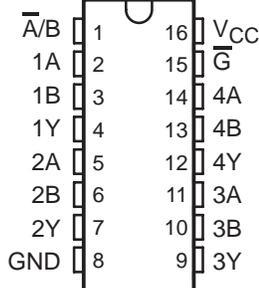


# SN54HC257, SN54HC258, SN74HC257, SN74HC258 QUADRUPLE 2-LINE TO 1-LINE DATA SELECTORS/MULTIPLEXERS WITH 3-STATE OUTPUTS

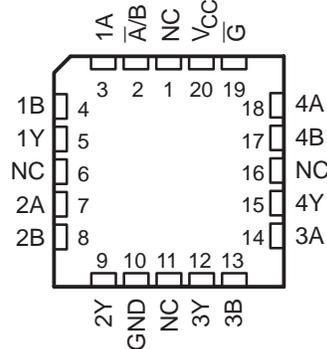
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- Wide Operating Voltage Range of 2 V to 6 V
- High-Current Inverting Outputs Drive Up To 15 LSTTL Loads
- Low Power Consumption, 80- $\mu$ A Max  $I_{CC}$
- 'HC257 . . . Typical  $t_{pd} = 9$  ns
- 'HC258 . . . Typical  $t_{pd} = 12$  ns
- $\pm 6$ -mA Output Drive at 5 V
- Low Input Current of 1  $\mu$ A Max
- Provides Bus Interface from Multiple Sources in High-Performance Systems

SN54HC257, SN54HC258 . . . J PACKAGE  
SN74HC257, SN74HC258 . . . D, N, NS, OR PW PACKAGE  
(TOP VIEW)



SN54HC257, SN54HC258 . . . FK PACKAGE  
(TOP VIEW)



NC – No internal connection

## description/ordering information

### ORDERING INFORMATION

TA	PACKAGE†		ORDERABLE PART NUMBER	TOP-SIDE MARKING	
-40°C to 85°C	PDIP – N	Tube of 25	SN74HC257N	SN74HC257N	
			SN74HC258N	SN74HC258N	
	SOIC – D	Tube of 40	SN74HC257D	HC257	
			Reel of 2500		SN74HC257DR
			Reel of 250		SN74HC257DT
			Reel of 2500	SN74HC258D	HC258
				SN74HC258DR	
				SN74HC258DR	
	SOP – NS	Reel of 2000	SN74HC257NSR	HC257	
			SN74HC258NSR	HC258	
TSSOP – PW	Tube of 90	SN74HC257PW	HC257		
		Reel of 2000		SN74HC257PWR	
		Reel of 250		SN74HC257PWT	
	Reel of 250	SN74HC258PW	HC258		
		Reel of 2000		SN74HC258PWR	
		Reel of 250		SN74HC258PWT	
-55°C to 125°C	CDIP – J	Tube of 25	SNJ54HC257J	SNJ54HC257J	
			SNJ54HC258J	SNJ54HC258J	
	LCCC – FK	Tube of 55	SNJ54HC257FK	SNJ54HC257FK	
			SNJ54HC258FK	SNJ54HC258FK	

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



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.

PRODUCTION DATA information is current as of publication date. Products conform to specifications per the terms of Texas Instruments standard warranty. Production processing does not necessarily include testing of all parameters.

 **TEXAS  
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On products compliant to MIL-PRF-38535, all parameters are tested unless otherwise noted. On all other products, production processing does not necessarily include testing of all parameters.

# SN54HC257, SN54HC258, SN74HC257, SN74HC258 QUADRUPLE 2-LINE TO 1-LINE DATA SELECTORS/MULTIPLEXERS WITH 3-STATE OUTPUTS

SCLS224B – DECEMBER 1982 – REVISED SEPTEMBER 2003

## description/ordering information (continued)

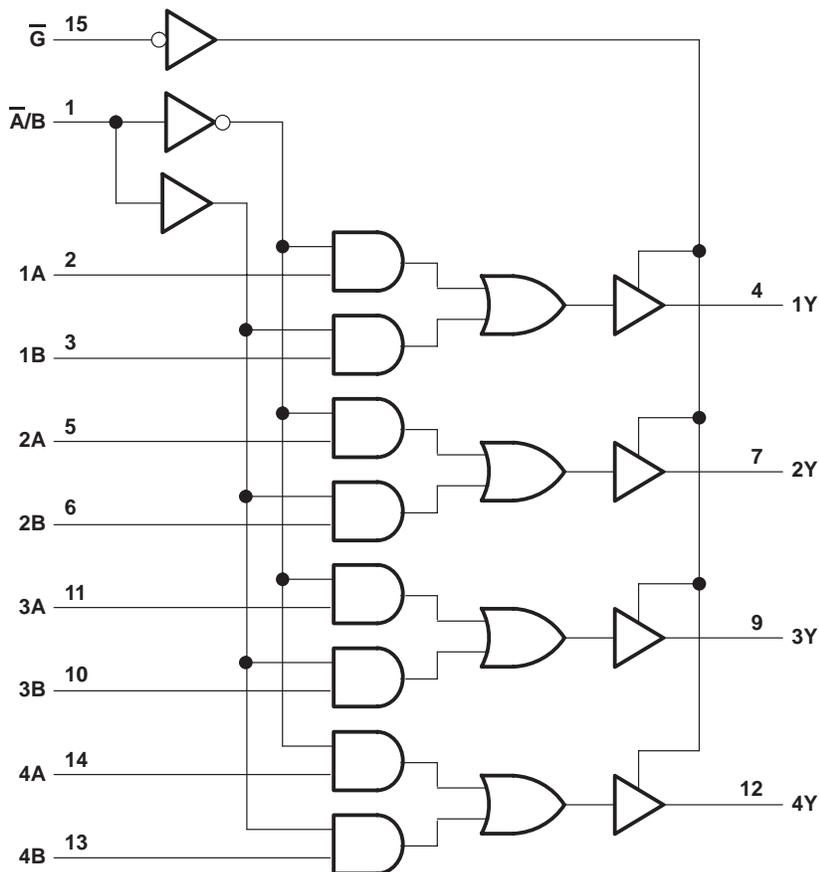
These devices are designed to multiplex signals from 4-bit data sources to 4-output data lines in bus-organized systems. The 3-state outputs do not load the data lines when the output-enable ( $\overline{G}$ ) input is at a high logic level.

To ensure the high-impedance state during power up or power down,  $\overline{G}$  should be tied to  $V_{CC}$  through a pullup resistor; the minimum value of the resistor is determined by the current-sinking capability of the driver.

FUNCTION TABLE

$\overline{G}$	INPUTS			OUTPUT Y	
	$\overline{A/B}$	A	B	'HC257	'HC258
H	X	X	X	Z	Z
L	L	L	X	L	H
L	L	H	X	H	L
L	H	X	L	L	H
L	H	X	H	H	L

## 'HC257 logic diagram (positive logic)



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



# SN54HC257, SN54HC258, SN74HC257, SN74HC258 QUADRUPLE 2-LINE TO 1-LINE DATA SELECTORS/MULTIPLEXERS WITH 3-STATE OUTPUTS

SCLS224B – DECEMBER 1982 – REVISED SEPTEMBER 2003

## recommended operating conditions (see Note 2)

		SN54HC257, SN54HC258			SN74HC257, SN74HC258			UNIT
		MIN	NOM	MAX	MIN	NOM	MAX	
V <sub>CC</sub>	Supply voltage	2	5	6	2	5	6	V
V <sub>IH</sub>	High-level input voltage	V <sub>CC</sub> = 2 V		1.5	1.5		V	
		V <sub>CC</sub> = 4.5 V		3.15	3.15			
		V <sub>CC</sub> = 6 V		4.2	4.2			
V <sub>IL</sub>	Low-level input voltage	V <sub>CC</sub> = 2 V			0.3		0.5	V
		V <sub>CC</sub> = 4.5 V			0.9		1.35	
		V <sub>CC</sub> = 6 V			1.2		1.8	
V <sub>I</sub>	Input voltage	0		V <sub>CC</sub>	0		V <sub>CC</sub>	V
V <sub>O</sub>	Output voltage	0		V <sub>CC</sub>	0		V <sub>CC</sub>	V
Δt/Δv	Input transition rise/fall time	V <sub>CC</sub> = 2 V			1000		1000	ns
		V <sub>CC</sub> = 4.5 V			500		500	
		V <sub>CC</sub> = 6 V			400		400	
T <sub>A</sub>	Operating free-air temperature	-55		125	-40		85	°C

NOTE 2: All unused inputs of the device must be held at V<sub>CC</sub> or GND to ensure proper device operation. Refer to the TI application report, *Implications of Slow or Floating CMOS Inputs*, literature number SCBA004.

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

PARAMETER	TEST CONDITIONS	V <sub>CC</sub>	T <sub>A</sub> = 25°C			SN54HC257, SN54HC258		SN74HC257, SN74HC258		UNIT	
			MIN	TYP	MAX	MIN	MAX	MIN	MAX		
V <sub>OH</sub>	V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>	I <sub>OH</sub> = -20 μA	2 V	1.9	1.998		1.9		1.9	V	
			4.5 V	4.4	4.499		4.4		4.4		
		6 V	5.9	5.999		5.9		5.9			
		I <sub>OH</sub> = -6 mA	4.5 V	3.98	4.3		3.7		3.84		
		I <sub>OH</sub> = -7.8 mA	6 V	5.48	5.8		5.2		5.34		
V <sub>OL</sub>	V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>	I <sub>OL</sub> = 20 μA	2 V		0.002	0.1		0.1		0.1	V
			4.5 V		0.001	0.1		0.1		0.1	
		6 V		0.001	0.1		0.1		0.1		
		I <sub>OL</sub> = 6 mA	4.5 V		0.17	0.26		0.4		0.33	
		I <sub>OL</sub> = 7.8 mA	6 V		0.15	0.26		0.4		0.33	
I <sub>I</sub>	V <sub>I</sub> = V <sub>CC</sub> or 0	6 V		±0.1	±100		±1000		±1000	nA	
I <sub>OZ</sub>	V <sub>O</sub> = V <sub>CC</sub> or 0	6 V		±0.01	±0.5		±10		±5	μA	
I <sub>CC</sub>	V <sub>I</sub> = V <sub>CC</sub> or 0, I <sub>O</sub> = 0	6 V			8		160		80	μA	
C <sub>i</sub>		2 V to 6 V		3	10		10		10	pF	



# SN54HC257, SN54HC258, SN74HC257, SN74HC258 QUADRUPLE 2-LINE TO 1-LINE DATA SELECTORS/MULTIPLEXERS WITH 3-STATE OUTPUTS

SCLS224B – DECEMBER 1982 – REVISED SEPTEMBER 2003

switching characteristics over recommended operating free-air temperature range,  $C_L = 50 \text{ pF}$  (unless otherwise noted) (see Figure 1)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	$V_{CC}$	$T_A = 25^\circ\text{C}$			SN54HC257		SN74HC257		UNIT
				MIN	TYP	MAX	MIN	MAX	MIN	MAX	
$t_{pd}$	A or B	Any Y	2 V		50	100		150		125	ns
			4.5 V		10	20		30		25	
			6 V		9	17		25		21	
	$\bar{A}/\bar{B}$	Any Y	2 V		50	100		150		125	
			4.5 V		10	20		30		25	
			6 V		9	17		25		21	
$t_{en}$	$\bar{G}$	Any Y	2 V		75	150		225		190	ns
			4.5 V		15	30		45		38	
			6 V		13	26		38		32	
$t_{dis}$	$\bar{G}$	Any Y	2 V		75	150		225		190	ns
			4.5 V		15	30		45		38	
			6 V		13	26		38		32	
$t_t$		Any Y	2 V		28	60		90		75	ns
			4.5 V		8	12		18		15	
			6 V		6	10		15		13	

switching characteristics over recommended operating free-air temperature range,  $C_L = 150 \text{ pF}$  (unless otherwise noted) (see Figure 1)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	$V_{CC}$	$T_A = 25^\circ\text{C}$			SN54HC257		SN74HC257		UNIT
				MIN	TYP	MAX	MIN	MAX	MIN	MAX	
$t_{pd}$	A or B	Any Y	2 V		75	150		245		190	ns
			4.5 V		15	30		45		38	
			6 V		13	26		38		32	
	$\bar{A}/\bar{B}$	Any Y	2 V		75	150		245		190	
			4.5 V		15	30		45		38	
			6 V		13	26		38		32	
$t_{en}$	$\bar{G}$	Any Y	2 V		100	200		300		250	ns
			4.5 V		24	40		60		50	
			6 V		18	34		51		43	
$t_t$		Any Y	2 V		45	210		315		265	ns
			4.5 V		17	42		63		53	
			6 V		13	36		53		45	



# SN54HC257, SN54HC258, SN74HC257, SN74HC258 QUADRUPLE 2-LINE TO 1-LINE DATA SELECTORS/MULTIPLEXERS WITH 3-STATE OUTPUTS

SCLS224B – DECEMBER 1982 – REVISED SEPTEMBER 2003

switching characteristics over recommended operating free-air temperature range,  $C_L = 50$  pF (unless otherwise noted) (see Figure 1)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	$V_{CC}$	$T_A = 25^\circ\text{C}$			SN54HC258		SN74HC258		UNIT
				MIN	TYP	MAX	MIN	MAX	MIN	MAX	
$t_{pd}$	A or B	Any Y	2 V		60	100		150		125	ns
			4.5 V		13	20		30		25	
			6 V		12	17		25		21	
	$\bar{A}/B$	Any Y	2 V		60	115		175		145	
			4.5 V		13	23		35		29	
			6 V		12	20		30		25	
$t_{en}$	$\bar{G}$	Any Y	2 V		70	150		225		190	ns
			4.5 V		15	30		45		38	
			6 V		13	26		38		32	
$t_{dis}$	$\bar{G}$	Any Y	2 V		75	150		225		190	ns
			4.5 V		15	30		45		38	
			6 V		13	26		38		32	
$t_t$		Any Y	2 V		28	60		90		75	ns
			4.5 V		8	12		18		15	
			6 V		6	10		15		13	

switching characteristics over recommended operating free-air temperature range,  $C_L = 150$  pF (unless otherwise noted) (see Figure 1)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	$V_{CC}$	$T_A = 25^\circ\text{C}$			SN54HC258		SN74HC258		UNIT
				MIN	TYP	MAX	MIN	MAX	MIN	MAX	
$t_{pd}$	A or B	Any Y	2 V		95	150		245		190	ns
			4.5 V		23	30		45		38	
			6 V		21	26		38		32	
	$\bar{A}/B$	Any Y	2 V		95	165		240		210	
			4.5 V		23	33		48		42	
			6 V		21	28		41		36	
$t_{en}$	$\bar{G}$	Any Y	2 V		100	200		300		250	ns
			4.5 V		24	40		60		50	
			6 V		18	34		51		43	
$t_t$		Any Y	2 V		45	210		315		265	ns
			4.5 V		17	42		63		53	
			6 V		13	36		53		45	

operating characteristics,  $T_A = 25^\circ\text{C}$

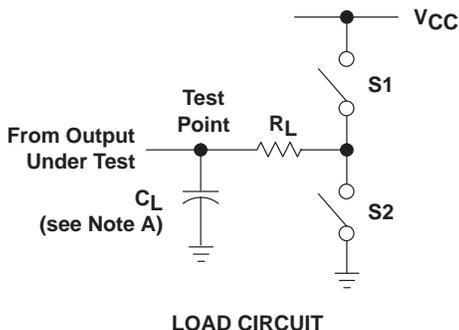
PARAMETER	TEST CONDITIONS	TYP	UNIT
$C_{pd}$ Power dissipation capacitance per multiplexer	No load	40	pF



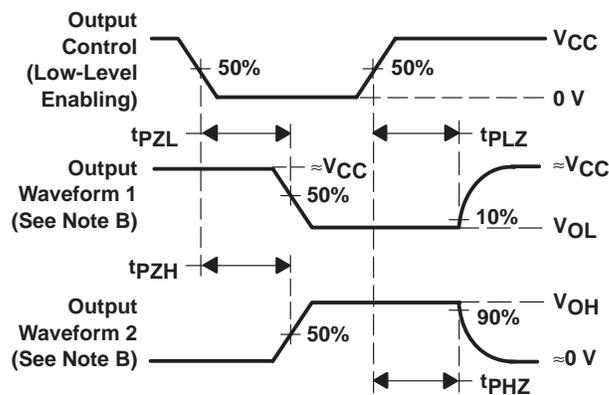
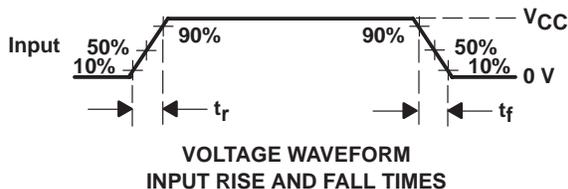
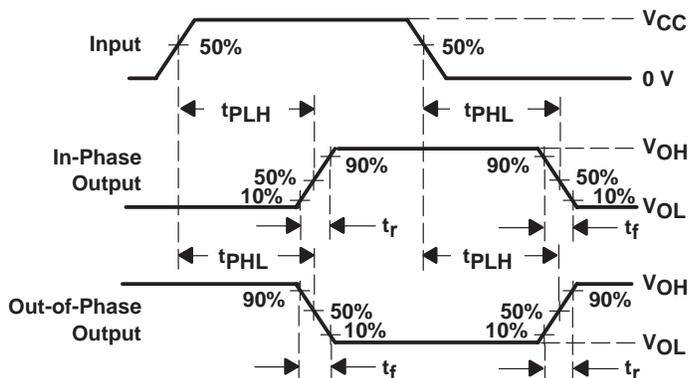
# SN54HC257, SN54HC258, SN74HC257, SN74HC258 QUADRUPLE 2-LINE TO 1-LINE DATA SELECTORS/MULTIPLEXERS WITH 3-STATE OUTPUTS

SCLS224B – DECEMBER 1982 – REVISED SEPTEMBER 2003

## PARAMETER MEASUREMENT INFORMATION



PARAMETER	$R_L$	$C_L$	S1	S2
$t_{en}$	$t_{PZH}$	1 k $\Omega$ 50 pF or 150 pF	Open	Closed
	$t_{PZL}$		Closed	Open
$t_{dis}$	$t_{PHZ}$	1 k $\Omega$ 50 pF	Open	Closed
	$t_{PLZ}$		Closed	Open
$t_{pd}$ or $t_t$	--	50 pF or 150 pF	Open	Open



- NOTES:
- A.  $C_L$  includes probe and test-fixture 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. Phase relationships between waveforms were chosen arbitrarily. All input pulses are supplied by generators having the following characteristics:  $PRR \leq 1$  MHz,  $Z_O = 50 \Omega$ ,  $t_r = 6$  ns,  $t_f = 6$  ns.
  - D. The outputs are measured one at a time with one input transition per measurement.
  - E.  $t_{PLZ}$  and  $t_{PHZ}$  are the same as  $t_{dis}$ .
  - F.  $t_{PZL}$  and  $t_{PZH}$  are the same as  $t_{en}$ .
  - G.  $t_{PLH}$  and  $t_{PHL}$  are the same as  $t_{pd}$ .

**Figure 1. Load Circuit and Voltage Waveforms**

**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)
<a href="#">85124012A</a>	Active	Production	LCCC (FK)   20	55   TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	85124012A SNJ54HC 257FK
<a href="#">8512401EA</a>	Active	Production	CDIP (J)   16	25   TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	8512401EA SNJ54HC257J
<a href="#">SN54HC257J</a>	Active	Production	CDIP (J)   16	25   TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	SN54HC257J
<a href="#">SN54HC257J.A</a>	Active	Production	CDIP (J)   16	25   TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	SN54HC257J
<a href="#">SN74HC257D</a>	Obsolete	Production	SOIC (D)   16	-	-	Call TI	Call TI	-40 to 85	HC257
<a href="#">SN74HC257DR</a>	Active	Production	SOIC (D)   16	2500   LARGE T&R	Yes	NIPDAU   SN	Level-1-260C-UNLIM	-40 to 85	HC257
<a href="#">SN74HC257DR.A</a>	Active	Production	SOIC (D)   16	2500   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HC257
<a href="#">SN74HC257DRG4</a>	Active	Production	SOIC (D)   16	2500   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HC257
<a href="#">SN74HC257DRG4.A</a>	Active	Production	SOIC (D)   16	2500   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HC257
<a href="#">SN74HC257DT</a>	Obsolete	Production	SOIC (D)   16	-	-	Call TI	Call TI	-40 to 85	HC257
<a href="#">SN74HC257N</a>	Active	Production	PDIP (N)   16	25   TUBE	Yes	NIPDAU	N/A for Pkg Type	-40 to 85	SN74HC257N
<a href="#">SN74HC257N.A</a>	Active	Production	PDIP (N)   16	25   TUBE	Yes	NIPDAU	N/A for Pkg Type	-40 to 85	SN74HC257N
<a href="#">SN74HC257NSR</a>	Active	Production	SOP (NS)   16	2000   LARGE T&R	Yes	NIPDAU   NIPDAU	Level-1-260C-UNLIM	-40 to 85	HC257
<a href="#">SN74HC257NSR.A</a>	Active	Production	SOP (NS)   16	2000   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HC257
<a href="#">SN74HC257PW</a>	Obsolete	Production	TSSOP (PW)   16	-	-	Call TI	Call TI	-40 to 85	HC257
<a href="#">SN74HC257PWR</a>	Active	Production	TSSOP (PW)   16	2000   LARGE T&R	Yes	NIPDAU   SN   NIPDAU	Level-1-260C-UNLIM	-40 to 85	HC257
<a href="#">SN74HC257PWR.A</a>	Active	Production	TSSOP (PW)   16	2000   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HC257
<a href="#">SN74HC258D</a>	Obsolete	Production	SOIC (D)   16	-	-	Call TI	Call TI	-40 to 85	HC258
<a href="#">SN74HC258DR</a>	Active	Production	SOIC (D)   16	2500   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HC258
<a href="#">SN74HC258DR.A</a>	Active	Production	SOIC (D)   16	2500   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HC258
<a href="#">SN74HC258N</a>	Active	Production	PDIP (N)   16	25   TUBE	Yes	NIPDAU	N/A for Pkg Type	-40 to 85	SN74HC258N
<a href="#">SN74HC258N.A</a>	Active	Production	PDIP (N)   16	25   TUBE	Yes	NIPDAU	N/A for Pkg Type	-40 to 85	SN74HC258N
<a href="#">SN74HC258NSR</a>	Active	Production	SOP (NS)   16	2000   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HC258
<a href="#">SN74HC258NSR.A</a>	Active	Production	SOP (NS)   16	2000   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HC258
<a href="#">SN74HC258PW</a>	Obsolete	Production	TSSOP (PW)   16	-	-	Call TI	Call TI	-40 to 85	HC258
<a href="#">SN74HC258PWR</a>	Active	Production	TSSOP (PW)   16	2000   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HC258
<a href="#">SN74HC258PWR.A</a>	Active	Production	TSSOP (PW)   16	2000   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HC258

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)
<a href="#">SNJ54HC257FK</a>	Active	Production	LCCC (FK)   20	55   TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	85124012A SNJ54HC 257FK
SNJ54HC257FK.A	Active	Production	LCCC (FK)   20	55   TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	85124012A SNJ54HC 257FK
<a href="#">SNJ54HC257J</a>	Active	Production	CDIP (J)   16	25   TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	8512401EA SNJ54HC257J
SNJ54HC257J.A	Active	Production	CDIP (J)   16	25   TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	8512401EA SNJ54HC257J

(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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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.

**OTHER QUALIFIED VERSIONS OF SN54HC257, SN74HC257 :**

- Catalog : [SN74HC257](#)
- Military : [SN54HC257](#)

## NOTE: Qualified Version Definitions:

- Catalog - TI's standard catalog product
- Military - QML certified for Military and Defense Applications

**TAPE AND REEL INFORMATION**

**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
SN74HC257DR	SOIC	D	16	2500	330.0	16.4	6.5	10.3	2.1	8.0	16.0	Q1
SN74HC257DRG4	SOIC	D	16	2500	330.0	16.4	6.5	10.3	2.1	8.0	16.0	Q1
SN74HC257NSR	SOP	NS	16	2000	330.0	16.4	8.45	10.55	2.5	12.0	16.2	Q1
SN74HC257NSR	SOP	NS	16	2000	330.0	16.4	8.2	10.5	2.5	12.0	16.0	Q1
SN74HC257PWR	TSSOP	PW	16	2000	330.0	12.4	6.9	5.6	1.6	8.0	12.0	Q1
SN74HC257PWR	TSSOP	PW	16	2000	330.0	12.4	6.85	5.45	1.6	8.0	12.0	Q1
SN74HC258DR	SOIC	D	16	2500	330.0	16.4	6.5	10.3	2.1	8.0	16.0	Q1
SN74HC258NSR	SOP	NS	16	2000	330.0	16.4	8.2	10.5	2.5	12.0	16.0	Q1
SN74HC258PWR	TSSOP	PW	16	2000	330.0	12.4	6.9	5.6	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)
SN74HC257DR	SOIC	D	16	2500	356.0	356.0	35.0
SN74HC257DRG4	SOIC	D	16	2500	356.0	356.0	35.0
SN74HC257NSR	SOP	NS	16	2000	356.0	356.0	35.0
SN74HC257NSR	SOP	NS	16	2000	356.0	356.0	35.0
SN74HC257PWR	TSSOP	PW	16	2000	356.0	356.0	35.0
SN74HC257PWR	TSSOP	PW	16	2000	366.0	364.0	50.0
SN74HC258DR	SOIC	D	16	2500	353.0	353.0	32.0
SN74HC258NSR	SOP	NS	16	2000	356.0	356.0	35.0
SN74HC258PWR	TSSOP	PW	16	2000	356.0	356.0	35.0

**TUBE**


\*All dimensions are nominal

Device	Package Name	Package Type	Pins	SPQ	L (mm)	W (mm)	T (μm)	B (mm)
85124012A	FK	LCCC	20	55	506.98	12.06	2030	NA
SN74HC257N	N	PDIP	16	25	506	13.97	11230	4.32
SN74HC257N	N	PDIP	16	25	506	13.97	11230	4.32
SN74HC257N.A	N	PDIP	16	25	506	13.97	11230	4.32
SN74HC257N.A	N	PDIP	16	25	506	13.97	11230	4.32
SN74HC258N	N	PDIP	16	25	506	13.97	11230	4.32
SN74HC258N	N	PDIP	16	25	506	13.97	11230	4.32
SN74HC258N.A	N	PDIP	16	25	506	13.97	11230	4.32
SN74HC258N.A	N	PDIP	16	25	506	13.97	11230	4.32
SNJ54HC257FK	FK	LCCC	20	55	506.98	12.06	2030	NA
SNJ54HC257FK.A	FK	LCCC	20	55	506.98	12.06	2030	NA

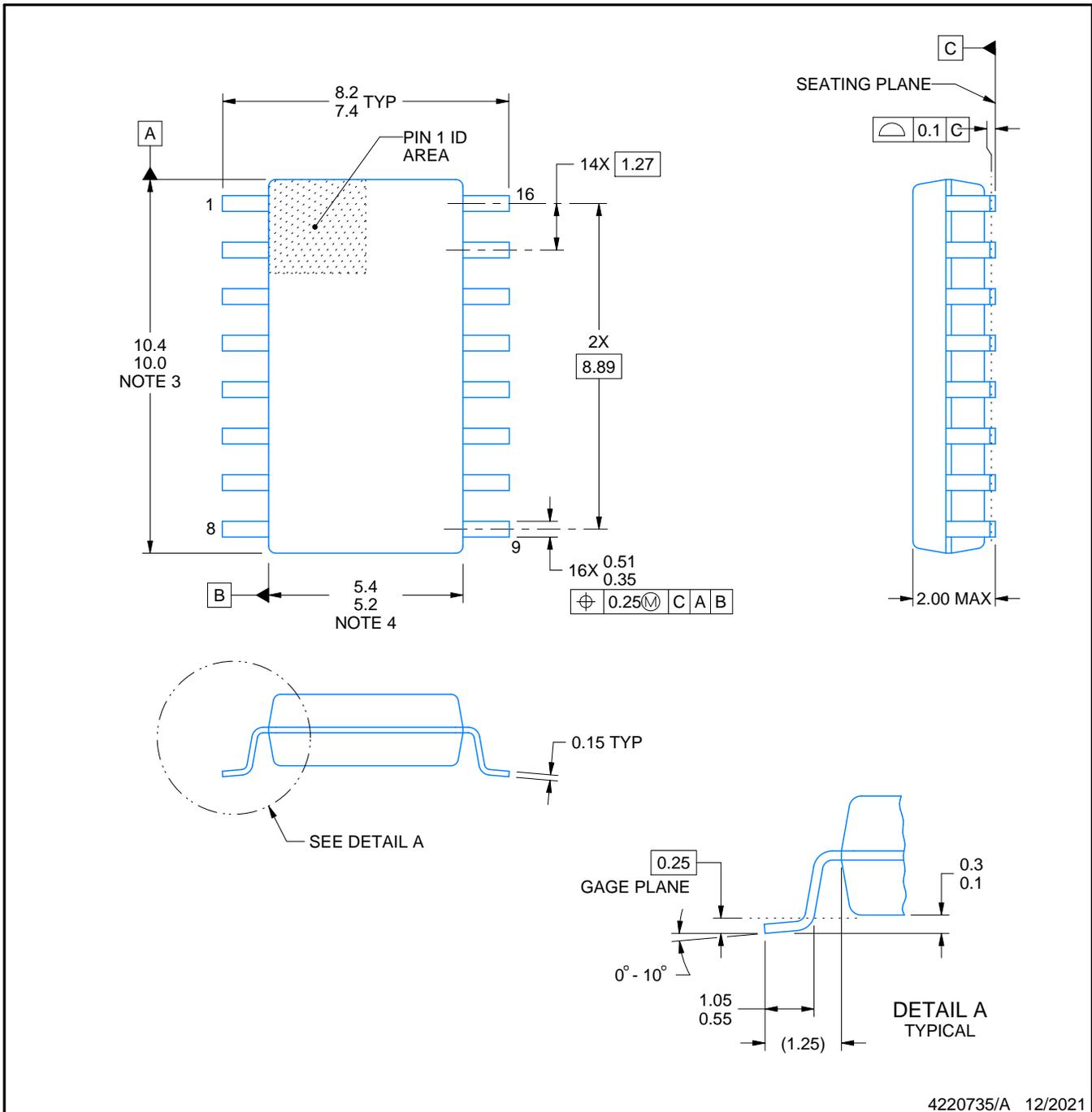


# PACKAGE OUTLINE

## NS0016A

### SOP - 2.00 mm max height

SOP



4220735/A 12/2021

#### NOTES:

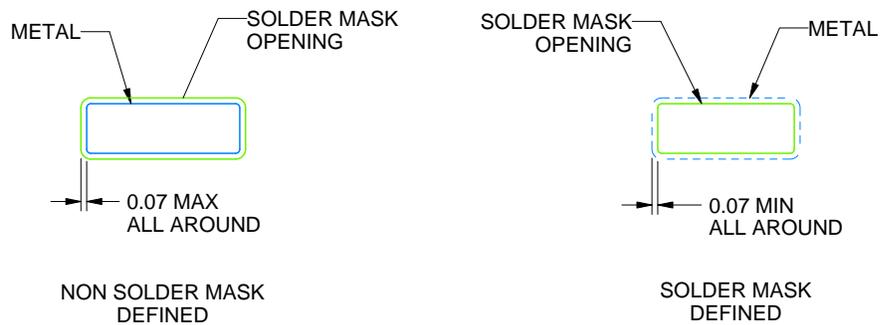
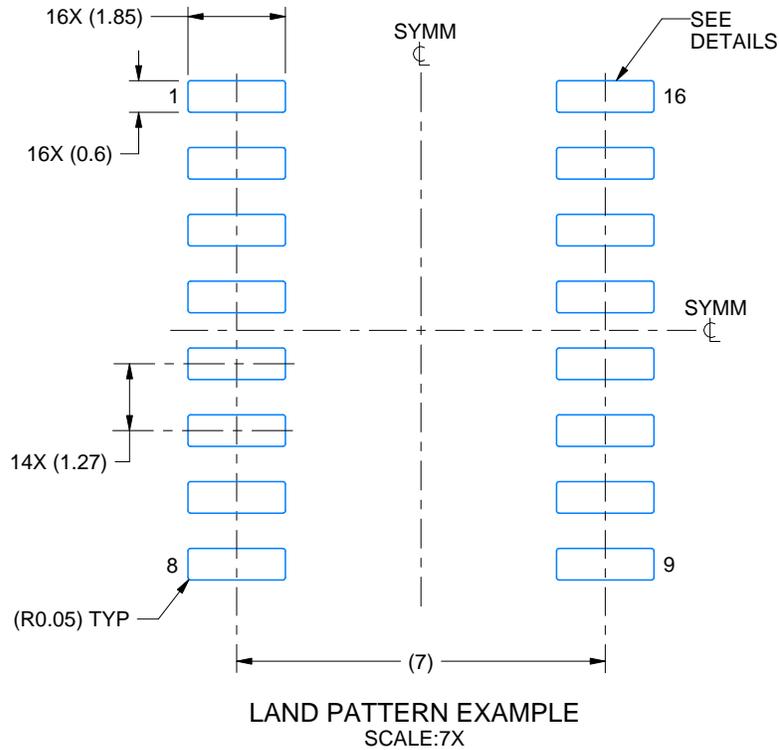
1. All linear dimensions are in millimeters. Dimensions in parenthesis are for reference only. Dimensioning and tolerancing per ASME Y14.5M.
2. This drawing is subject to change without notice.
3. This dimension does not include mold flash, protrusions, or gate burrs. Mold flash, protrusions, or gate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

# EXAMPLE BOARD LAYOUT

NS0016A

SOP - 2.00 mm max height

SOP



4220735/A 12/2021

NOTES: (continued)

5. Publication IPC-7351 may have alternate designs.

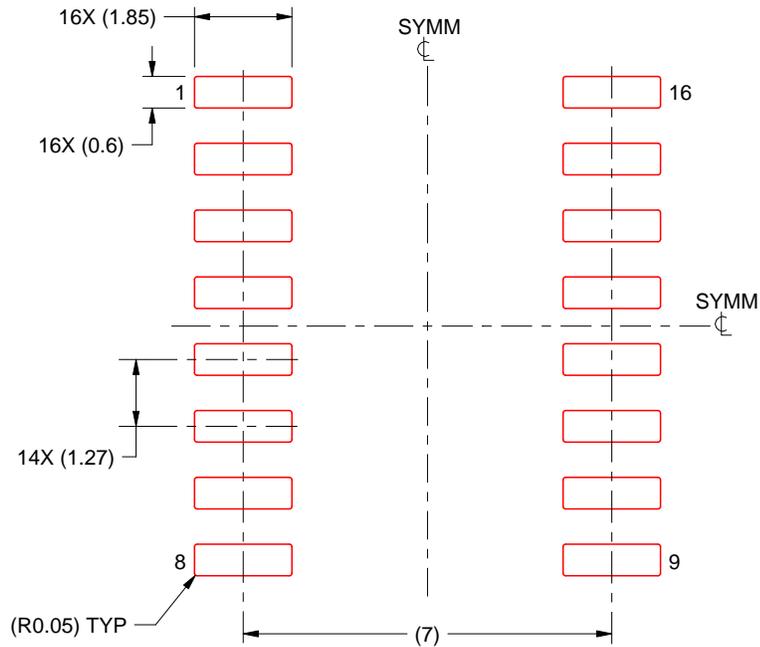
6. Solder mask tolerances between and around signal pads can vary based on board fabrication site.

# EXAMPLE STENCIL DESIGN

NS0016A

SOP - 2.00 mm max height

SOP



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

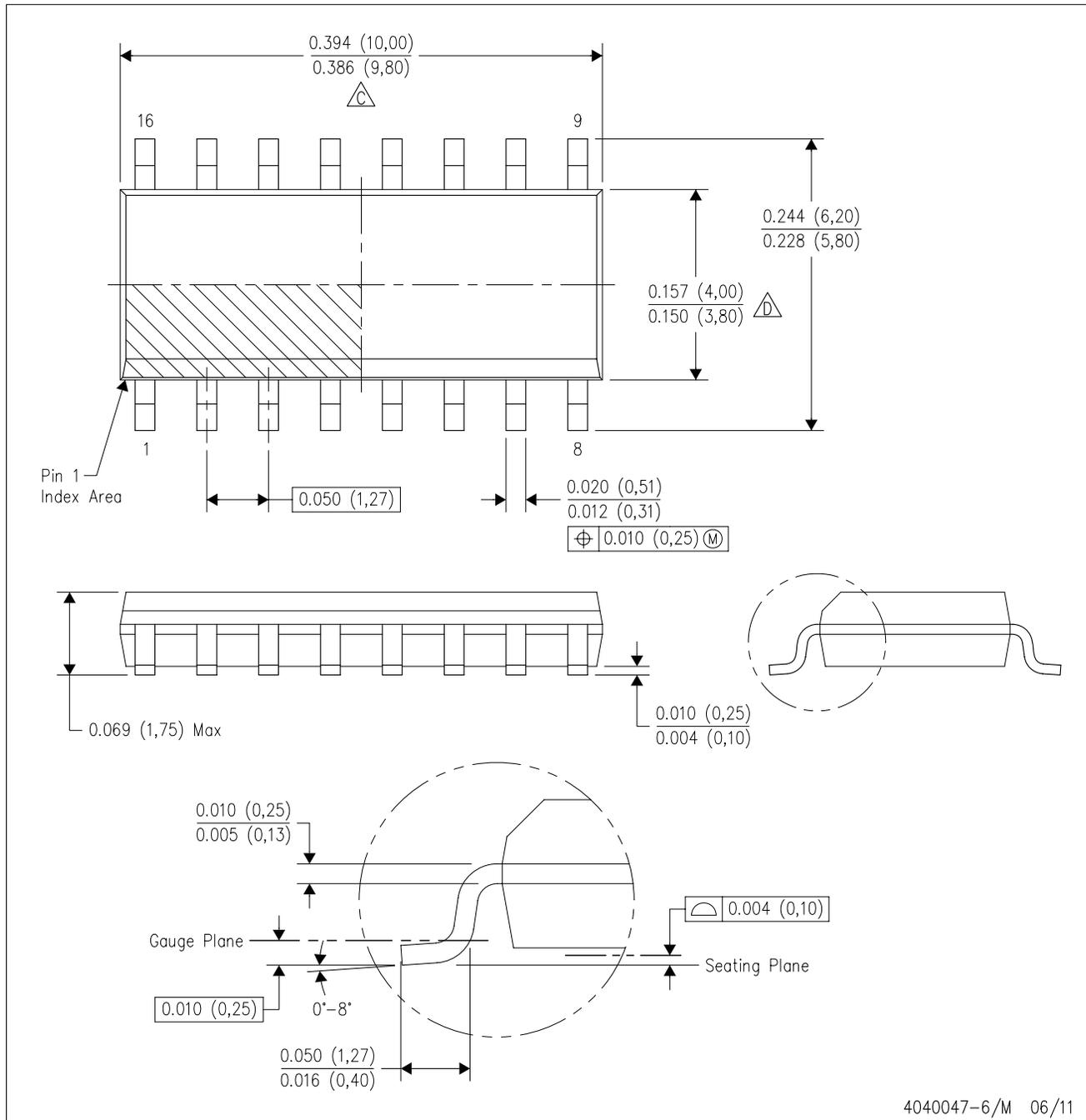
4220735/A 12/2021

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.

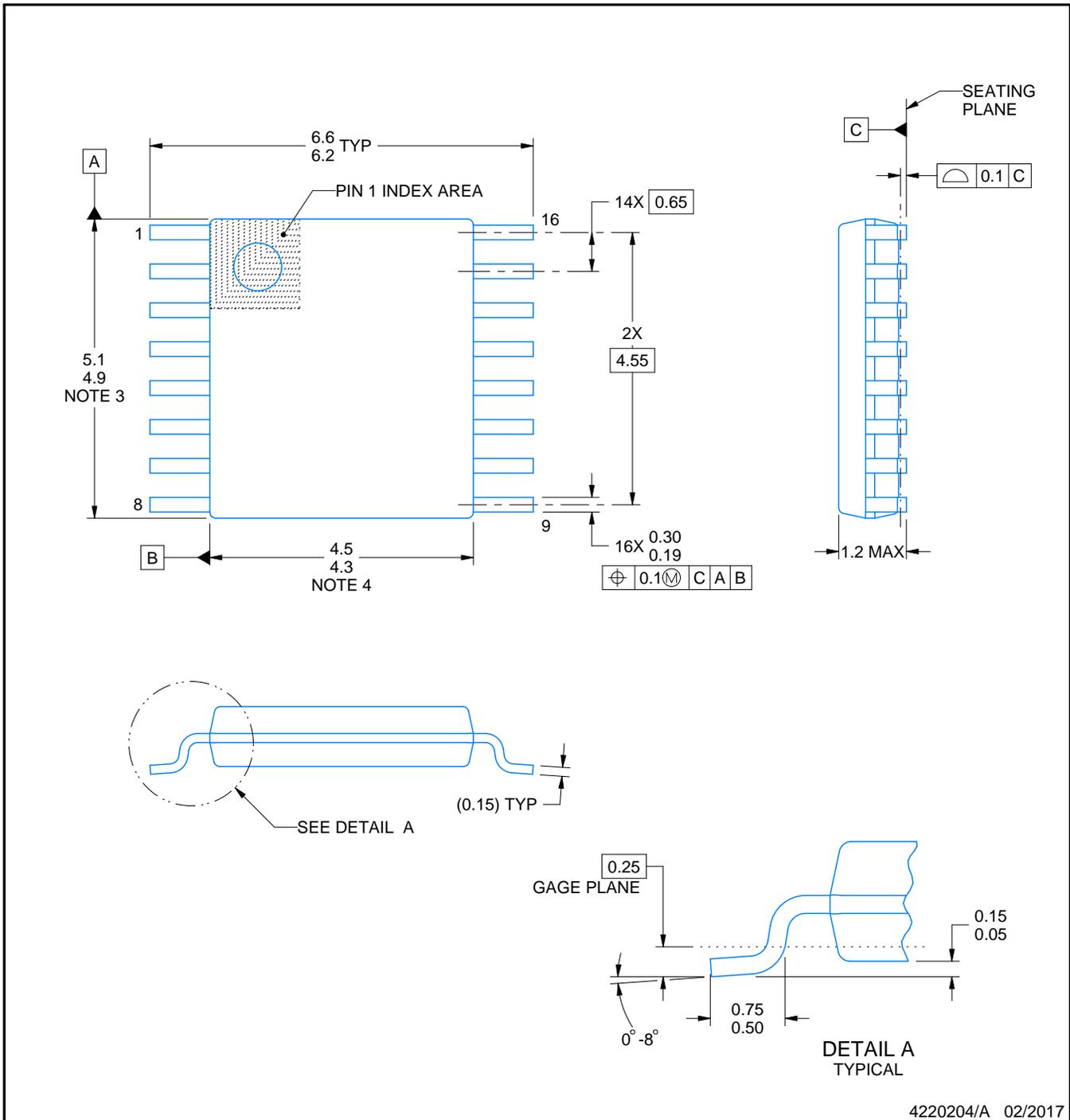
D (R-PDSO-G16)

PLASTIC SMALL OUTLINE



4040047-6/M 06/11

- NOTES:
- 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 0.006 (0,15) each side.
  - 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.



4220204/A 02/2017

NOTES:

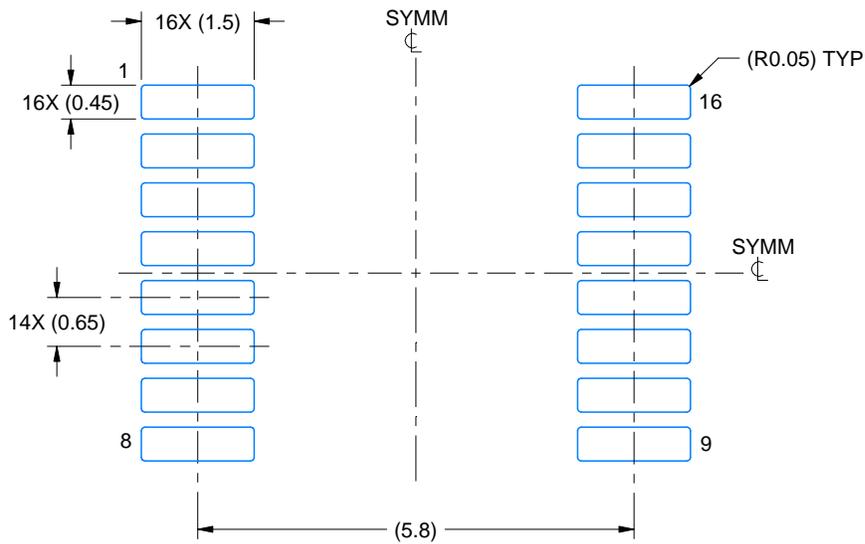
1. All linear dimensions are in millimeters. Any dimensions in parenthesis are for reference only. Dimensioning and tolerancing per ASME Y14.5M.
2. This drawing is subject to change without notice.
3. This dimension does not include mold flash, protrusions, or gate burrs. Mold flash, protrusions, or 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.

# EXAMPLE BOARD LAYOUT

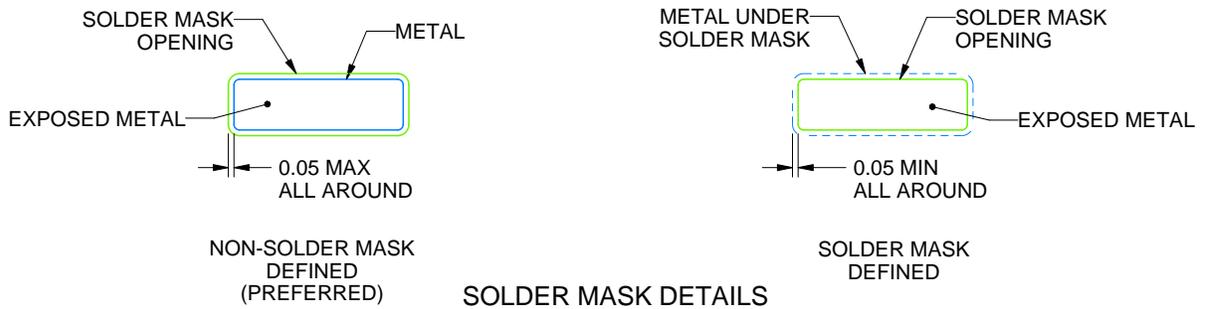
PW0016A

TSSOP - 1.2 mm max height

SMALL OUTLINE PACKAGE



LAND PATTERN EXAMPLE  
EXPOSED METAL SHOWN  
SCALE: 10X



SOLDER MASK DETAILS

4220204/A 02/2017

NOTES: (continued)

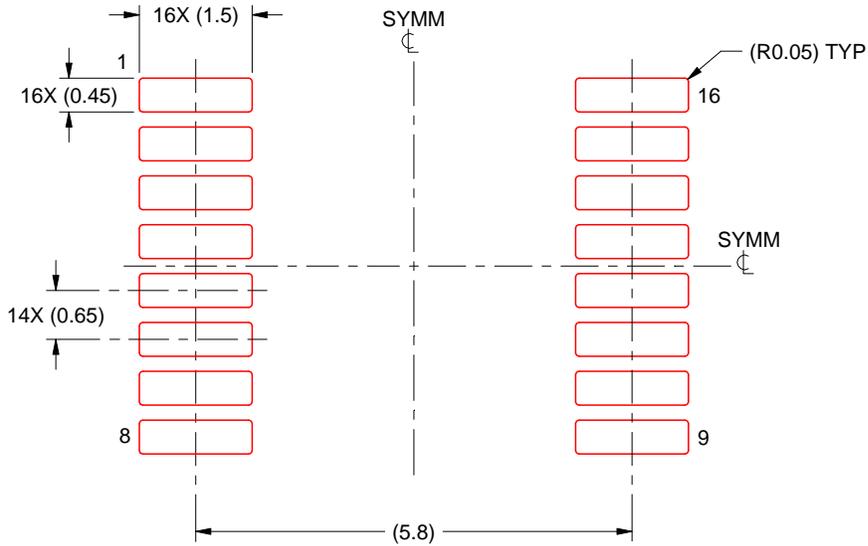
- 6. Publication IPC-7351 may have alternate designs.
- 7. Solder mask tolerances between and around signal pads can vary based on board fabrication site.

# EXAMPLE STENCIL DESIGN

PW0016A

TSSOP - 1.2 mm max height

SMALL OUTLINE PACKAGE



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

4220204/A 02/2017

NOTES: (continued)

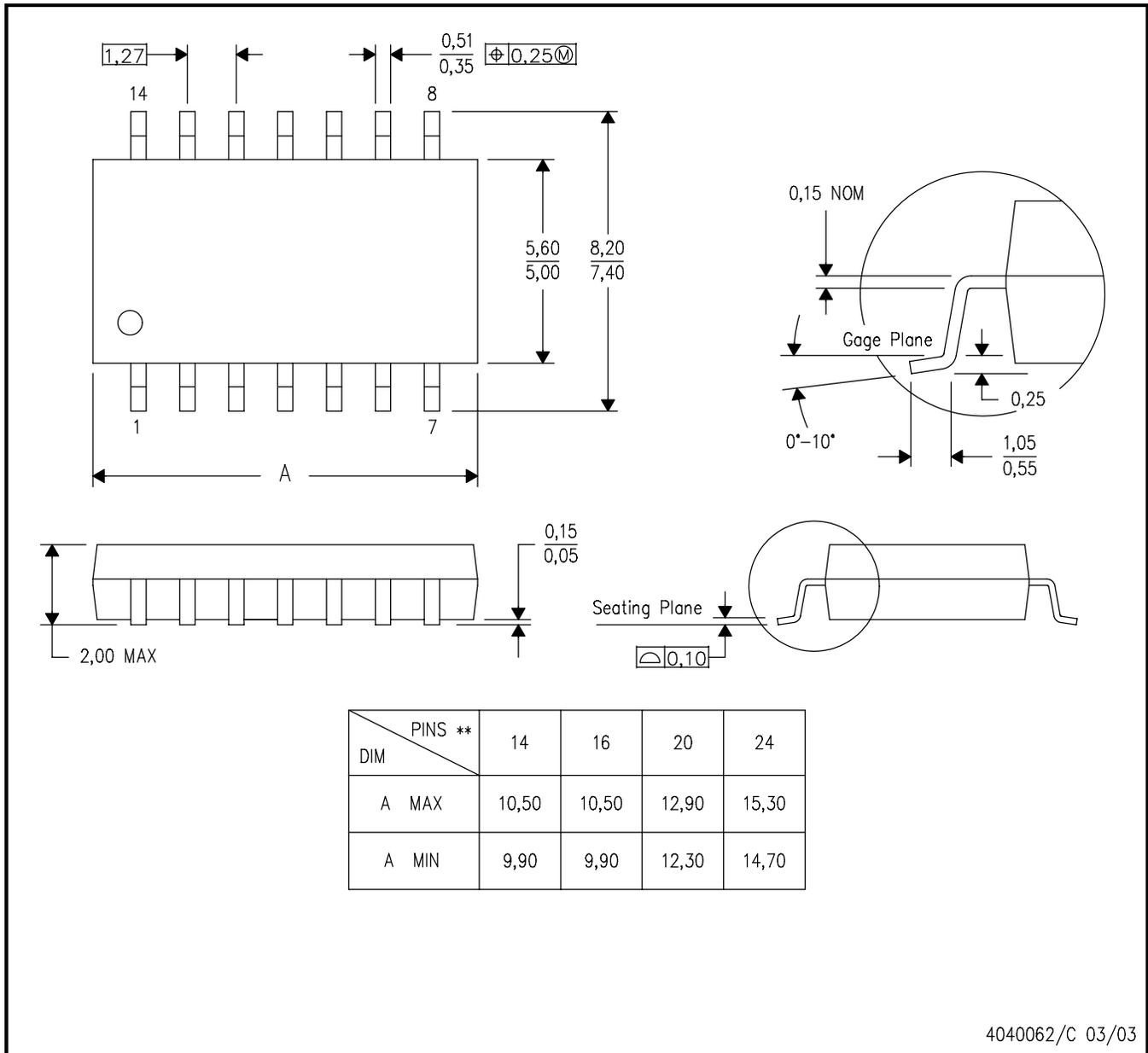
8. Laser cutting apertures with trapezoidal walls and rounded corners may offer better paste release. IPC-7525 may have alternate design recommendations.
9. Board assembly site may have different recommendations for stencil design.

# MECHANICAL DATA

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

PLASTIC SMALL-OUTLINE PACKAGE

14-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.

## GENERIC PACKAGE VIEW

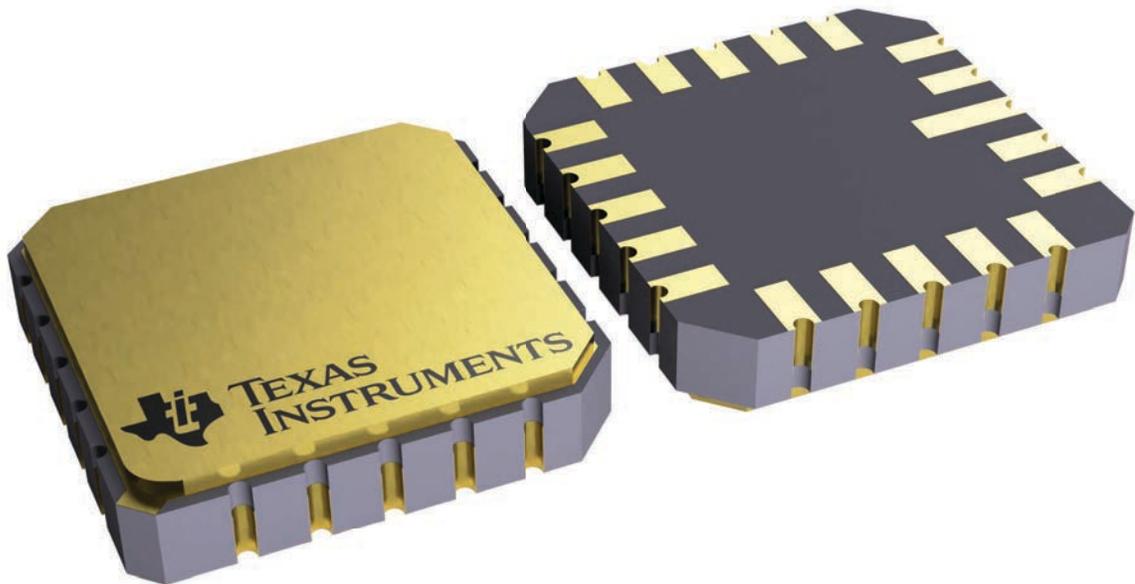
**FK 20**

**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.

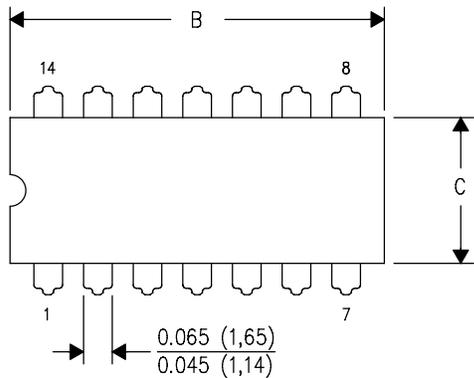


4229370VA\

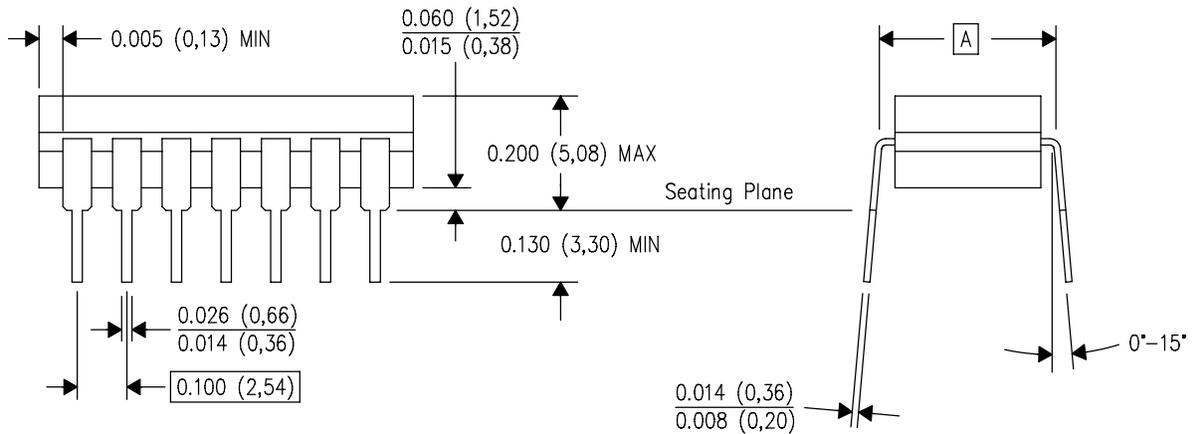
J (R-GDIP-T\*\*)

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)



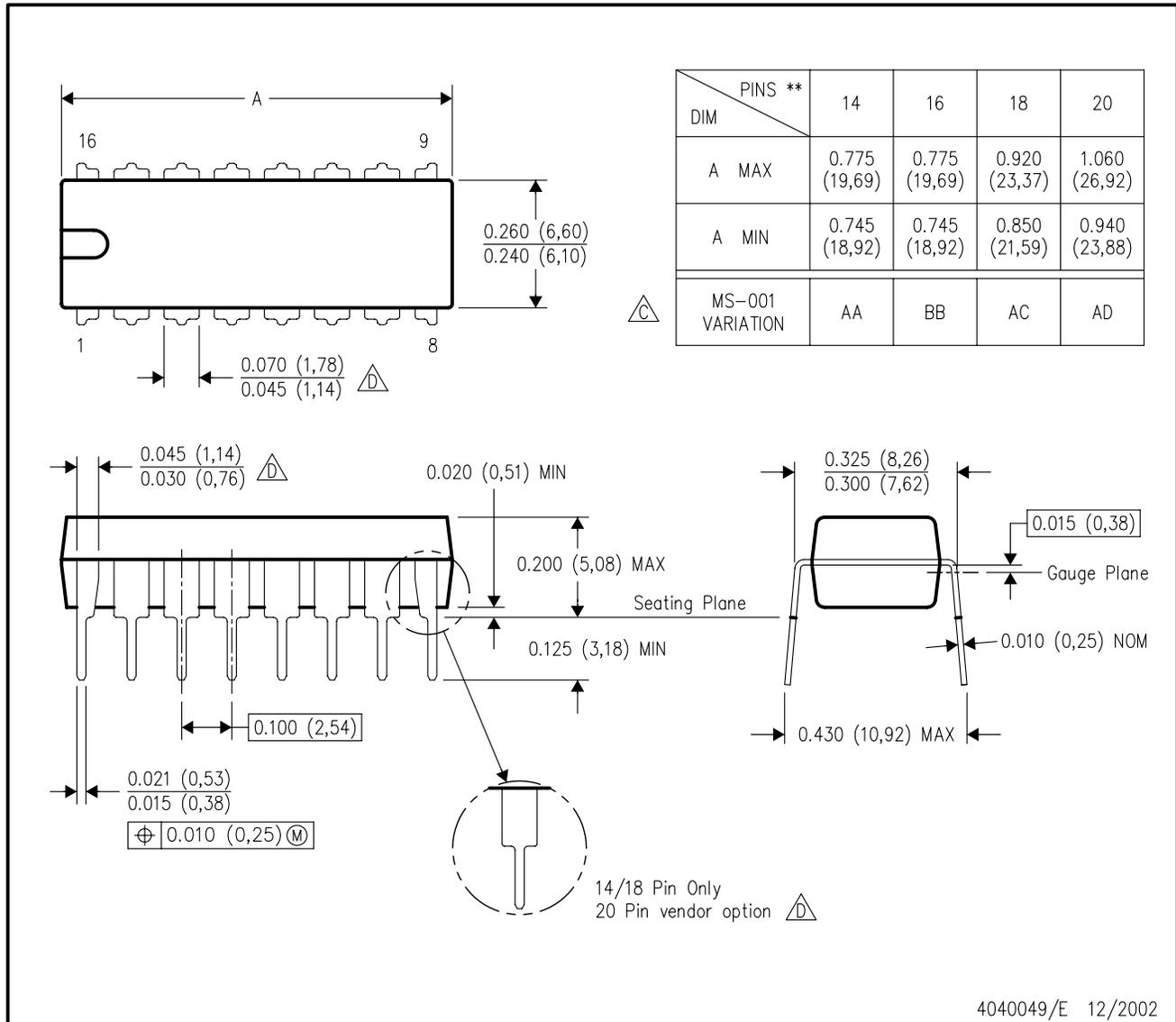
4040083/F 03/03

- NOTES:
- 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.

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.
  - (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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