

CD54HC14, CD74HC14, CD54HCT14, CD74HCT14

High-Speed CMOS Logic Hex Inverting Schmitt Trigger

Features

- Unlimited Input Rise and Fall Times
- Exceptionally High Noise Immunity
- Fanout (Over Temperature Range)
 - Standard Outputs 10 LSTTL Loads
 - Bus Driver Outputs 15 LSTTL Loads
- Wide Operating Temperature Range . . . -55°C to 125°C
- Balanced Propagation Delay and Transition Times
- Significant Power Reduction Compared to LSTTL Logic ICs
- HC Types
 - 2V to 6V Operation
 - High Noise Immunity: $N_{IL} = 30\%$, $N_{IH} = 30\%$ of V_{CC} at $V_{CC} = 5V$
- HCT Types
 - 4.5V to 5.5V Operation
 - CMOS Input Compatibility, $I_I \leq 1\mu A$ at V_{OL}, V_{OH}

Description

The 'HC14 and 'HCT14 each contain six inverting Schmitt triggers in one package.

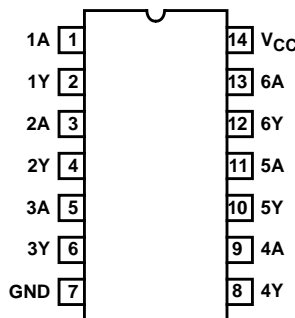
Ordering Information

PART NUMBER	TEMP. RANGE (°C)	PACKAGE
CD54HC14F3A	-55 to 125	14 Ld CERDIP
CD54HCT14F3A	-55 to 125	14 Ld CERDIP
CD74HC14E	-55 to 125	14 Ld PDIP
CD74HC14M	-55 to 125	14 Ld SOIC
CD74HC14MT	-55 to 125	14 Ld SOIC
CD74HC14M96	-55 to 125	14 Ld SOIC
CD74HC14PW	-55 to 125	14 Ld TSSOP
CD74HC14PWR	-55 to 125	14 Ld TSSOP
CD74HCT14E	-55 to 125	14 Ld PDIP
CD74HCT14M	-55 to 125	14 Ld SOIC
CD74HCT14MT	-55 to 125	14 Ld SOIC
CD74HCT14M96	-55 to 125	14 Ld SOIC
CD74HCT14PW	-55 to 125	14 Ld TSSOP
CD74HCT14PWR	-55 to 125	14 Ld TSSOP

NOTE: When ordering, use the entire part number. The suffix 96 denotes tape and reel. The suffix T denotes a small-quantity reel of 250.

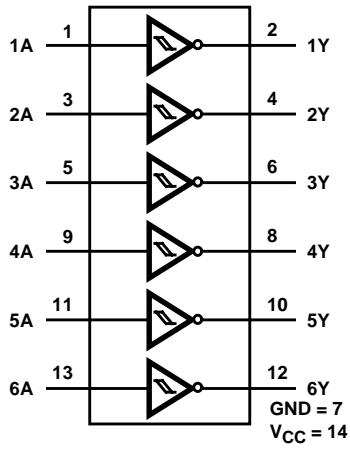
Pinout

CD54HC14, CD54HCT14
(CERDIP)
CD74HC14, CD74HCT14
(PDIP, SOIC, TSSOP)
TOP VIEW



CD54HC14, CD74HC14, CD54HCT14, CD74HCT14

Functional Diagram



TRUTH TABLE

INPUT (A)	OUTPUT (Y)
L	H
H	L

H= High Level
L= Low Level

Logic Diagram

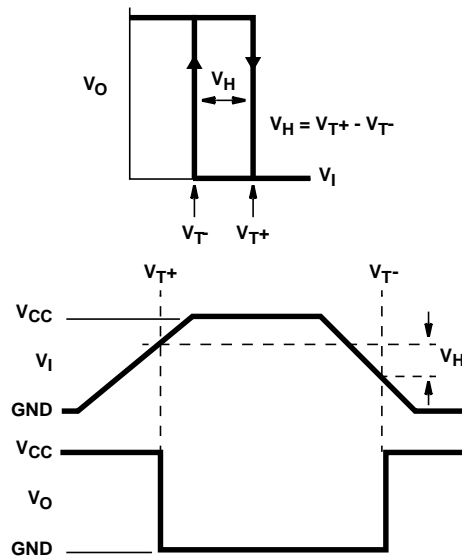
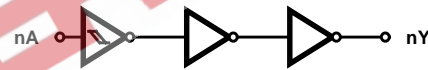


FIGURE 3. HYSTERESIS DEFINITION, CHARACTERISTIC, AND TEST SETUP

CD54HC14, CD74HC14, CD54HCT, CD74HCT14

Absolute Maximum Ratings

DC Supply Voltage, V_{CC}	-0.5V to 7V
DC Input Diode Current, I_{IK}	
For $V_I < -0.5V$ or $V_I > V_{CC} + 0.5V$	$\pm 20mA$
DC Output Diode Current, I_{OK}	
For $V_O < -0.5V$ or $V_O > V_{CC} + 0.5V$	$\pm 20mA$
DC Drain Current, per Output, I_O	
For $-0.5V < V_O < V_{CC} + 0.5V$	$\pm 25mA$
DC Output Source or Sink Current per Output Pin, I_O	
For $V_O > -0.5V$ or $V_O < V_{CC} + 0.5V$	$\pm 25mA$
DC V_{CC} or Ground Current, I_{CC}	$\pm 50mA$

Thermal Information

Thermal Resistance (Typical, Note 1)	θ_{JA} ($^{\circ}C/W$)
E (PDIP) Package	80
M (SOIC) Package	86
PW (TSSOP) Package	113
Maximum Junction Temperature (Hermetic Package or Die) . . .	175 $^{\circ}C$
Maximum Junction Temperature (Plastic Package)	150 $^{\circ}C$
Maximum Storage Temperature Range	-65 $^{\circ}C$ to 150 $^{\circ}C$
Maximum Lead Temperature (Soldering 10s)	300 $^{\circ}C$ (SOIC - Lead Tips Only)

Operating Conditions

Temperature Range, T_A	-55 $^{\circ}C$ to 125 $^{\circ}C$
Supply Voltage Range, V_{CC}	
HC Types2V to 6V
HCT Types	4.5V to 5.5V
DC Input or Output Voltage, V_I, V_O	0V to V_{CC}

CAUTION: Stresses above those listed in "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress only rating and operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied.

NOTE:

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

DC Electrical Specifications

PARAMETER	SYMBOL	TEST CONDITIONS			25 $^{\circ}C$		-40 $^{\circ}C$ TO 85 $^{\circ}C$		-55 $^{\circ}C$ TO 125 $^{\circ}C$		UNITS
		V_I (V)	I_O (mA)	V_{CC} (V)	MIN	MAX	MIN	MAX	MIN	MAX	
HC TYPES											
Input Switch Points	V_{T+}	-	-	2	0.7	1.5	0.7	1.5	0.7	1.5	V
		4.5		4.5	1.7	3.15	1.7	3.15	1.7	3.15	V
		6		6	2.1	4.2	2.1	4.2	2.1	4.2	V
	V_{T-}	-	-	2	0.3	1.0	0.3	1.0	0.3	1.0	V
		4.5		4.5	0.9	2.2	0.9	2.2	0.9	2.2	V
		6		6	1.2	3.0	1.2	3.0	1.2	3.0	V
	V_H	-	-	2	0.2	1.0	0.2	1.0	0.2	1.0	V
		4.5		4.5	0.4	1.4	0.4	1.4	0.4	1.4	V
		6		6	0.6	1.6	0.6	1.6	0.6	1.6	V
High Level Output Voltage CMOS Loads	V_{OH}	V_{T-}	-0.02	2	1.9	-	1.9	-	1.9	-	V
			-0.02	4.5	4.4	-	4.4	-	4.4	-	V
			-0.02	6	5.9	-	5.9	-	5.9	-	V
			-	-	-	-	-	-	-	-	V
			-4	4.5	3.98	-	3.84	-	3.7	-	V
			-5.2	6	5.48	-	5.34	-	5.2	-	V
High Level Output Voltage TTL Loads	V_{OH}	V_{T-}	-	-	-	-	-	-	-	V	
			-4	4.5	3.98	-	3.84	-	3.7	-	V
			-5.2	6	5.48	-	5.34	-	5.2	-	V
			-	-	-	-	-	-	-	-	V
			-4	4.5	3.98	-	3.84	-	3.7	-	V
			-5.2	6	5.48	-	5.34	-	5.2	-	V
Low Level Output Voltage CMOS Loads	V_{OL}	V_{T+}	0.02	2	-	0.1	-	0.1	-	0.1	V
			0.02	4.5	-	0.1	-	0.1	-	0.1	V
			0.02	6	-	0.1	-	0.1	-	0.1	V
			-	-	-	-	-	-	-	-	V
			4	4.5	-	0.26	-	0.33	-	0.4	V
			5.2	6	-	0.26	-	0.33	-	0.4	V
Low Level Output Voltage TTL Loads	V_{OL}	V_{T+}	-	-	-	-	-	-	-	V	
			4	4.5	-	0.26	-	0.33	-	0.4	V
			5.2	6	-	0.26	-	0.33	-	0.4	V

CD54HC14, CD74HC14, CD54HCT14, CD74HCT14

DC Electrical Specifications (Continued)

PARAMETER	SYMBOL	TEST CONDITIONS		V_{CC} (V)	25°C		-40°C TO 85°C		-55°C TO 125°C		UNITS
		V_I (V)	I_O (mA)		MIN	MAX	MIN	MAX	MIN	MAX	
Input Leakage Current	I_I	V_{CC} or GND	-	6	-	± 0.1	-	± 1	-	± 1	μA
Quiescent Device Current	I_{CC}	V_{CC} or GND	0	6	-	2	-	20	-	40	μA
HCT TYPES											
Input Switch Points	V_{T+}	-	-	4.5	1.2	1.9	1.2	1.9	1.2	1.9	V
				5.5	1.4	2.1	1.4	2.1	1.4	2.1	V
	V_T			4.5	0.5	1.2	0.5	1.2	0.5	1.2	V
				5.5	0.6	1.4	0.6	1.4	0.6	1.4	V
	V_H			4.5	0.4	1.4	0.4	1.4	0.4	1.4	V
				5.5	0.4	1.5	0.4	1.5	0.4	1.5	V
High Level Output Voltage CMOS Loads	V_{OH}	V_T	-0.02	4.5	4.4	-	4.4	-	4.4	-	V
High Level Output Voltage TTL Loads			-4	4.5	3.98	-	3.84	-	3.7	-	V
Low Level Output Voltage CMOS Loads	V_{OL}	V_{T+}	0.02	4.5	-	0.1	-	0.1	-	0.1	V
Low Level Output Voltage TTL Loads			4	4.5	-	0.26	-	0.33	-	0.4	V
Input Leakage Current	I_I	V_{CC} and GND	-	5.5	-	± 0.1	-	± 1	-	± 1	μA
Quiescent Device Current	I_{CC}	V_{CC} or GND	0	5.5	-	2	-	20	-	40	μA
Additional Quiescent Device Current Per Input Pin: 1 Unit Load	ΔI_{CC} (Note 2)	$V_{CC} - 2.1$	-	4.5 to 5.5	-	360	-	450	-	490	μA

NOTE:

- For dual-supply systems theoretical worst case ($V_I = 2.4V$, $V_{CC} = 5.5V$) specification is 1.8mA.

HCT Input Loading Table

INPUT	UNIT LOADS
nA	0.6

NOTE: Unit Load is ΔI_{CC} limit specified in DC Electrical Specifications table, e.g., 360 μA max at 25°C.

Switching Specifications Input $t_r, t_f = 6\text{ns}$

PARAMETER	SYMBOL	TEST CONDITIONS	V_{CC} (V)	25°C			-40°C TO 85°C		-55°C TO 125°C		UNITS
				MIN	TYP	MAX	MIN	MAX	MIN	MAX	
HC TYPES											
Propagation Delay, A to Y	t_{PLH}, t_{PHL}	$C_L = 50\text{pF}$	2	-	-	135	-	170	-	205	ns
		$C_L = 50\text{pF}$	4.5	-	-	27	-	34	-	41	ns
		$C_L = 15\text{pF}$	5	-	11	-	-	-	-	-	ns
		$C_L = 50\text{pF}$	6	-	-	23	-	29	-	35	ns
Output Transition Times	t_{TLH}, t_{THL}	$C_L = 50\text{pF}$	2	-	-	75	-	95	18	110	ns
			4.5	-	-	15	-	19	-	22	ns
			6	-	-	13	-	16	-	19	ns
Input Capacitance	C_I	-	-	-	10	-	10	-	10	pF	
Power Dissipation Capacitance (Notes 3, 4)	C_{PD}	-	5	-	20	-	-	-	-	pF	
HCT TYPES											
Propagation Delay, A to Y	t_{PLH}, t_{PHL}	$C_L = 50\text{pF}$	4.5	-	-	38	-	48	-	57	ns
		$C_L = 15\text{pF}$	5	-	16	-	-	-	-	-	ns
Output Transition Times	t_{TLH}, t_{THL}	$C_L = 50\text{pF}$	4.5	-	-	15	-	19	-	22	ns
Input Capacitance	C_I	-	-	-	10	-	10	-	10	pF	
Power Dissipation Capacitance (Notes 3, 4)	C_{PD}	-	5	-	20	-	-	-	-	pF	

NOTES:

- C_{PD} is used to determine the dynamic power consumption, per inverter.
- $P_D = V_{CC}^2 f_i (C_{PD} + C_L)$ where f_i = input frequency, C_L = output load capacitance, V_{CC} = supply voltage.

Test Circuits and Waveforms

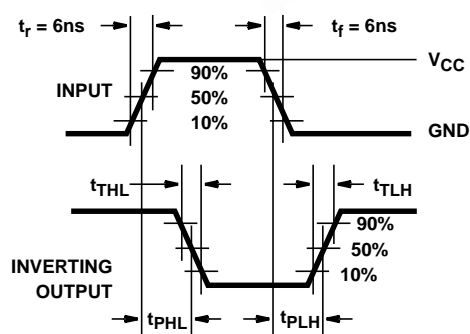


FIGURE 4. HC TRANSITION TIMES AND PROPAGATION DELAY TIMES, COMBINATION LOGIC

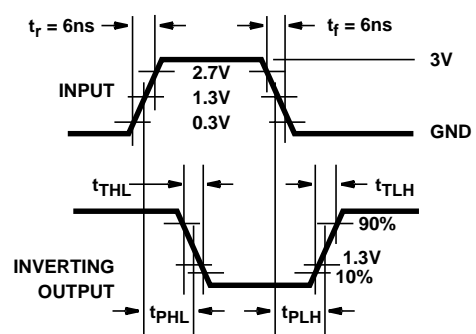


FIGURE 5. HCT TRANSITION TIMES AND PROPAGATION DELAY TIMES, COMBINATION LOGIC

PACKAGING INFORMATION

Orderable Device	Status ⁽¹⁾	Package Type	Package Drawing	Pins	Package Qty	Eco Plan ⁽²⁾	Lead/Ball Finish	MSL Peak Temp ⁽³⁾
CD54HC14F	ACTIVE	CDIP	J	14	1	TBD	A42 SNPB	N / A for Pkg Type
CD54HC14F3A	ACTIVE	CDIP	J	14	1	TBD	A42 SNPB	N / A for Pkg Type
CD54HCT14F	ACTIVE	CDIP	J	14	1	TBD	A42 SNPB	N / A for Pkg Type
CD54HCT14F3A	ACTIVE	CDIP	J	14	1	TBD	A42 SNPB	N / A for Pkg Type
CD74HC14E	ACTIVE	PDIP	N	14	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
CD74HC14EE4	ACTIVE	PDIP	N	14	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
CD74HC14M	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
CD74HC14M96	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
CD74HC14M96E4	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
CD74HC14ME4	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
CD74HC14MT	ACTIVE	SOIC	D	14	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
CD74HC14MTE4	ACTIVE	SOIC	D	14	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
CD74HC14PW	ACTIVE	TSSOP	PW	14	90	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
CD74HC14PWE4	ACTIVE	TSSOP	PW	14	90	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
CD74HC14PWR	ACTIVE	TSSOP	PW	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
CD74HC14PWRE4	ACTIVE	TSSOP	PW	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
CD74HCT14E	ACTIVE	PDIP	N	14	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
CD74HCT14EE4	ACTIVE	PDIP	N	14	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
CD74HCT14M	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
CD74HCT14M96	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
CD74HCT14M96E4	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
CD74HCT14M96G4	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
CD74HCT14ME4	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
CD74HCT14MG4	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
CD74HCT14MT	ACTIVE	SOIC	D	14	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
CD74HCT14MTE4	ACTIVE	SOIC	D	14	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
CD74HCT14PW	ACTIVE	TSSOP	PW	14	90	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM

Orderable Device	Status ⁽¹⁾	Package Type	Package Drawing	Pins	Package Qty	Eco Plan ⁽²⁾	Lead/Ball Finish	MSL Peak Temp ⁽³⁾
						no Sb/Br)		
CD74HCT14PWE4	ACTIVE	TSSOP	PW	14	90	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
CD74HCT14PWR	ACTIVE	TSSOP	PW	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
CD74HCT14PWRE4	ACTIVE	TSSOP	PW	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	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), 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)

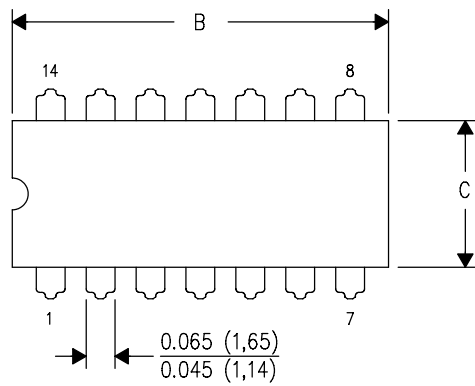
⁽³⁾ MSL, Peak Temp. -- The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.

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.

J (R-GDIP-T**)
14 LEADS SHOWN

CERAMIC DUAL IN-LINE PACKAGE



DIM \ PINS **	14	16	18	20
A	0.300 (7,62) BSC	0.300 (7,62) BSC	0.300 (7,62) BSC	0.300 (7,62) BSC
B MAX	0.785 (19,94)	.840 (21,34)	0.960 (24,38)	1.060 (26,92)
B MIN	—	—	—	—
C MAX	0.300 (7,62)	0.300 (7,62)	0.310 (7,87)	0.300 (7,62)
C MIN	0.245 (6,22)	0.245 (6,22)	0.220 (5,59)	0.245 (6,22)



4040083/F 03/03

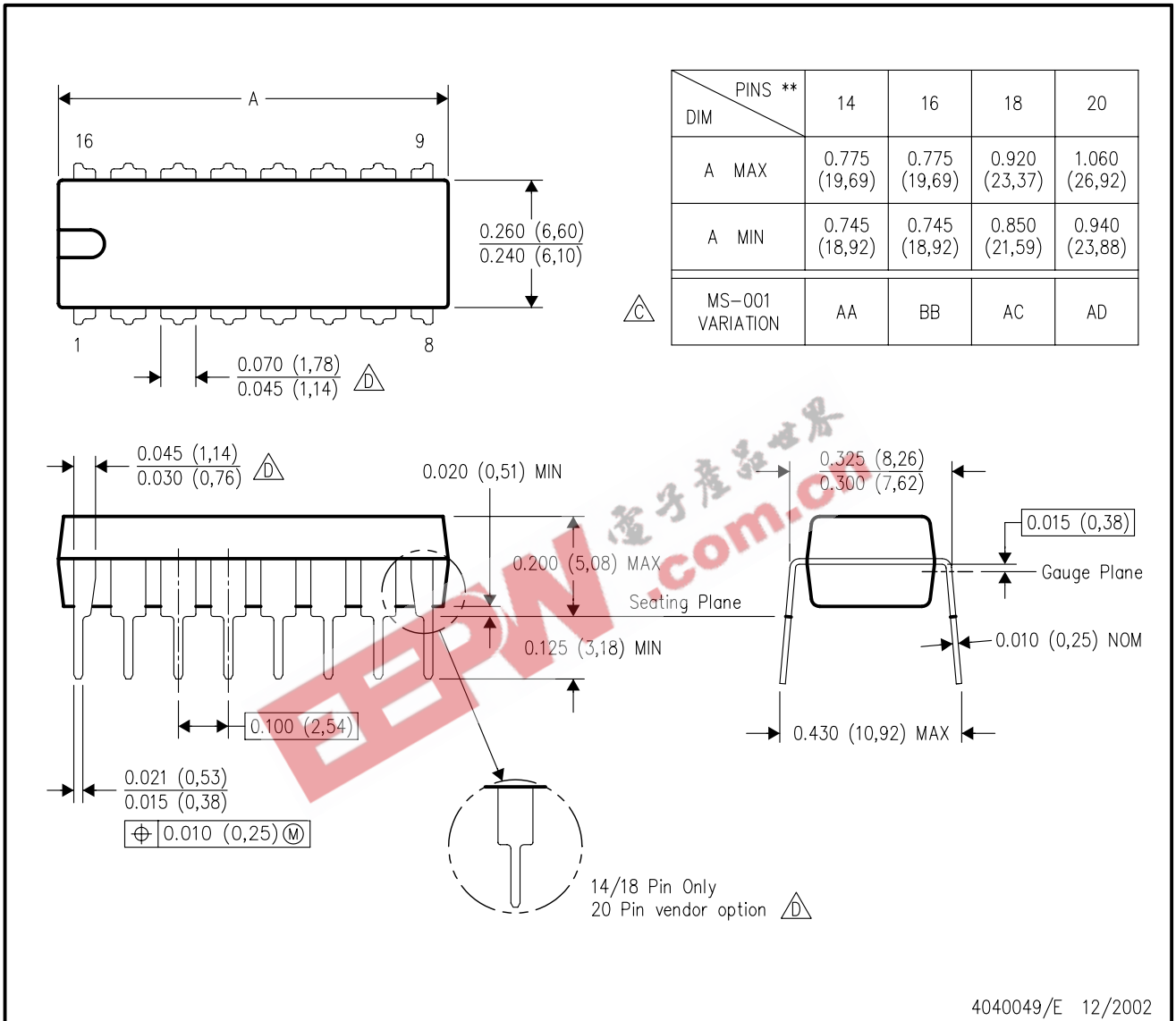
- NOTES:
- All linear dimensions are in inches (millimeters).
 - This drawing is subject to change without notice.
 - This package is hermetically sealed with a ceramic lid using glass frit.
 - Index point is provided on cap for terminal identification only on press ceramic glass frit seal only.
 - Falls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

MECHANICAL DATA

N (R-PDIP-T**)

PLASTIC DUAL-IN-LINE PACKAGE

16 PINS SHOWN

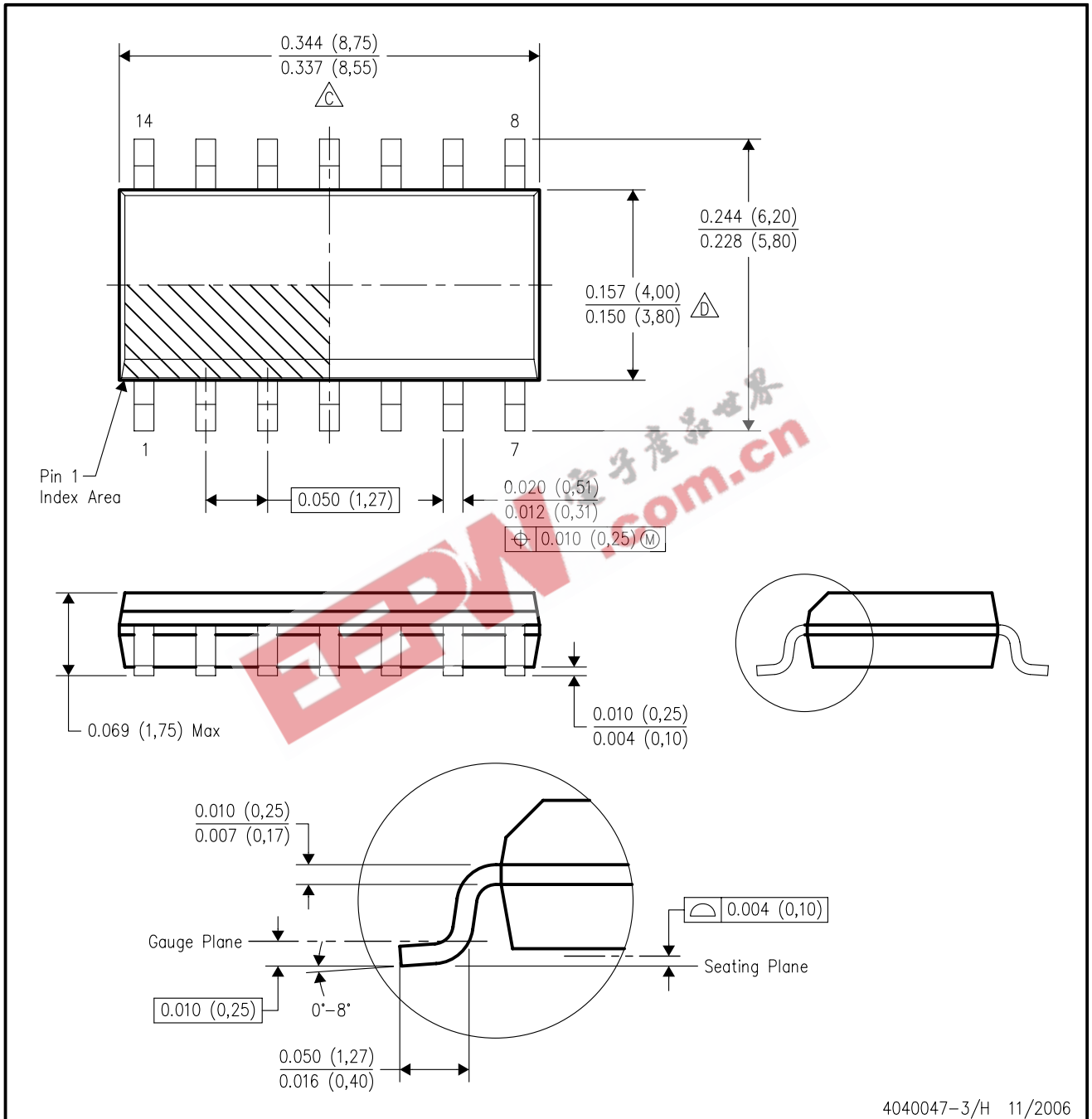


- NOTES:
- A. All linear dimensions are in inches (millimeters).
 - B. This drawing is subject to change without notice.
 - Falls within JEDEC MS-001, except 18 and 20 pin minimum body length (Dim A).
 - The 20 pin end lead shoulder width is a vendor option, either half or full width.

MECHANICAL DATA

D (R-PDSO-G14)

PLASTIC SMALL-OUTLINE PACKAGE



4040047-3/H 11/2006

- NOTES:
- All linear dimensions are in inches (millimeters).
 - 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.
 - Reference JEDEC MS-012 variation AB.

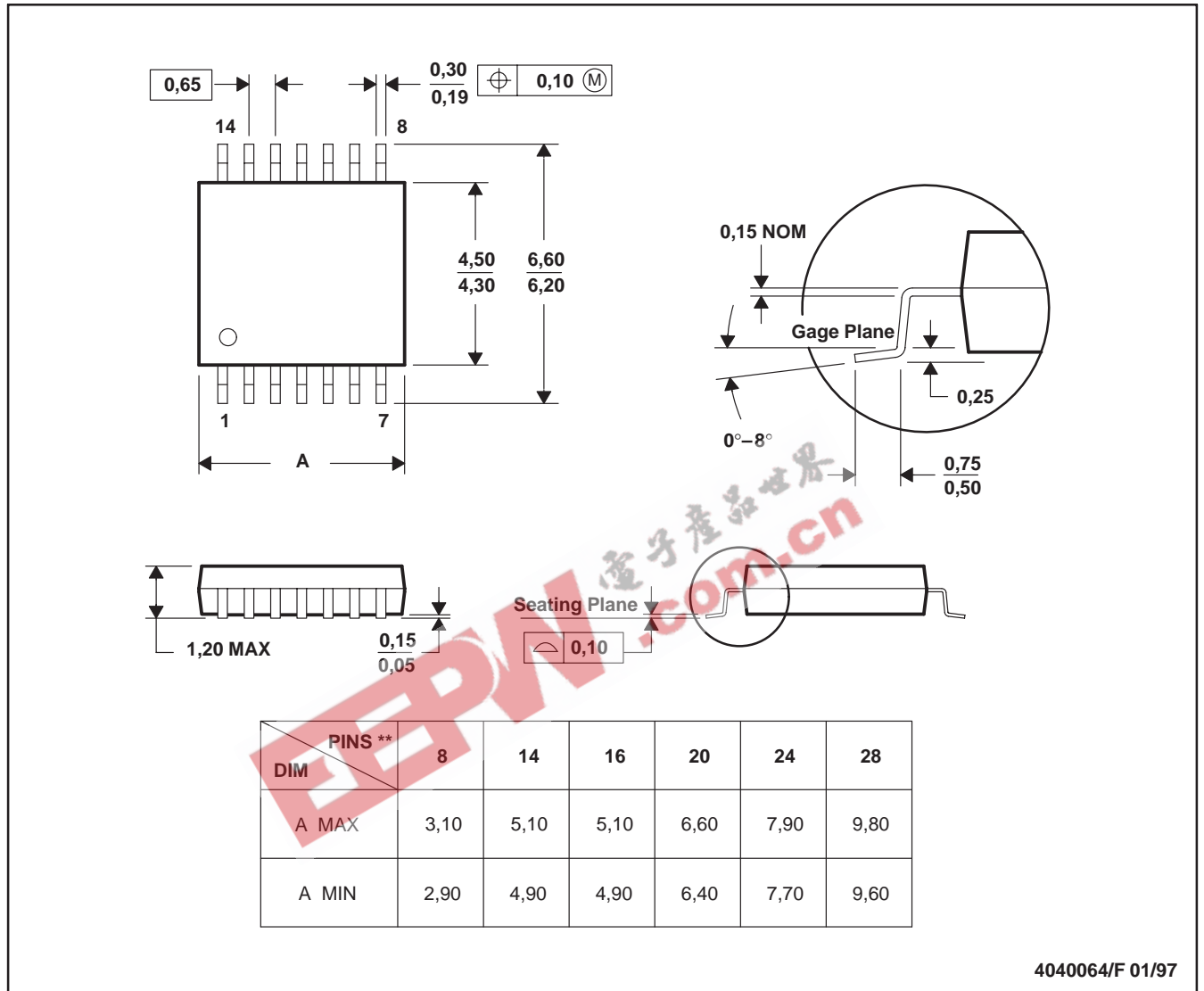
MECHANICAL DATA

MTSS001C – JANUARY 1995 – REVISED FEBRUARY 1999

PW (R-PDSO-G**)

PLASTIC SMALL-OUTLINE PACKAGE

14 PINS SHOWN



4040064/F 01/97

- 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

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
Low Power Wireless	www.ti.com/lpw	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