TEXAS INSTRUMENTS
SN54HC151, SN74HC151
JAJSO13F – DECEMBER 1982 – REVISED FEBRUARY 2022

SNx4HC151 8～1 ライン・データ・セレクタ / マルチプレクサ

1 特長

- 幅広い動作電圧範囲:2V～6V
- 出力は最大 10 個の LSTTL 負荷を駆動可能
- 低消費電力、I_{CC}:80μA 以下
- t_{pd} = 13ns (標準値)
- 5V で ±6mA の出力駆動能力
- 低い入力電流:最大 1μA
- 8～1 ラインのマルチプレクサは、次のように動作します。
  - ブール関数ジェネレータ
  - パラレル・シリアル間コンバータ
  - データソースセレクタ

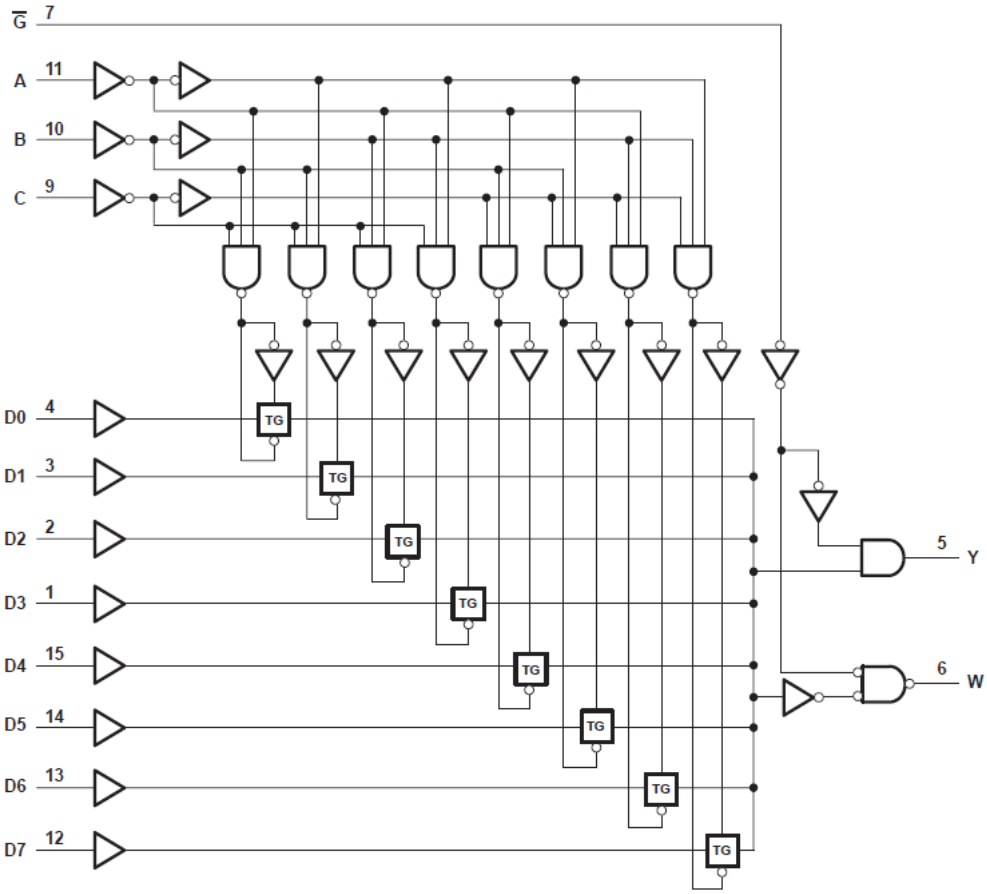
2 概要

このデータ・セレクタ / マルチプレクサは、8 つのデータソースのいずれかを選択してフル・バイナリ・デコードを行います。入力を有効化するには、ストローブ ($\overline{G}$) 入力を LOW ロジック・レベルにする必要があります。ストローブ端子に HIGH レベルを印加すると、標準出力 (Y) は LOW に、反転出力 (W) は HIGH に強制されます。

製品情報

部品番号	パッケージ (1)	本体サイズ (公称)
SN54HC151J	CDIP (16)	24.38mm × 6.92mm
SN74HC151D	SOIC (16)	9.90mm × 3.90mm
SN74HC151N	PDIP (16)	19.31mm × 6.35mm
SN74HC151NS	SO (16)	6.20mm × 5.30mm
SN74HC151PW	TSSOP (16)	5.00mm × 4.40mm
SNJ54HC151FK	LCCC (20)	8.89mm × 8.45mm

(1) 利用可能なパッケージについては、このデータシートの末尾にある注文情報を参照してください。



ここに示すピン番号は D、J、N、NS、PW、W の各パッケージのものです。

機能ブロック図

英語版の TI 製品についての情報を翻訳したこの資料は、製品の概要を確認する目的で便宜的に提供しているものです。該当する正式な英語版の最新情報は、www.ti.com で閲覧でき、その内容が常に優先されます。TI では翻訳の正確性および妥当性につきましては一切保証いたしません。実際の設計などの前には、必ず最新版の英語版をご参照くださいますようお願いいたします。

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3 Revision History

資料番号末尾の英字は改訂を表しています。その改訂履歴は英語版に準じています。

Changes from Revision E (September 2003) to Revision F (February 2022)	Page
• 最新のデータシート規格を反映するように、文書全体の採番、書式設定、表、図、相互参照を更新	1

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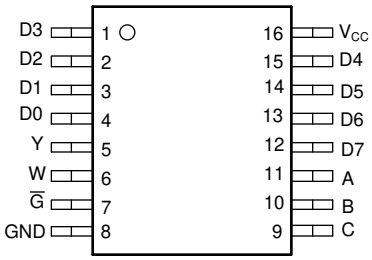
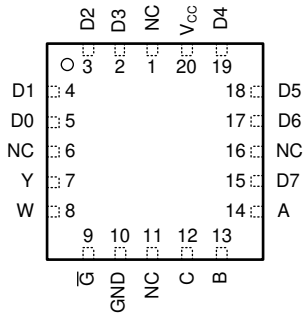
4 Pin Configuration and Functions



J, D, N, NS, or PW Package
16-Pin CDIP, SOIC, PDIP, SO, TSSOP
Top View



FK Package
20-Pin LCCC
Top View

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5 Specifications

5.1 Absolute Maximum Ratings

over operating free-air temperature range (unless otherwise noted)(1)

			MIN	MAX	UNIT
V_{CC}	Supply voltage range		–0.5	7	mA
I_{IK}	Input clamp current(2)	$V_I < 0$ or $V_I > V_{CC}$		±20	mA
I_{OK}	Output clamp current(2)	$V_O < 0$ or $V_O > V_{CC}$		±20	mA
I_O	Continuous output current	$V_O = 0$ to V_{CC}		±35	mA
	Continuous current through V_{CC} or GND			±70	mA
T_J	Junction temperature			150	°C
T_{stg}	Storage temperature		–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 セクション 5.2 is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.
(2) The input and output voltage ratings may be exceeded if the input and output current ratings are observed.

5.2 Recommended Operating Conditions(1)

			SN54HC151			SN74HC151			UNIT
			MIN	NOM	MAX	MIN	NOM	MAX	
V_{CC}	Supply voltage		2	5	6	2	5	6	V
V_{IH}	High-level input voltage	V_{CC} = 2 V	1.5			1.5			V
		V_{CC} = 4.5 V	3.15			3.15			
		V_{CC} = 6 V	4.2			4.2			
V_{IL}	Low-level input voltage	V_{CC} = 2 V			0.5			0.5	V
		V_{CC} = 4.5 V			1.35			1.35	
		V_{CC} = 6 V			1.8			1.8	
V_I	Input voltage		0		V_{CC}	0		V_{CC}	V
V_O	Output voltage		0		V_{CC}	0		V_{CC}	V
t_t	Input transition rise/fall time	V_{CC} = 2 V			1000			1000	ns
		V_{CC} = 4.5 V			500			500	
		V_{CC} = 6 V			400			400	
T_A	Operating free-air temperature		−55		125	−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.

5.3 Thermal Information

THERMAL METRIC		D (SOIC) 16 PINS	N (PDIP) 16 PINS	NS (SO) 16 PINS	PW (TSSOP) 16 PINS	UNIT
$R_{\theta JA}$	Junction-to-ambient thermal resistance(1)	73	67	64	108	°C/W

(1) For more information about traditional and new thermal metrics, see the *Semiconductor and IC package thermal metrics* application report.

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5.4 Electrical Characteristics

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

PARAMETER	TEST CONDITIONS(1)	V_{CC} (V)	T_A = 25°C			SN54HC151		SN74HC151		UNIT
			MIN	TYP	MAX	MIN	MAX	MIN	MAX	
V_{OH}	I_{OH} = −20 mA	2	1.9	1.998		1.9		1.9		V
		4.5	4.4	4.499		4.4		4.4		
		6	5.9	5.999		5.9		5.9		
	I_{OH} = −6 mA	4.5	3.98	4.3		3.7		3.84		
	I_{OH} = −7.8 mA	6	5.48	5.8		5.2		5.34		
V_{OL}	I_{OL} = 20 µA	2		0.002	0.1		0.1		0.1	V
		4.5		0.001	0.1		0.1		0.1	
		6		0.001	0.1		0.1		0.1	
	I_{OL} = 6 mA	4.5		0.17	0.26		0.4		0.33	
	I_{OL} = 7.8 mA	6		0.15	0.26		0.4		0.33	
I_I	V_I = V_{CC} or 0	6		±0.1	±100		±1000		±1000	nA
I_{CC}	I_O = 0	6			8		160		80	µA
C_i		2 to 6		3	10		10		10	pF

(1) V_I = V_{IH} or V_{IL}

5.5 Switching Characteristics

over recommended operating free-air temperature range, C_L = 50 pF (unless otherwise noted) (see Parameter Measurement Information)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	V_{CC} (V)	T_A = 25°C			SN54HC151		SN74HC151		UNIT
				MIN	TYP	MAX	MIN	MAX	MIN	MAX	
t_{pd}	A, B, or C	Y or W	2		94	250		360		312	ns
			4.5		30	50		73		63	
			6		25	43		62		54	
	Any D	Y or W	2		74	195		283		244	
			4.5		23	39		57		49	
			6		20	33		48		41	
	$\overline{G}$	Y or W	2		49	127		185		159	
			4.5		15	25		37		32	
			6		13	22		32		28	
t_t		Y or W	2		22	75		110		95	ns
			4.5		9	15		22		19	
			6		8	13		19		16	

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5.6 Switching Characteristics

over recommended operating free-air temperature range, C_L = 150 pF (unless otherwise noted) (see Parameter Measurement Information)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	V_{CC} (V)	T_A = 25°C			SN54HC151		SN74HC151		UNIT
				MIN	TYP	MAX	MIN	MAX	MIN	MAX	
t_{pd}	A, B, or C	Y or W	2		107	350		525		440	ns
			4.5		33	70		105		88	
			6		30	59		89		76	
	Any D	Y or W	2		90	275		415		345	
			4.5		29	51		83		69	
			6		25	47		72		59	
	$\overline{G}$	Y or W	2		67	205		310		255	
			4.5		21	41		62		51	
			6		18	35		53		43	
t_t		Y or W	2		51	210		315		265	ns
			4.5		16	42		63		53	
			6		14	36		53		45	

5.7 Operating Characteristics

T_A = 25°C

PARAMETER		TEST CONDITIONS	TYP	UNIT
C_{pd}	Power dissipation capacitance	No load	70	pF

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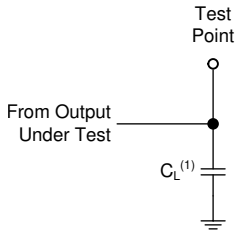
6 Parameter Measurement Information

Phase relationships between waveforms were chosen arbitrarily. All input pulses are supplied by generators having the following characteristics: PRR ≤ 1 MHz, Z_O = 50 Ω, t_t < 6 ns.

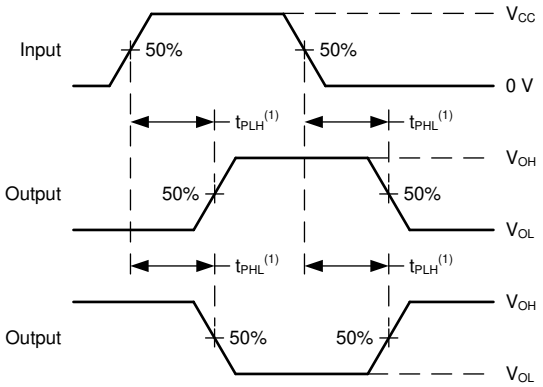
For clock inputs, f_{max} is measured when the input duty cycle is 50%.

The outputs are measured one at a time with one input transition per measurement.



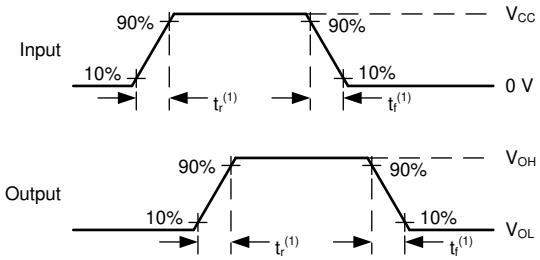
(1) C_L includes probe and test-fixture capacitance.

図 6-1. Load Circuit for Push-Pull Outputs



(1) The greater between t_{PLH} and t_{PHL} is the same as t_{pd}.

図 6-2. Voltage Waveforms, Propagation Delays for Standard CMOS Inputs



(1) The greater between t_r and t_f is the same as t_t.

図 6-3. Voltage Waveforms, Input and Output Transition Times for Standard CMOS Inputs

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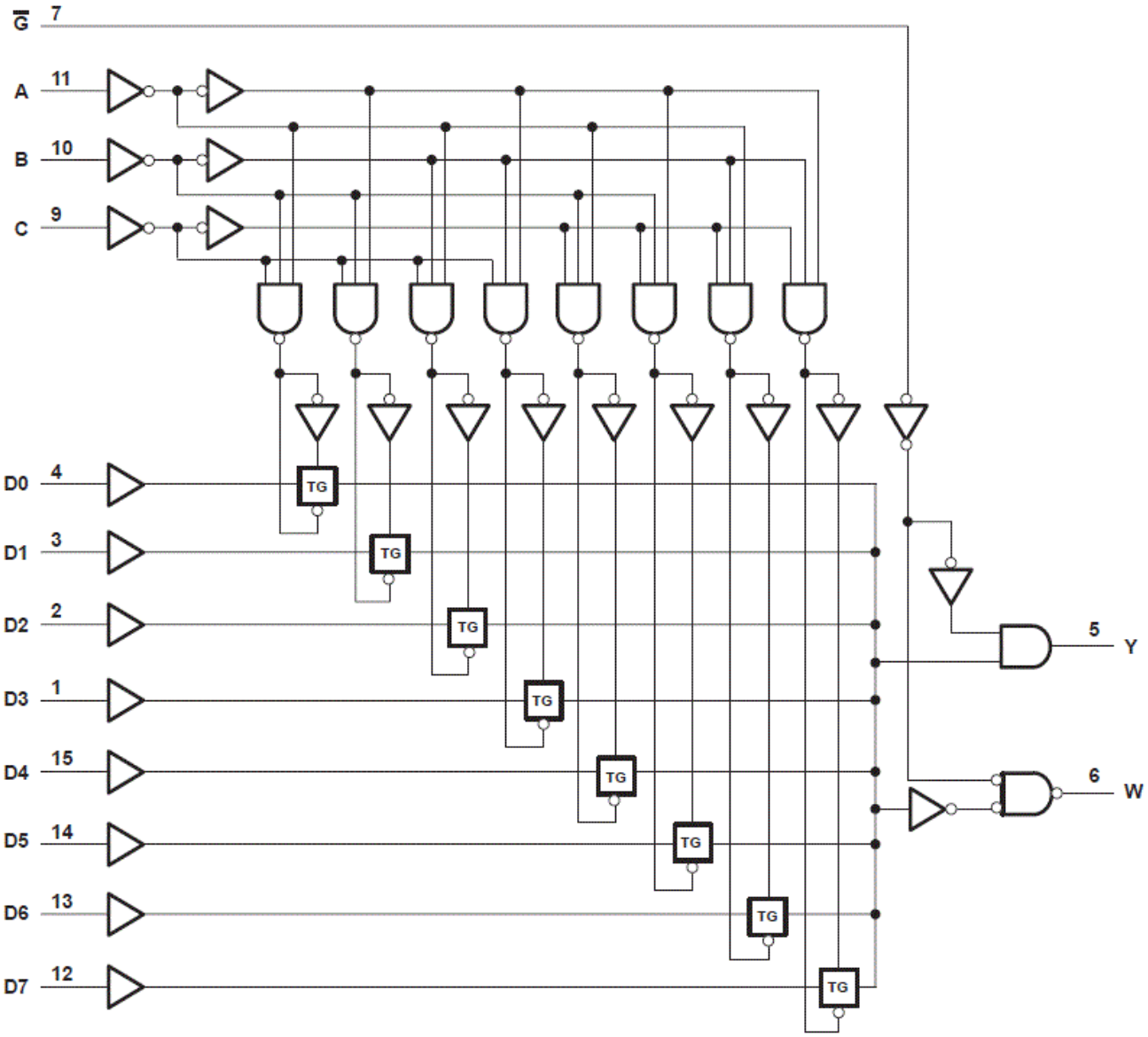
7 Detailed Description

7.1 Overview

This data selector/multiplexer provides full binary decoding to select one of eight data sources. The strobe ($\overline{G}$) input must be at a low logic level to enable the inputs. A high level at the strobe terminal forces the standard output (Y) low and the inverted output (W) high.

7.2 Functional Block Diagram



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

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7.3 Device Functional Modes

表 7-1. Function Table(1)

INPUTS				OUTPUTS	
SELECT			STROBE $\overline{G}$	Y	W
C	B	A			
X	X	X	H	L	H
L	L	L	L	D0	$\overline{D0}$
L	L	H	L	D1	$\overline{D1}$
L	H	L	L	D2	$\overline{D2}$
L	H	H	L	D3	$\overline{D3}$
H	L	L	L	D4	$\overline{D4}$
H	L	H	L	D5	$\overline{D5}$
H	H	L	L	D6	$\overline{D6}$
H	H	H	L	D7	$\overline{D7}$

(1) D0, D1 . . . D7 = the level of the respective D input.

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8 Power Supply Recommendations

The power supply can be any voltage between the minimum and maximum supply voltage rating located in the *Recommended Operating Conditions*. Each V_{CC} terminal should have a good bypass capacitor to prevent power disturbance. A 0.1-µF capacitor is recommended for this device. It is acceptable to parallel multiple bypass caps to reject different frequencies of noise. The 0.1-µF and 1-µF capacitors are commonly used in parallel. The bypass capacitor should be installed as close to the power terminal as possible for best results.

9 Layout

9.1 Layout Guidelines

When using multiple-input and multiple-channel logic devices inputs must not ever be left floating. In many cases, functions or parts of functions of digital logic devices are unused; for example, when only two inputs of a triple-input AND gate are used or only 3 of the 4 buffer gates are used. Such unused input pins must not be left unconnected because the undefined voltages at the outside connections result in undefined operational states. All unused inputs of digital logic devices must be connected to a logic high or logic low voltage, as defined by the input voltage specifications, to prevent them from floating. The logic level that must be applied to any particular unused input depends on the function of the device. Generally, the inputs are tied to GND or V_{CC}, whichever makes more sense for the logic function or is more convenient.

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10 Device and Documentation Support

TI offers an extensive line of development tools. Tools and software to evaluate the performance of the device, generate code, and develop solutions are listed below.

10.1 Receiving Notification of Documentation Updates

To receive notification of documentation updates, navigate to the device product folder on ti.com. Click on *Subscribe to updates* to register and receive a weekly digest of any product information that has changed. For change details, review the revision history included in any revised document.

10.2 サポート・リソース

TI E2E™ サポート・フォーラムは、エンジニアが検証済みの回答と設計に関するヒントをエキスパートから迅速かつ直接得ることができる場所です。既存の回答を検索したり、独自の質問をしたりすることで、設計で必要な支援を迅速に得ることができます。

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10.3 Trademarks

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10.4 Electrostatic Discharge Caution

This integrated circuit can be damaged by ESD. Texas Instruments recommends that all integrated circuits be handled with appropriate precautions. Failure to observe proper handling and installation procedures can cause damage.

ESD damage can range from subtle performance degradation to complete device failure. Precision integrated circuits may be more susceptible to damage because very small parametric changes could cause the device not to meet its published specifications.

10.5 Glossary

TI Glossary	This glossary lists and explains terms, acronyms, and definitions.

11 Mechanical, Packaging, and Orderable Information

The following pages include mechanical, packaging, and orderable information. This information is the most current data available for the designated devices. This data is subject to change without notice and revision of this document. For browser-based versions of this data sheet, refer to the left-hand navigation.

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PACKAGING INFORMATION

Orderable part number	Status (1)	Material type (2)	Package | Pins	Package qty | Carrier	RoHS (3)	Lead finish/ Ball material (4)	MSL rating/ Peak reflow (5)	Op temp (°C)	Part marking (6)
84128012A	Active	Production	LCCC (FK) | 20	55 | TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	84128012A SNJ54HC 151FK
8412801EA	Active	Production	CDIP (J) | 16	25 | TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	8412801EA SNJ54HC151J
SN54HC151J	Active	Production	CDIP (J) | 16	25 | TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	SN54HC151J
SN54HC151J.A	Active	Production	CDIP (J) | 16	25 | TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	SN54HC151J
SN74HC151D	Obsolete	Production	SOIC (D) | 16	-	-	Call TI	Call TI	-40 to 85	HC151
SN74HC151DR	Active	Production	SOIC (D) | 16	2500 | LARGE T&R	Yes	NIPDAU | SN	Level-1-260C-UNLIM	-40 to 85	HC151
SN74HC151DR.A	Active	Production	SOIC (D) | 16	2500 | LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HC151
SN74HC151DR1G4	Active	Production	SOIC (D) | 16	2500 | LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HC151
SN74HC151DR1G4.A	Active	Production	SOIC (D) | 16	2500 | LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HC151
SN74HC151DRG4	Active	Production	null (null) |	2500 | LARGE T&R	-	Call TI	Call TI	-40 to 85	
SN74HC151DT	Obsolete	Production	SOIC (D) | 16	-	-	Call TI	Call TI	-40 to 85	HC151
SN74HC151N	Active	Production	PDIP (N) | 16	25 | TUBE	Yes	NIPDAU	N/A for Pkg Type	-40 to 85	SN74HC151N
SN74HC151N.A	Active	Production	PDIP (N) | 16	25 | TUBE	Yes	NIPDAU	N/A for Pkg Type	-40 to 85	SN74HC151N
SN74HC151NSR	Active	Production	SOP (NS) | 16	2000 | LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HC151
SN74HC151NSR.A	Active	Production	SOP (NS) | 16	2000 | LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HC151
SN74HC151PW	Obsolete	Production	TSSOP (PW) | 16	-	-	Call TI	Call TI	-40 to 85	HC151
SN74HC151PWR	Active	Production	TSSOP (PW) | 16	2000 | LARGE T&R	Yes	NIPDAU | SN	Level-1-260C-UNLIM	-40 to 85	HC151
SN74HC151PWR.A	Active	Production	TSSOP (PW) | 16	2000 | LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HC151
SN74HC151PWT	Obsolete	Production	TSSOP (PW) | 16	-	-	Call TI	Call TI	-40 to 85	HC151
SNJ54HC151FK	Active	Production	LCCC (FK) | 20	55 | TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	84128012A SNJ54HC 151FK
SNJ54HC151FK.A	Active	Production	LCCC (FK) | 20	55 | TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	84128012A SNJ54HC 151FK
SNJ54HC151J	Active	Production	CDIP (J) | 16	25 | TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	8412801EA SNJ54HC151J

Orderable part number	Status (1)	Material type (2)	Package | Pins	Package qty | Carrier	RoHS (3)	Lead finish/ Ball material (4)	MSL rating/ Peak reflow (5)	Op temp (°C)	Part marking (6)
SNJ54HC151J.A	Active	Production	CDIP (J) | 16	25 | TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	8412801EA SNJ54HC151J

(1) **Status:** For more details on status, see our product life cycle.

(2) **Material type:** When designated, preproduction parts are prototypes/experimental devices, and are not yet approved or released for full production. Testing and final process, including without limitation quality assurance, reliability performance testing, and/or process qualification, may not yet be complete, and this item is subject to further changes or possible discontinuation. If available for ordering, purchases will be subject to an additional waiver at checkout, and are intended for early internal evaluation purposes only. These items are sold without warranties of any kind.

(3) **RoHS values:** Yes, No, RoHS Exempt. See the TI RoHS Statement for additional information and value definition.

(4) **Lead finish/Ball material:** Parts may have multiple material finish options. Finish options are separated by a vertical ruled line. Lead finish/Ball material values may wrap to two lines if the finish value exceeds the maximum column width.

(5) **MSL rating/Peak reflow:** The moisture sensitivity level ratings and peak solder (reflow) temperatures. In the event that a part has multiple moisture sensitivity ratings, only the lowest level per JEDEC standards is shown. Refer to the shipping label for the actual reflow temperature that will be used to mount the part to the printed circuit board.

(6) **Part marking:** There may be an additional marking, which relates to the logo, the lot trace code information, or the environmental category of the part.

Multiple part markings will be inside parentheses. Only one part marking contained in parentheses and separated by a "~" will appear on a part. If a line is indented then it is a continuation of the previous line and the two combined represent the entire part marking for that device.

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OTHER QUALIFIED VERSIONS OF SN54HC151, SN74HC151 :

- Catalog : SN74HC151
- Automotive : SN74HC151-Q1, SN74HC151-Q1

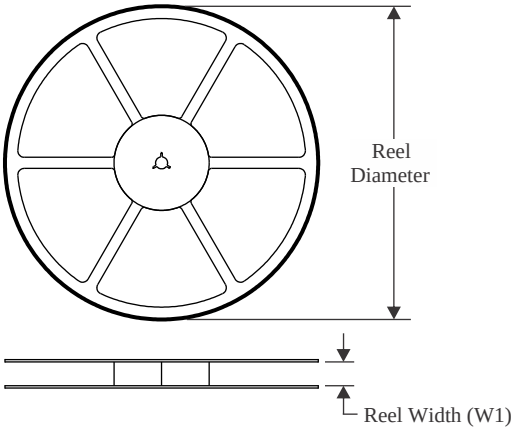
- Military : SN54HC151

NOTE: Qualified Version Definitions:

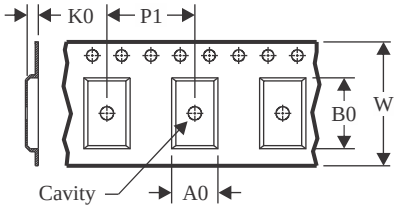
- Catalog - TI's standard catalog product
- Automotive - Q100 devices qualified for high-reliability automotive applications targeting zero defects
- Military - QML certified for Military and Defense Applications

TAPE AND REEL INFORMATION

REEL DIMENSIONS

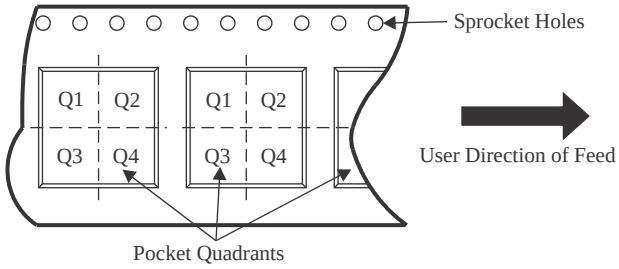


TAPE DIMENSIONS



A0	Dimension designed to accommodate the component width
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

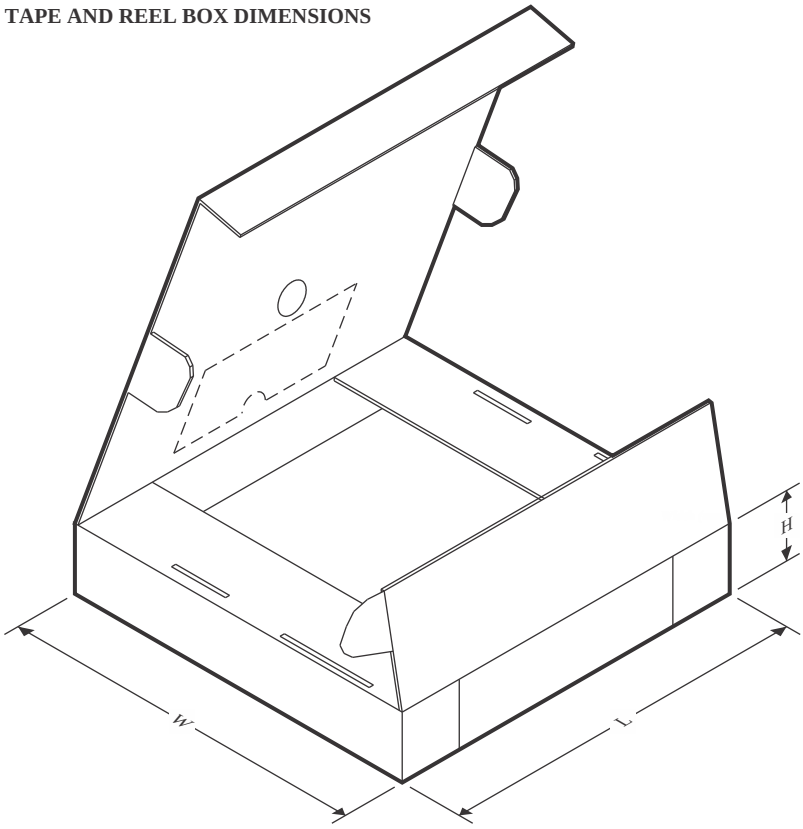
QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE



*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
SN74HC151DR	SOIC	D	16	2500	330.0	16.4	6.5	10.3	2.1	8.0	16.0	Q1
SN74HC151DR1G4	SOIC	D	16	2500	330.0	16.4	6.5	10.3	2.1	8.0	16.0	Q1
SN74HC151NSR	SOP	NS	16	2000	330.0	16.4	8.45	10.55	2.5	12.0	16.2	Q1
SN74HC151PWR	TSSOP	PW	16	2000	330.0	12.4	6.9	5.6	1.6	8.0	12.0	Q1
SN74HC151PWR	TSSOP	PW	16	2000	330.0	12.4	6.9	5.6	1.6	8.0	12.0	Q1
SN74HC151PWR	TSSOP	PW	16	2000	330.0	12.4	6.9	5.3	1.6	8.0	12.0	Q1

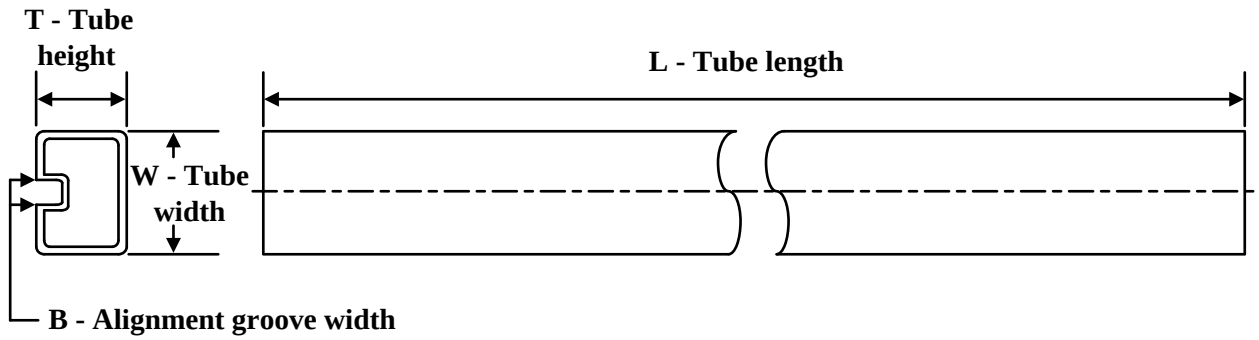
TAPE AND REEL BOX DIMENSIONS



*All dimensions are nominal

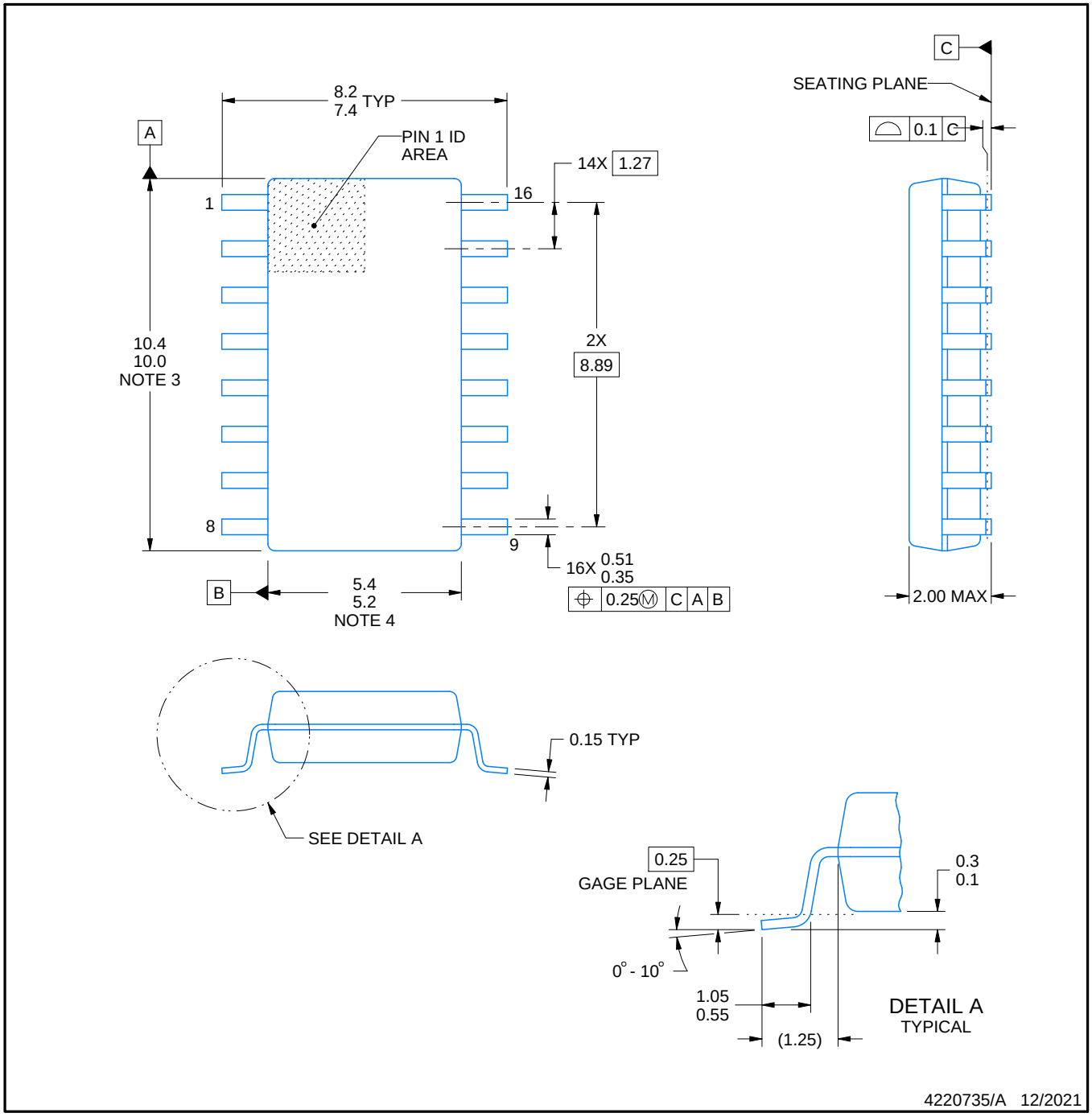
Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
SN74HC151DR	SOIC	D	16	2500	353.0	353.0	32.0
SN74HC151DR1G4	SOIC	D	16	2500	353.0	353.0	32.0
SN74HC151NSR	SOP	NS	16	2000	353.0	353.0	32.0
SN74HC151PWR	TSSOP	PW	16	2000	353.0	353.0	32.0
SN74HC151PWR	TSSOP	PW	16	2000	356.0	356.0	35.0
SN74HC151PWR	TSSOP	PW	16	2000	367.0	367.0	35.0

TUBE



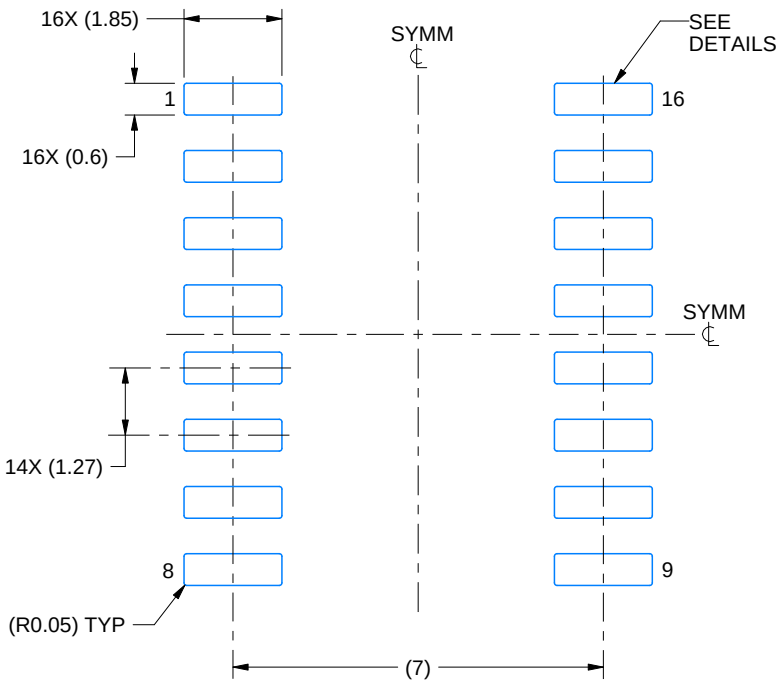
*All dimensions are nominal

Device	Package Name	Package Type	Pins	SPQ	L (mm)	W (mm)	T (µm)	B (mm)
84128012A	FK	LCCC	20	55	506.98	12.06	2030	NA
SN74HC151N	N	PDIP	16	25	506	13.97	11230	4.32
SN74HC151N	N	PDIP	16	25	506	13.97	11230	4.32
SN74HC151N.A	N	PDIP	16	25	506	13.97	11230	4.32
SN74HC151N.A	N	PDIP	16	25	506	13.97	11230	4.32
SNJ54HC151FK	FK	LCCC	20	55	506.98	12.06	2030	NA
SNJ54HC151FK.A	FK	LCCC	20	55	506.98	12.06	2030	NA

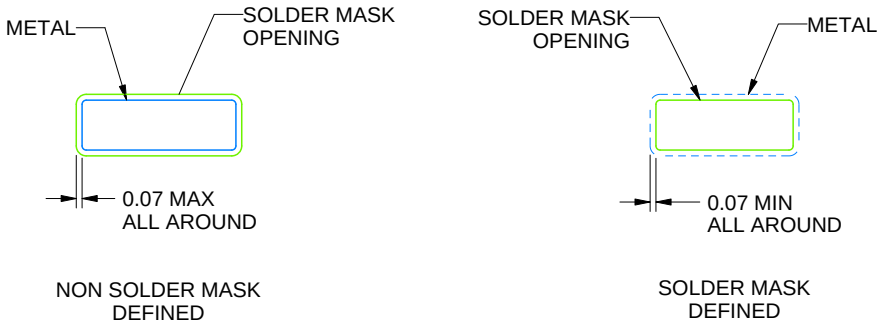


NOTES:

1. All linear dimensions are in millimeters. Dimensions in parenthesis are for reference only. Dimensioning and tolerancing per ASME Y14.5M.
2. This drawing is subject to change without notice.
3. This dimension does not include mold flash, protrusions, or gate burrs. Mold flash, protrusions, or gate burrs shall not exceed 0.15 mm, per side.
4. This dimension does not include interlead flash. Interlead flash shall not exceed 0.25 mm, per side.



LAND PATTERN EXAMPLE
SCALE:7X

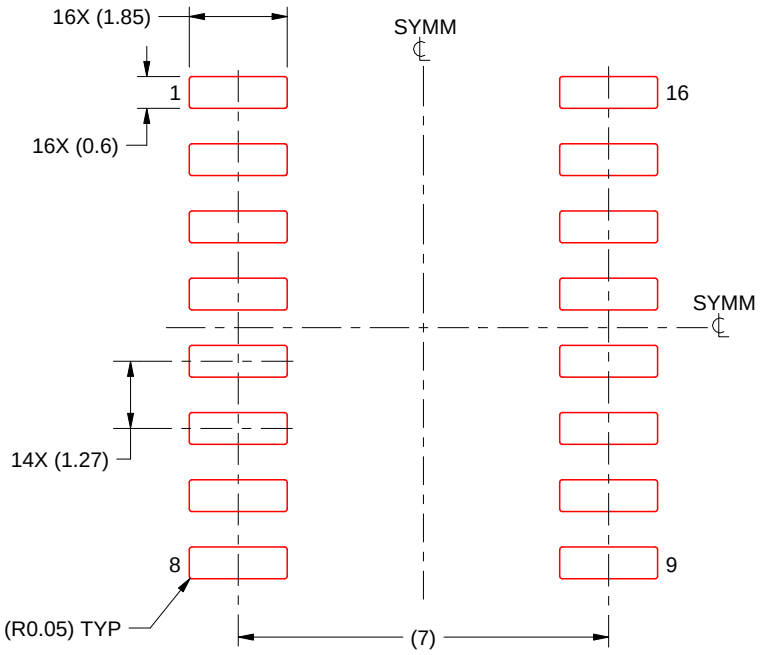


SOLDER MASK DETAILS

4220735/A 12/2021

NOTES: (continued)

5. Publication IPC-7351 may have alternate designs.
6. Solder mask tolerances between and around signal pads can vary based on board fabrication site.



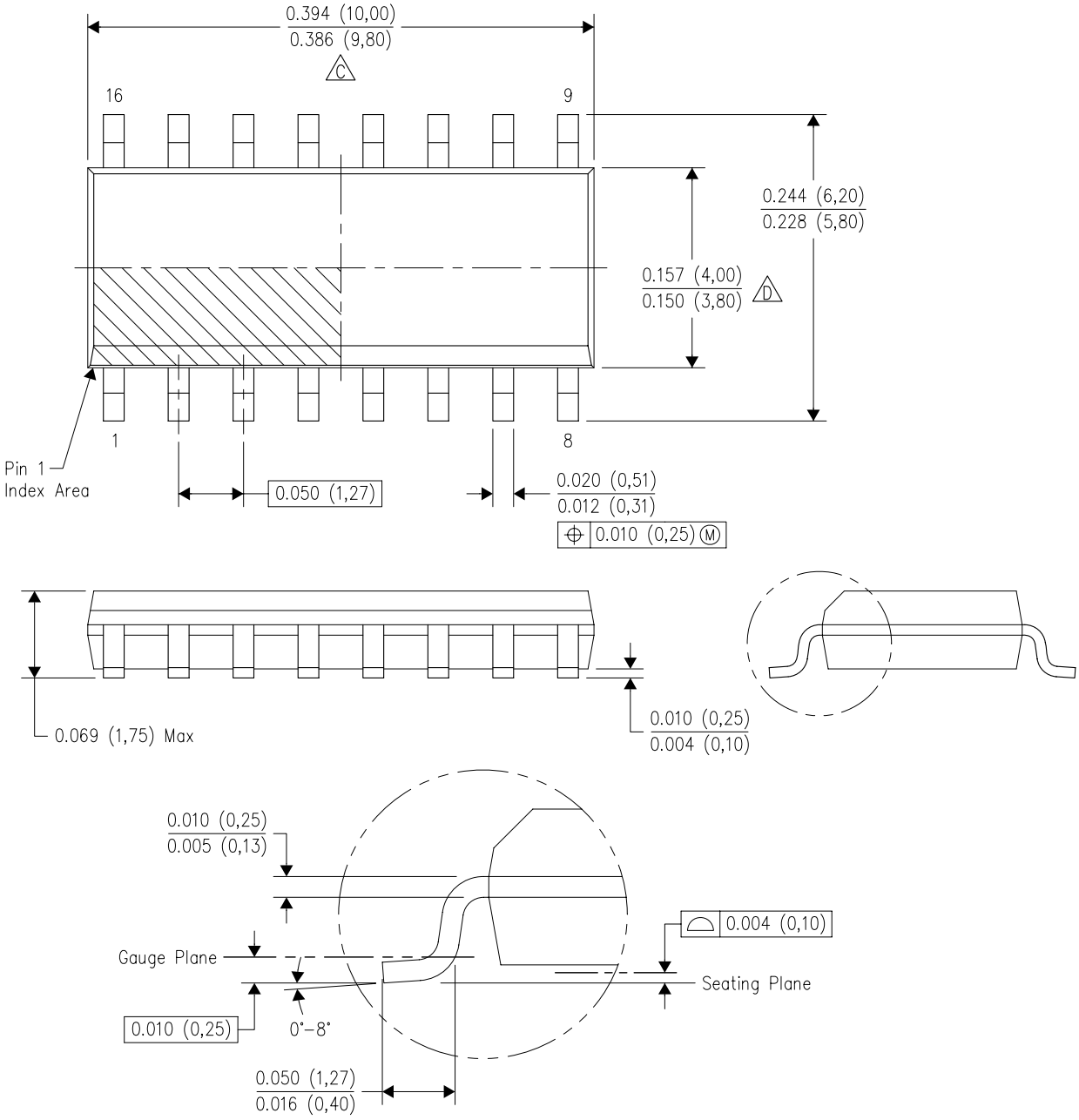
SOLDER PASTE EXAMPLE
BASED ON 0.125 mm THICK STENCIL
SCALE:7X

4220735/A 12/2021

NOTES: (continued)

7. Laser cutting apertures with trapezoidal walls and rounded corners may offer better paste release. IPC-7525 may have alternate design recommendations.
8. Board assembly site may have different recommendations for stencil design.

D (R–PDSO–G16) PLASTIC SMALL OUTLINE



NOTES:
A. All linear dimensions are in inches (millimeters).
B. This drawing is subject to change without notice.
C. Body length does not include mold flash, protrusions, or gate burrs. Mold flash, protrusions, or gate burrs shall not exceed 0.006 (0,15) each side.
D. Body width does not include interlead flash. Interlead flash shall not exceed 0.017 (0,43) each side.
E. Reference JEDEC MS–012 variation AC.

GENERIC PACKAGE VIEW

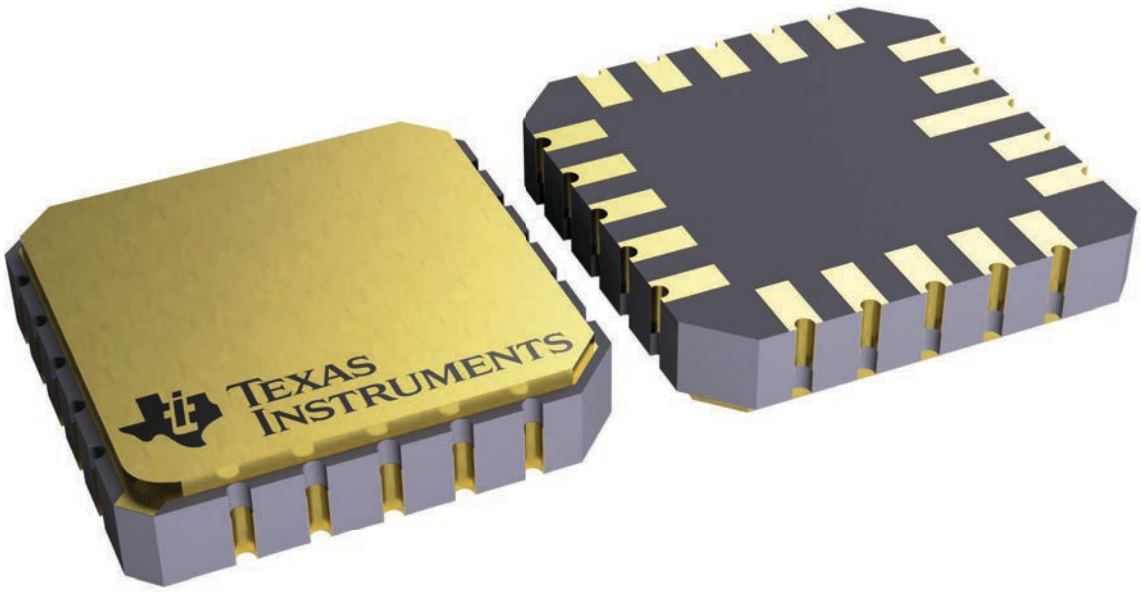
FK 20

LCCC - 2.03 mm max height

8.89 x 8.89, 1.27 mm pitch

LEADLESS CERAMIC CHIP CARRIER

This image is a representation of the package family, actual package may vary.
Refer to the product data sheet for package details.

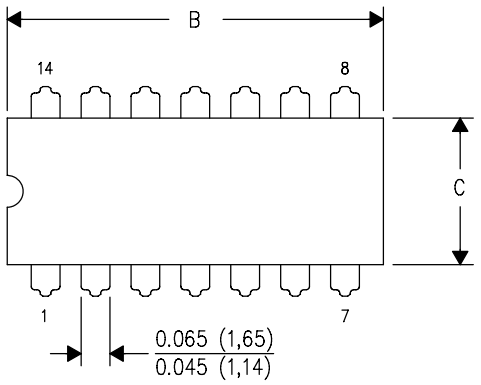


4229370VA\

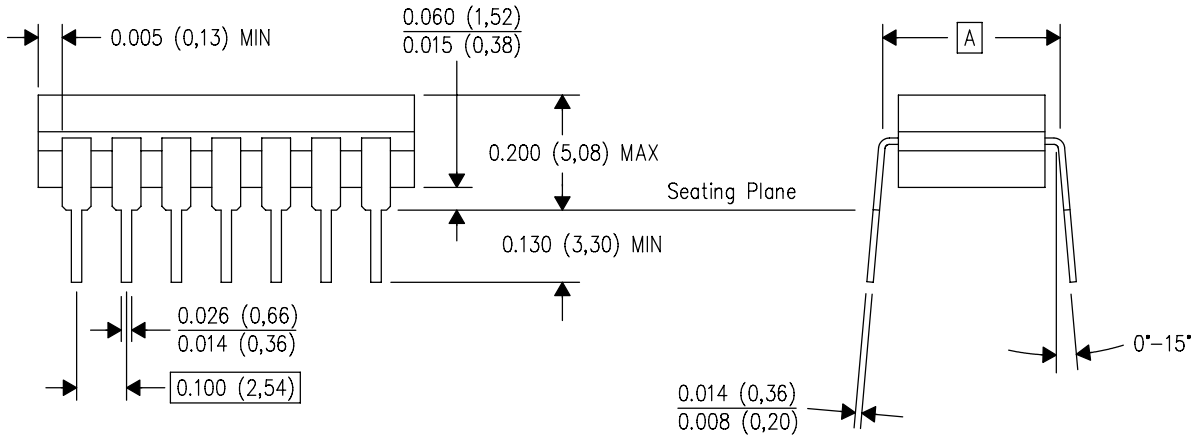
J (R–GDIP–T**)

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

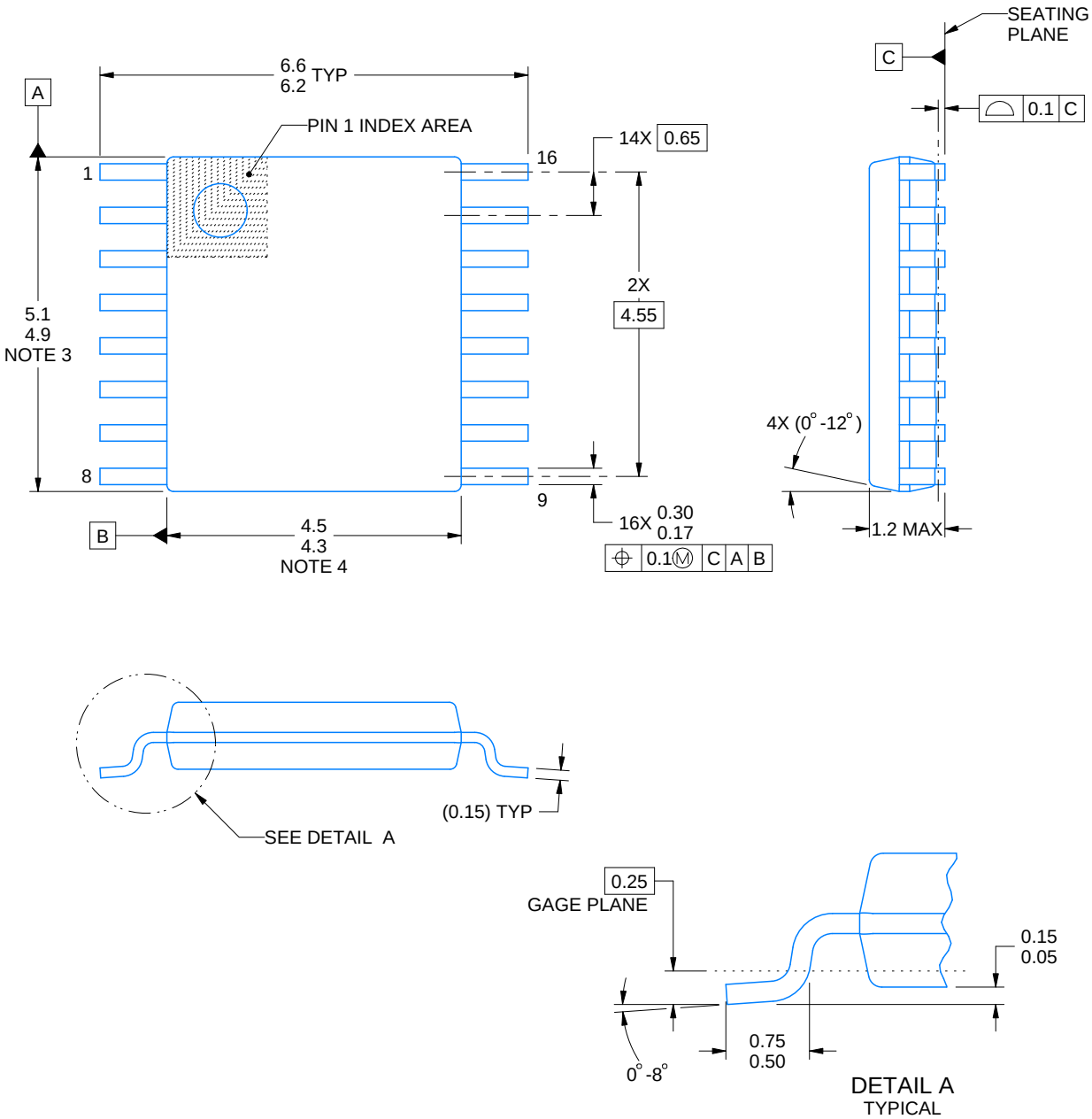
NOTES:
A. All linear dimensions are in inches (millimeters).
B. This drawing is subject to change without notice.
C. This package is hermetically sealed with a ceramic lid using glass frit.
D. Index point is provided on cap for terminal identification only on press ceramic glass frit seal only.
E. Falls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

PACKAGE OUTLINE

PW0016A

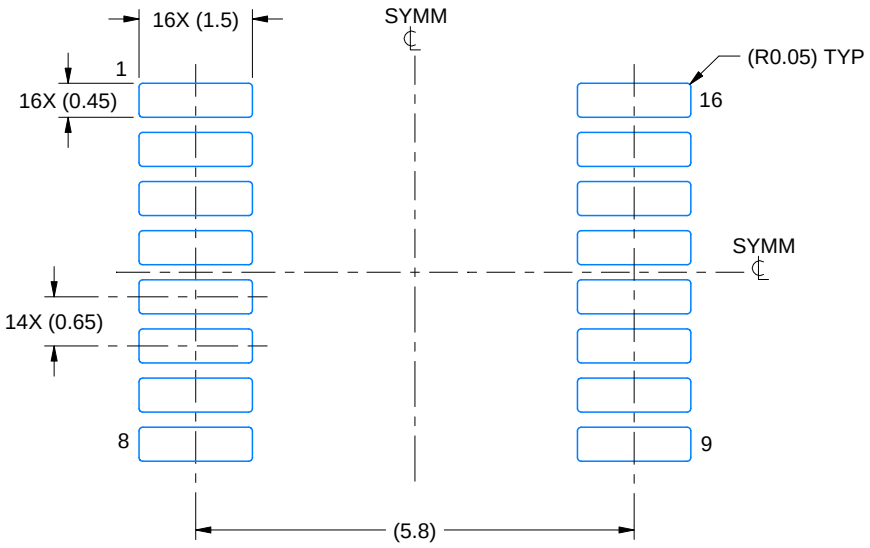
TSSOP - 1.2 mm max height

SMALL OUTLINE PACKAGE

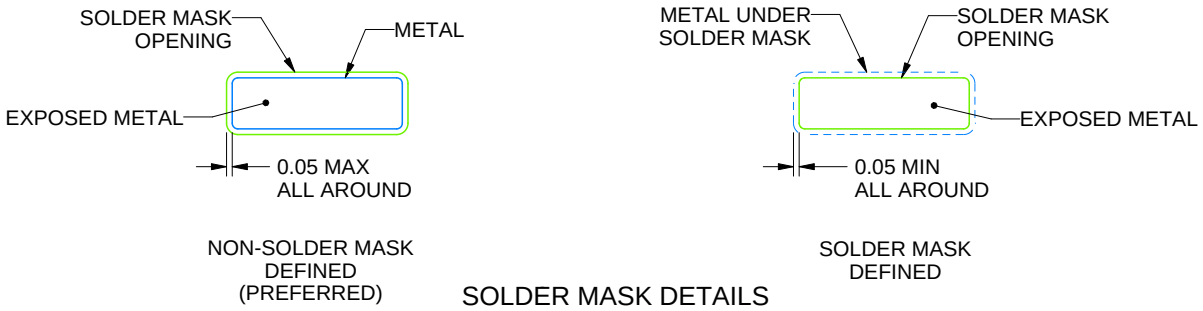


NOTES:

1. All linear dimensions are in millimeters. Any dimensions in parenthesis are for reference only. Dimensioning and tolerancing per ASME Y14.5M.
2. This drawing is subject to change without notice.
3. This dimension does not include mold flash, protrusions, or gate burrs. Mold flash, protrusions, or gate burrs shall not exceed 0.15 mm per side.
4. This dimension does not include interlead flash. Interlead flash shall not exceed 0.25 mm per side.
5. Reference JEDEC registration MO-153.



LAND PATTERN EXAMPLE
EXPOSED METAL SHOWN
SCALE: 10X

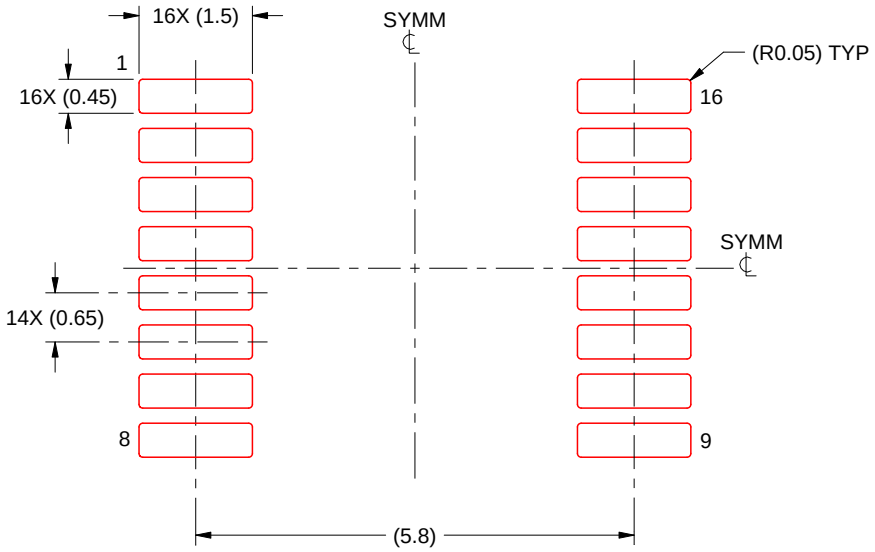


SOLDER MASK DETAILS

4220204/B 12/2023

NOTES: (continued)

6. Publication IPC-7351 may have alternate designs.
7. Solder mask tolerances between and around signal pads can vary based on board fabrication site.



SOLDER PASTE EXAMPLE
BASED ON 0.125 mm THICK STENCIL
SCALE: 10X

4220204/B 12/2023

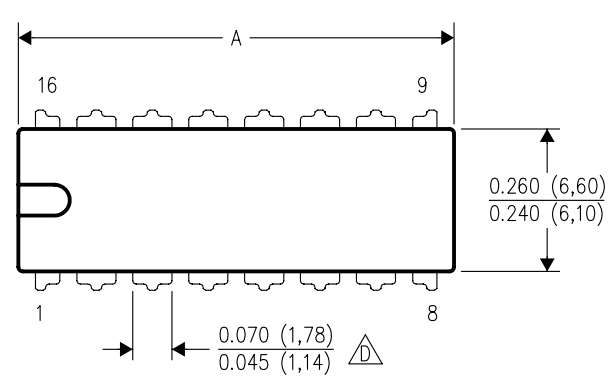
NOTES: (continued)

8. Laser cutting apertures with trapezoidal walls and rounded corners may offer better paste release. IPC-7525 may have alternate design recommendations.
9. Board assembly site may have different recommendations for stencil design.

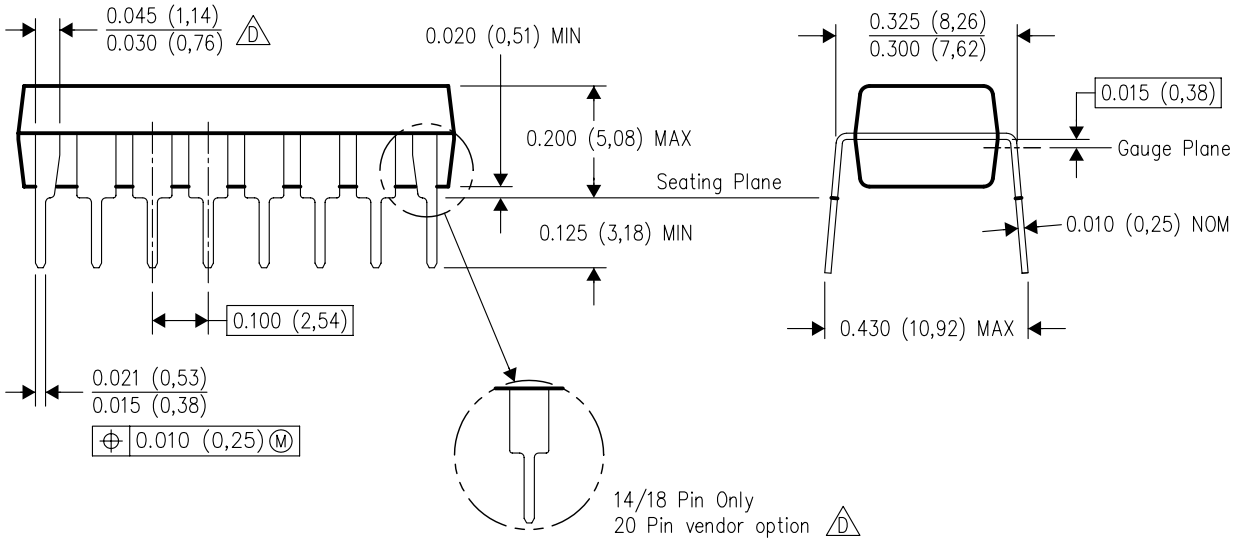
N (R–PDIP–T**)

PLASTIC DUAL–IN–LINE PACKAGE

16 PINS SHOWN



DIM \ PINS **	14	16	18	20
A MAX	0.775 (19,69)	0.775 (19,69)	0.920 (23,37)	1.060 (26,92)
A MIN	0.745 (18,92)	0.745 (18,92)	0.850 (21,59)	0.940 (23,88)
MS–001 VARIATION (C)	AA	BB	AC	AD



4040049/E 12/2002

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

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最終更新日：2025 年 10 月