW	Tube	SN74AHCT00PW	HB00
	1330F - FW	Tape and reel	SN74AHCT00PWR	ПБОО
	TVSOP – DGV	Tape and reel	SN74AHCT00DGVR	HB00
	CDIP – J	Tube	SNJ54AHCT00J	SNJ54AHCT00J
–55°C to 125°C	CFP – W	Tube	SNJ54AHCT00W	SNJ54AHCT00W
	LCCC – FK	Tube	SNJ54AHCT00FK	SNJ54AHCT00FK

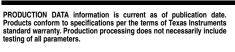
<sup>†</sup> Package drawings, standard packing quantities, thermal data, symbolization, and PCB design guidelines are available at www.ti.com/sc/package.

# FUNCTION TABLE (each gate)

INP	UTS	OUTPUT
Α	В	Y
Н	Н	L
L	X	Н
Χ	L	Н



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.





# SN54AHCT00, SN74AHCT00 QUADRUPLE 2-INPUT POSITIVE-NAND GATES

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## logic diagram, each gate (positive logic)



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

Supply voltage range, V <sub>CC</sub>	
Output voltage range, VO (see Note 1)	
Input clamp current, $I_{IK}$ ( $V_I < 0$ )	–20 mA
Output clamp current, $I_{OK}$ ( $V_O < 0$ or $V_O > V_{CC}$ )	±20 mA
Continuous output current, $I_O(V_O = 0 \text{ to } V_{CC})$	±25 mA
Continuous current through V <sub>CC</sub> or GND	±50 mA
Package thermal impedance, θ <sub>JA</sub> (see Note 2): D package	86°C/W
(see Note 2): DB package	96°C/W
(see Note 2): DGV package	127°C/W
(see Note 2): N package	80°C/W
(see Note 2): NS package	76°C/W
(see Note 2): PW package	113°C/W
(see Note 3): RGY package	47°C/W
Storage temperature range, T <sub>stq</sub>	–65°C to 150°C

<sup>†</sup> 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.

NOTES: 1. The input and output voltage ratings may be exceeded if the input and output current ratings are observed.

- 2. The package thermal impedance is calculated in accordance with JESD 51-7.
- 3. The package thermal impedance is calculated in accordance with JESD 51-5.



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#### recommended operating conditions (see Note 4)

		SN54AI	HCT00	SN74AI	HCT00	UNIT
		MIN	MAX	MIN	MAX	UNII
VCC	Supply voltage	4.5	5.5	4.5	5.5	V
VIH	High-level input voltage	2		2		V
V <sub>IL</sub>	Low-level input voltage		0.8		0.8	V
VI	Input voltage	0	5.5	0	5.5	V
٧o	Output voltage	0	VCC	0	VCC	V
ІОН	High-level output current		-8		-8	mA
l <sub>OL</sub>	Low-level output current		8		8	mA
Δt/Δν	Input transition rise or fall rate		20		20	ns/V
TA	Operating free-air temperature	-55	125	-40	85	°C

NOTE 4: 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	vcc	T <sub>A</sub> = 25°C			SN54AHCT00		SN74AHCT00		UNIT	
PARAWETER	TEST CONDITIONS	VCC	MIN	TYP	MAX	MIN	MAX	MIN	MAX	UNIT	
V	I <sub>OH</sub> = -50 μA	4.5 V	4.4	4.5		4.4		4.4		V	
VOH	$I_{OH} = -8 \text{ mA}$	4.5 V	3.94			3.8		3.8		V	
Va	I <sub>OL</sub> = 50 μA	4.5 V			0.1		0.1		0.1	V	
V <sub>OL</sub>	I <sub>OL</sub> = 8 mA	4.5 V			0.36		0.44		0.44	v	
l <sub>l</sub>	$V_I = 5.5 \text{ V or GND}$	0 V to 5.5 V			±0.1		±1*		±1	μΑ	
Icc	$V_I = V_{CC}$ or GND, $I_O = 0$	5.5 V			2		20		20	μΑ	
ΔI <sub>CC</sub> †	One input at 3.4 V, Other inputs at V <sub>CC</sub> or GND	5.5 V			1.35		1.5		1.5	mA	
C <sub>i</sub>	$V_I = V_{CC}$ or GND	5 V		2	10				10	pF	

<sup>\*</sup> On products compliant to MIL-PRF-38535, this parameter is not production tested at  $V_{CC} = 0 \text{ V}$ .

# switching characteristics over recommended operating free-air temperature range, $V_{CC}$ = 5 V $\pm$ 0.5 V (unless otherwise noted) (see Figure 1)

PARAMETER	FROM	то	LOAD	LOAD T <sub>A</sub> = 25°C		SN54AI	HCT00	SN74AHCT00		UNIT	
PARAMETER	(INPUT)	(OUTPUT)	CAPACITANCE	MIN	TYP	MAX	MIN	MAX MIN N	MAX		
<sup>t</sup> PLH	A or B	V	C <sub>I</sub> = 15 pF		5**	6.9**	1**	8**	1	8	ns
t <sub>PHL</sub>	AUB	'	1 CL = 13 pr		5**	6.9**	1**	8**	1	8	113
tPLH	A or B	~	C <sub>L</sub> = 50 pF		5.5	7.9	1	9	1	9	no
t <sub>PHL</sub>	AUID	r			5.5	7.9	1	9	1	9	ns

<sup>\*\*</sup> On products compliant to MIL-PRF-38535, this parameter is not production tested.



<sup>†</sup> This is the increase in supply current for each input at one of the specified TTL voltage levels, rather than 0 V or VCC.

# SN54AHCT00, SN74AHCT00 QUADRUPLE 2-INPUT POSITIVE-NAND GATES

SCLS229K - OCTOBER 1995 - REVISED JULY 2003

# noise characteristics, $V_{CC}$ = 5 V, $C_L$ = 50 pF, $T_A$ = 25°C (see Note 5)

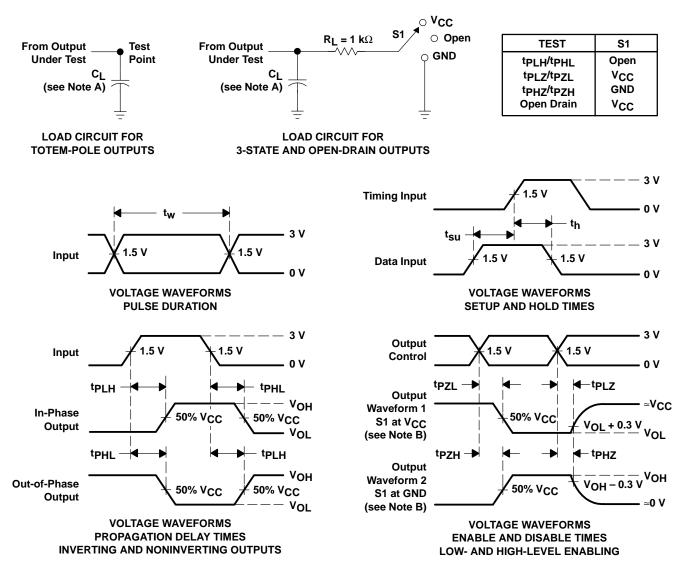
	PARAMETER		SN74AHCT00			
	PARAMETER				UNIT	
V <sub>OL(P)</sub>	Quiet output, maximum dynamic V <sub>OL</sub>		0.4	0.8	V	
V <sub>OL(V)</sub>	Quiet output, minimum dynamic V <sub>OL</sub>		-0.4	-0.8	V	
VOH(V)	Quiet output, minimum dynamic VOH		4.5		V	
VIH(D)	High-level dynamic input voltage	2			V	
V <sub>IL(D)</sub>	Low-level dynamic input voltage			0.8	V	

NOTE 5: Characteristics are for surface-mount packages only.

# operating characteristics, $V_{CC}$ = 5 V, $T_A$ = 25°C

	PARAMETER	TEST CO	ONDITIONS	TYP	UNIT
C <sub>pd</sub>	Power dissipation capacitance	No load,	f = 1 MHz	10.5	pF

#### PARAMETER MEASUREMENT INFORMATION



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  $\leq$  1 MHz,  $Z_Q = 50 \Omega$ ,  $t_f \leq$  3 ns,  $t_f \leq$  3 ns.
- D. The outputs are measured one at a time with one input transition per measurement.
- E. All parameters and waveforms are not applicable to all devices.

Figure 1. Load Circuit and Voltage Waveforms

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## **PACKAGING INFORMATION**

Orderable Device	Status <sup>(1)</sup>	Package Type	Package Drawing	Pins	Package Qty	e Eco Plan <sup>(2)</sup>	Lead/Ball Finish	MSL Peak Temp (3)
5962-9682301Q2A	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
5962-9682301QCA	ACTIVE	CDIP	J	14	1	TBD	A42 SNPB	N / A for Pkg Type
5962-9682301QDA	ACTIVE	CFP	W	14	1	TBD	A42	N / A for Pkg Type
SN74AHCT00D	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AHCT00DBLE	OBSOLETE	SSOP	DB	14		TBD	Call TI	Call TI
SN74AHCT00DBR	ACTIVE	SSOP	DB	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AHCT00DBRE4	ACTIVE	SSOP	DB	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AHCT00DBRG4	ACTIVE	SSOP	DB	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AHCT00DE4	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AHCT00DG4	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AHCT00DGVR	ACTIVE	TVSOP	DGV	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AHCT00DGVRE4	ACTIVE	TVSOP	DGV	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AHCT00DGVRG4	ACTIVE	TVSOP	DGV	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AHCT00DR	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AHCT00DRE4	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AHCT00DRG4	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AHCT00N	ACTIVE	PDIP	N	14	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
SN74AHCT00NE4	ACTIVE	PDIP	N	14	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
SN74AHCT00NSR	ACTIVE	SO	NS	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AHCT00NSRE4	ACTIVE	SO	NS	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AHCT00NSRG4	ACTIVE	SO	NS	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AHCT00PW	ACTIVE	TSSOP	PW	14	90	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AHCT00PWE4	ACTIVE	TSSOP	PW	14	90	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AHCT00PWG4	ACTIVE	TSSOP	PW	14	90	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AHCT00PWLE	OBSOLETE	TSSOP	PW	14		TBD	Call TI	Call TI
SN74AHCT00PWR	ACTIVE	TSSOP	PW	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AHCT00PWRE4	ACTIVE	TSSOP	PW	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM



#### PACKAGE OPTION ADDENDUM

18-Sep-2008

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	e Eco Plan <sup>(2)</sup>	Lead/Ball Finish	MSL Peak Temp <sup>(3)</sup>
SN74AHCT00PWRG4	ACTIVE	TSSOP	PW	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AHCT00RGYR	ACTIVE	QFN	RGY	14	1000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
SN74AHCT00RGYRG4	ACTIVE	QFN	RGY	14	1000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR
SNJ54AHCT00FK	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
SNJ54AHCT00J	ACTIVE	CDIP	J	14	1	TBD	A42 SNPB	N / A for Pkg Type
SNJ54AHCT00W	ACTIVE	CFP	W	14	1	TBD	A42	N / A for Pkg Type

<sup>&</sup>lt;sup>(1)</sup> The marketing status values are defined as follows:

**ACTIVE:** Product device recommended for new designs.

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

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

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

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

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

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

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

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

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

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

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#### OTHER QUALIFIED VERSIONS OF SN54AHCT00, SN74AHCT00:

● Enhanced Product: SN74AHCT00-EP

NOTE: Qualified Version Definitions:

• Enhanced Product - Supports Defense, Aerospace and Medical Applications





19-Mar-2008

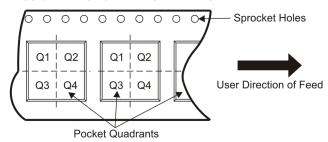
#### TAPE AND REEL INFORMATION



# TAPE DIMENSIONS $\Phi \Phi \Phi \Phi \Phi$ $\oplus$ Cavity → A0 **←**

		Dimension designed to accommodate the component width
I	B0	Dimension designed to accommodate the component length
	K0	Dimension designed to accommodate the component thickness
	W	Overall width of the carrier tape
-	P1	Pitch between successive cavity centers

## QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE



\*All dimensions are nominal

Device	Package Type	Package Drawing		SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
SN74AHCT00DBR	SSOP	DB	14	2000	330.0	16.4	8.2	6.6	2.5	12.0	16.0	Q1
SN74AHCT00DGVR	TVSOP	DGV	14	2000	330.0	12.4	6.8	4.0	1.6	8.0	12.0	Q1
SN74AHCT00DR	SOIC	D	14	2500	330.0	16.4	6.5	9.0	2.1	8.0	16.0	Q1
SN74AHCT00NSR	SO	NS	14	2000	330.0	16.4	8.2	10.5	2.5	12.0	16.0	Q1
SN74AHCT00PWR	TSSOP	PW	14	2000	330.0	12.4	7.0	5.6	1.6	8.0	12.0	Q1
SN74AHCT00RGYR	QFN	RGY	14	1000	180.0	12.4	3.85	3.85	1.35	8.0	12.0	Q1





\*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
SN74AHCT00DBR	SSOP	DB	14	2000	346.0	346.0	33.0
SN74AHCT00DGVR	TVSOP	DGV	14	2000	346.0	346.0	29.0
SN74AHCT00DR	SOIC	D	14	2500	346.0	346.0	33.0
SN74AHCT00NSR	SO	NS	14	2000	346.0	346.0	33.0
SN74AHCT00PWR	TSSOP	PW	14	2000	346.0	346.0	29.0
SN74AHCT00RGYR	QFN	RGY	14	1000	190.5	212.7	31.8

## DB (R-PDSO-G\*\*)

## PLASTIC SMALL-OUTLINE

#### **28 PINS SHOWN**



NOTES: A. All linear dimensions are in millimeters.

B. This drawing is subject to change without notice.

C. Body dimensions do not include mold flash or protrusion not to exceed 0,15.

D. Falls within JEDEC MO-150

## PW (R-PDSO-G\*\*)

#### 14 PINS SHOWN

## 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 not to exceed 0,15.

D. Falls within JEDEC MO-153

## **MECHANICAL DATA**

# NS (R-PDSO-G\*\*)

# 14-PINS SHOWN

#### PLASTIC SMALL-OUTLINE PACKAGE



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



## 14 LEADS SHOWN



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

#### FK (S-CQCC-N\*\*)

#### **28 TERMINAL SHOWN**

#### **LEADLESS CERAMIC CHIP CARRIER**



NOTES: A. All linear dimensions are in inches (millimeters).

- B. This drawing is subject to change without notice.
- C. This package can be hermetically sealed with a metal lid.
- D. The terminals are gold plated.
- E. Falls within JEDEC MS-004



## DGV (R-PDSO-G\*\*)

#### **24 PINS SHOWN**

#### **PLASTIC SMALL-OUTLINE**

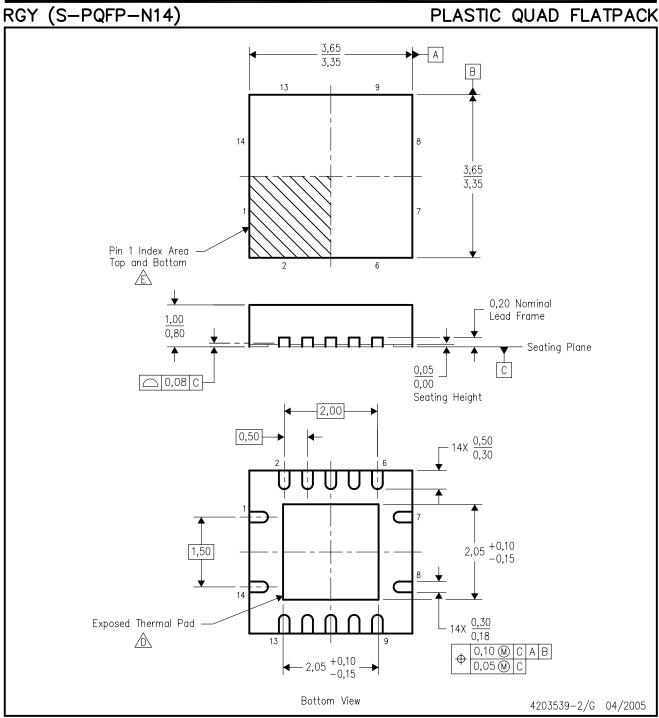


NOTES: A. All linear dimensions are in millimeters.

B. This drawing is subject to change without notice.

C. Body dimensions do not include mold flash or protrusion, not to exceed 0,15 per side.

D. Falls within JEDEC: 24/48 Pins – MO-153 14/16/20/56 Pins – MO-194



NOTES: A. All linear dimensions are in millimeters. Dimensioning and tolerancing per ASME Y14.5M-1994.

- B. This drawing is subject to change without notice.
- C. QFN (Quad Flatpack No-Lead) package configuration.
- The package thermal pad must be soldered to the board for thermal and mechanical performance.

Pin 1 identifiers are located on both top and bottom of the package and within the zone indicated. The Pin 1 identifiers are either a molded, marked, or metal feature.

F. Package complies to JEDEC MO-241 variation BA.



#### THERMAL PAD MECHANICAL DATA



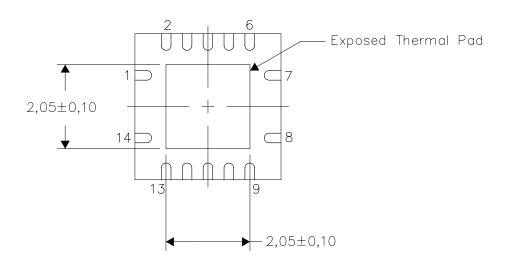
RGY (S-PVQFN-N14)

#### THERMAL INFORMATION

This package incorporates an exposed thermal pad that is designed to be attached directly to an external heatsink. The thermal pad must be soldered directly to the printed circuit board (PCB). After soldering, the PCB can be used as a heatsink. In addition, through the use of thermal vias, the thermal pad can be attached directly to the appropriate copper plane shown in the electrical schematic for the device, or alternatively, can be attached to a special heatsink structure designed into the PCB. This design optimizes the heat transfer from the integrated circuit (IC).

For information on the Quad Flatpack No—Lead (QFN) package and its advantages, refer to Application Report, Quad Flatpack No—Lead Logic Packages, Texas Instruments Literature No. SCBA017. This document is available at www.ti.com.

The exposed thermal pad dimensions for this package are shown in the following illustration.

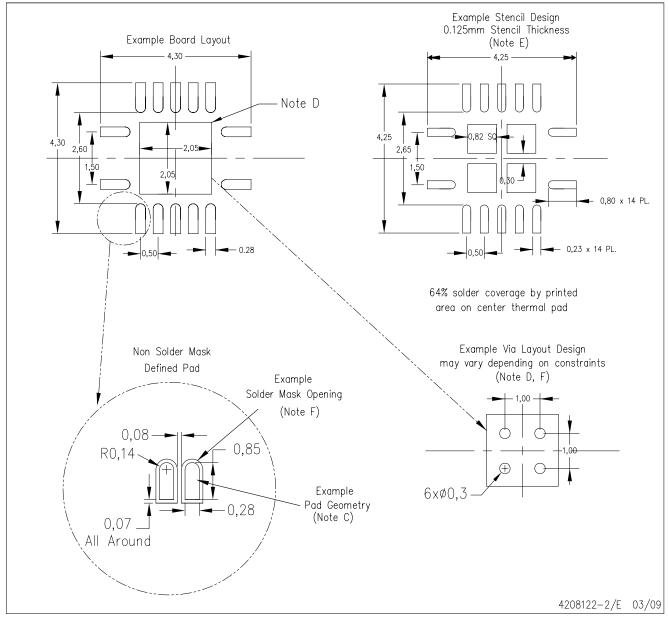


Bottom View

NOTE: All linear dimensions are in millimeters

Exposed Thermal Pad Dimensions

# RGY (S-PVQFN-N14)



- A. All linear dimensions are in millimeters.
- B. This drawing is subject to change without notice.
- C. Publication IPC-7351 is recommended for alternate designs.
- D. This package is designed to be soldered to a thermal pad on the board. Refer to Application Note, Quad Flat—Pack QFN/SON PCB Attachment, Texas Instruments Literature No. SLUA271, and also the Product Data Sheets for specific thermal information, via requirements, and recommended board layout. These documents are available at www.ti.com <a href="https://www.ti.com">http://www.ti.com</a>.
- E. Laser cutting apertures with trapezoidal walls and also rounding corners will offer better paste release. Customers should contact their board assembly site for stencil design recommendations. Refer to IPC 7525 for stencil design considerations.
- F. Customers should contact their board fabrication site for minimum solder mask web tolerances between signal pads.



# W (R-GDFP-F14)

# CERAMIC DUAL FLATPACK



- A. All linear dimensions are in inches (millimeters).
- B. This drawing is subject to change without notice.
- C. This package can be hermetically sealed with a ceramic lid using glass frit.
- D. Index point is provided on cap for terminal identification only.
- E. Falls within MIL STD 1835 GDFP1-F14 and JEDEC MO-092AB



# D (R-PDSO-G14)

## PLASTIC SMALL-OUTLINE PACKAGE



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



# N (R-PDIP-T\*\*)

# PLASTIC DUAL-IN-LINE PACKAGE

16 PINS SHOWN



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



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