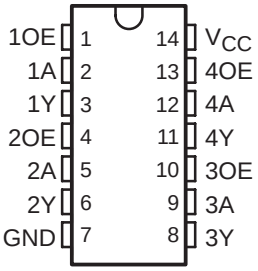
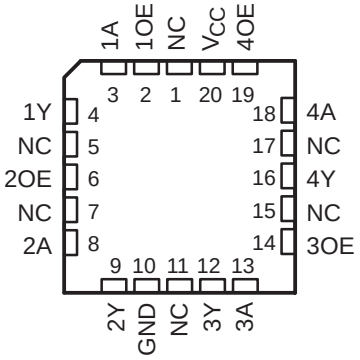
- **2-V to 5.5-V V_{CC} Operation**
- **Max t_{pd} of 6.5 ns at 5 V**
- **Typical V_{OLP} (Output Ground Bounce) <0.8 V at V_{CC} = 3.3 V, T_A = 25°C**
- **Typical V_{OHV} (Output V_{OH} Undershoot) >2.3 V at V_{CC} = 3.3 V, T_A = 25°C**
- **Support Mixed-Mode Voltage Operation on All Ports**
- **Latch-Up 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)**
  - **1000-V Charged-Device Model (C101)**

SN54LV126A . . . J OR W PACKAGE
SN74LV126A . . . D, DB, DGV, NS, OR PW PACKAGE
(TOP VIEW)



SN54LV126A . . . FK PACKAGE
(TOP VIEW)



NC − No internal connection

description/ordering information

These quadruple bus buffer gates are designed for 2-V to 5.5-V V_{CC} operation.

The ’LV126A devices feature independent line drivers with 3-state outputs. Each output is disabled when the associated output-enable (OE) input is low.

To ensure the high-impedance state during power up or power down, OE should be tied to GND through a pulldown resistor; the minimum value of the resistor is determined by the current-sourcing capability of the driver.

ORDERING INFORMATION

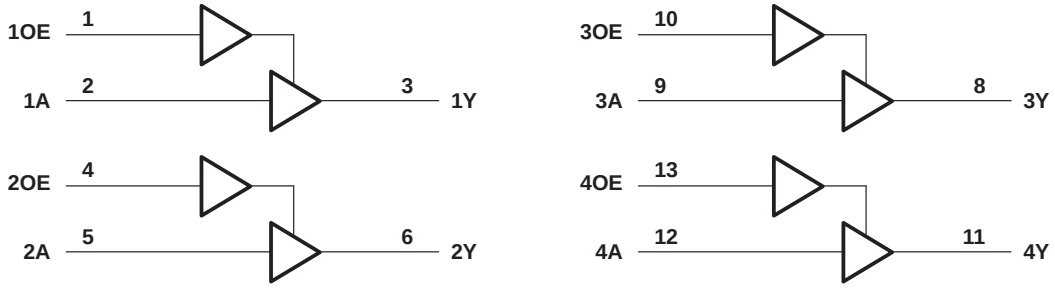
T_A	PACKAGE†		ORDERABLE PART NUMBER	TOP-SIDE MARKING
−40°C to 85°C	SOIC − D	Tube of 50	SN74LV126AD	LV126A
		Reel of 2500	SN74LV126ADR	
	SOP − NS	Reel of 2000	SN74LV126ANSR	74LV126A
	SSOP − DB	Reel of 2000	SN74LV126ADBR	LV126A
	TSSOP − PW	Tube of 90	SN74LV126APW	LV126A
		Reel of 2000	SN74LV126APWR	
		Reel of 250	SN74LV126APWT	
	TVSOP − DGV	Reel of 2000	SN74LV126ADGVR	LV126A
−55°C to 125°C	CDIP − J	Tube of 25	SNJ54LV126AJ	SNJ54LV126AJ
	CFP − W	Tube of 150	SNJ54LV126AW	SNJ54LV126AW
	LCCC − FK	Tube of 55	SNJ54LV126AFK	SNJ54LV126AFK

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

FUNCTION TABLE
(each buffer)

INPUTS		OUTPUT
OE	A	Y
H	H	H
H	L	L
L	X	Z

logic diagram (positive logic)



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

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

Supply voltage range, V_{CC} . . . . . −0.5 V to 7 V
Input voltage range, V_I (see Note 1) . . . . . −0.5 V to 7 V
Voltage range applied to any output in the high-impedance
or power-off state, V_O (see Note 1) . . . . . −0.5 V to 7 V
Output voltage range, V_O (see Notes 1 and 2) . . . . . −0.5 V to V_{CC} + 0.5 V
Input clamp current, I_{IK} (V_I < 0) . . . . . −20 mA
Output clamp current, I_{OK} (V_O < 0) . . . . . −50 mA
Continuous output current, I_O (V_O = 0 to V_{CC}) . . . . . ±35 mA
Continuous current through V_{CC} or GND . . . . . ±70 mA
Package thermal impedance, θ_{JA} (see Note 3): D package . . . . . 86°C/W
DB package . . . . . 96°C/W
DGV package . . . . . 127°C/W
NS package . . . . . 76°C/W
PW package . . . . . 113°C/W
Storage temperature range, T_{stg} . . . . . −65°C to 150°C

† 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 negative-voltage ratings may be exceeded if the input and output current ratings are observed.
2. This value is limited to 5.5 V maximum.
3. The package thermal impedance is calculated in accordance with JESD 51-7.

recommended operating conditions (see Note 4)

			SN54LV126A		SN74LV126A		UNIT
			MIN	MAX	MIN	MAX	
V_{CC}	Supply voltage		2	5.5	2	5.5	V
V_{IH}	High-level input voltage	V_{CC} = 2 V	1.5		1.5		V
		V_{CC} = 2.3 V to 2.7 V	$V_{CC} \times 0.7$		$V_{CC} \times 0.7$		
		V_{CC} = 3 V to 3.6 V	$V_{CC} \times 0.7$		$V_{CC} \times 0.7$		
		V_{CC} = 4.5 V to 5.5 V	$V_{CC} \times 0.7$		$V_{CC} \times 0.7$		
V_{IL}	Low-level input voltage	V_{CC} = 2 V		0.5		0.5	V
		V_{CC} = 2.3 V to 2.7 V		$V_{CC} \times 0.3$		$V_{CC} \times 0.3$	
		V_{CC} = 3 V to 3.6 V		$V_{CC} \times 0.3$		$V_{CC} \times 0.3$	
		V_{CC} = 4.5 V to 5.5 V		$V_{CC} \times 0.3$		$V_{CC} \times 0.3$	
V_I	Input voltage		0	5.5	0	5.5	V
V_O	Output voltage	High or low state	0	V_{CC}	0	V_{CC}	V
		3-state	0	5.5	0	5.5	
I_{OH}	High-level output current	V_{CC} = 2 V		−50		−50	μA
		V_{CC} = 2.3 V to 2.7 V		−2		−2	mA
		V_{CC} = 3 V to 3.6 V		−8		−8	
		V_{CC} = 4.5 V to 5.5 V		−16		−16	
I_{OL}	Low-level output current	V_{CC} = 2 V		50		50	μA
		V_{CC} = 2.3 V to 2.7 V		2		2	mA
		V_{CC} = 3 V to 3.6 V		8		8	
		V_{CC} = 4.5 V to 5.5 V		16		16	
$\Delta t/\Delta v$	Input transition rise or fall rate	V_{CC} = 2.3 V to 2.7 V		200		200	ns/V
		V_{CC} = 3 V to 3.6 V		100		100	
		V_{CC} = 4.5 V to 5.5 V		20		20	
T_A	Operating free-air temperature		−55	125	−40	85	°C

NOTE 4: All unused inputs of the device must be held at V_{CC} or GND to ensure proper device operation. Refer to the TI application report, *Implications of Slow or Floating CMOS Inputs*, literature number SCBA004.

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

PARAMETER	TEST CONDITIONS	V_{CC}	SN54LV126A			SN74LV126A			UNIT
			MIN	TYP	MAX	MIN	TYP	MAX	
V_{OH}	I_{OH} = −50 μA	2 V to 5.5 V	V_{CC}−0.1			V_{CC}−0.1			V
	I_{OH} = −2 mA	2.3 V	2			2			
	I_{OH} = −8 mA	3 V	2.48			2.48			
	I_{OH} = −16 mA	4.5 V	3.8			3.8			
V_{OL}	I_{OL} = 50 μA	2 V to 5.5 V			0.1			0.1	V
	I_{OL} = 2 mA	2.3 V			0.4			0.4	
	I_{OL} = 8 mA	3 V			0.44			0.44	
	I_{OL} = 16 mA	4.5 V			0.55			0.55	
I_I	V_I = 5.5 V or GND	0 to 5.5 V			±1			±1	μA
I_{OZ}	$V_O = V_{CC}$ or GND	5.5 V			±5			±5	μA
I_{CC}	$V_I = V_{CC}$ or GND, I_O = 0	5.5 V			20			20	μA
I_{off}	V_I or V_O = 0 to 5.5 V	0			5			5	μA
C_i	$V_I = V_{CC}$ or GND	3.3 V		1.6			1.6		pF

switching characteristics over recommended operating free-air temperature range, V_{CC} = 2.5 V ± 0.2 V (unless otherwise noted) (see Figure 1)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	LOAD CAPACITANCE	T_A = 25°C			SN54LV126A		SN74LV126A		UNIT
				MIN	TYP	MAX	MIN	MAX	MIN	MAX	
t_{pd}	A	Y	C_L = 15 pF		7.1*	13*	1*	15.5*	1	15.5	ns
t_{en}	OE	Y			7.4*	13*	1*	15.5*	1	15.5	
t_{dis}	OE	Y			5.7*	14.7*	1*	17*	1	17	
t_{pd}	A	Y	C_L = 50 pF		9.2	16.5	1	18.5	1	18.5	ns
t_{en}	OE	Y			9.5	16.5	1	18.5	1	18.5	
t_{dis}	OE	Y			8.1	18.2	15	20.5	1	20.5	
$t_{sk(o)}$						2				2	

* On products compliant to MIL-PRF-38535, this parameter is not production tested.

switching characteristics over recommended operating free-air temperature range, V_{CC} = 3.3 V ± 0.3 V (unless otherwise noted) (see Figure 1)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	LOAD CAPACITANCE	T_A = 25°C			SN54LV126A		SN74LV126A		UNIT
				MIN	TYP	MAX	MIN	MAX	MIN	MAX	
t_{pd}	A	Y	C_L = 15 pF		5*	8*	1*	9.5*	1	9.5	ns
t_{en}	OE	Y			5.1*	8*	1*	9.5*	1	9.5	
t_{dis}	OE	Y			4.4*	9.7*	1*	11.5*	1	11.5	
t_{pd}	A	Y	C_L = 50 pF		6.4	11.5	1	13	1	13	ns
t_{en}	OE	Y			6.6	11.5	1	13	1	13	
t_{dis}	OE	Y			6.1	13.2	1	15	1	15	
$t_{sk(o)}$						1.5				1.5	

* On products compliant to MIL-PRF-38535, this parameter is not production tested.

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

PARAMETER	FROM (INPUT)	TO (OUTPUT)	LOAD CAPACITANCE	T_A = 25°C			SN54LV126A		SN74LV126A		UNIT
				MIN	TYP	MAX	MIN	MAX	MIN	MAX	
t_{pd}	A	Y	C_L = 15 pF		3.5*	5.5*	1*	6.5*	1	6.5	ns
t_{en}	OE	Y			3.6*	5.1*	1*	6*	1	6	
t_{dis}	OE	Y			3.3*	6.8*	1*	8*	1	8	
t_{pd}	A	Y	C_L = 50 pF		4.6	7.5	1	8.5	1	8.5	ns
t_{en}	OE	Y			4.6	7.1	1	8	1	8	
t_{dis}	OE	Y			4.3	8.8	1	10	1	10	
$t_{sk(o)}$						1				1	

* On products compliant to MIL-PRF-38535, this parameter is not production tested.

noise characteristics, V_{CC} = 3.3 V, C_L = 50 pF, T_A = 25°C (see Note 5)

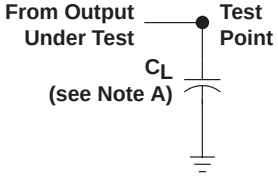
PARAMETER		SN74LV126A			UNIT
		MIN	TYP	MAX	
$V_{OL(P)}$	Quiet output, maximum dynamic V_{OL}		0.3	0.8	V
$V_{OL(V)}$	Quiet output, minimum dynamic V_{OL}		−0.2	−0.8	V
$V_{OH(V)}$	Quiet output, minimum dynamic V_{OH}		3.1		V
$V_{IH(D)}$	High-level dynamic input voltage	2.31			V
$V_{IL(D)}$	Low-level dynamic input voltage			0.97	V

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

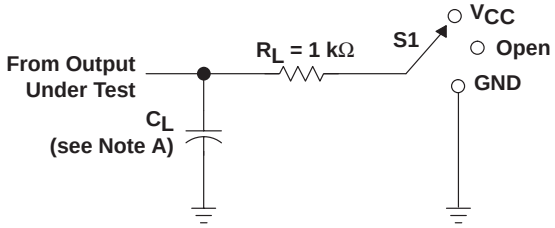
operating characteristics, T_A = 25°C

PARAMETER			TEST CONDITIONS	V_{CC}	TYP	UNIT
C_{pd}	Power dissipation capacitance	Outputs enabled	C_L = 50 pF, f = 10 MHz	3.3 V	14.4	pF
				5 V	15.9	

PARAMETER MEASUREMENT INFORMATION

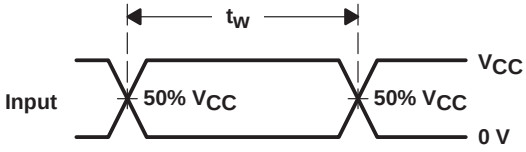


LOAD CIRCUIT FOR
TOTEM-POLE OUTPUTS

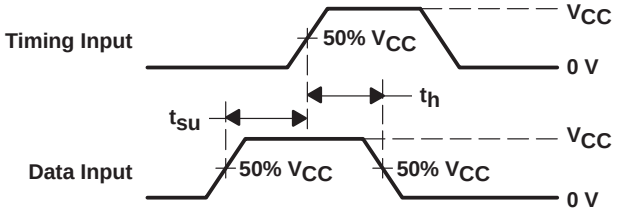


LOAD CIRCUIT FOR
3-STATE AND OPEN-DRAIN OUTPUTS

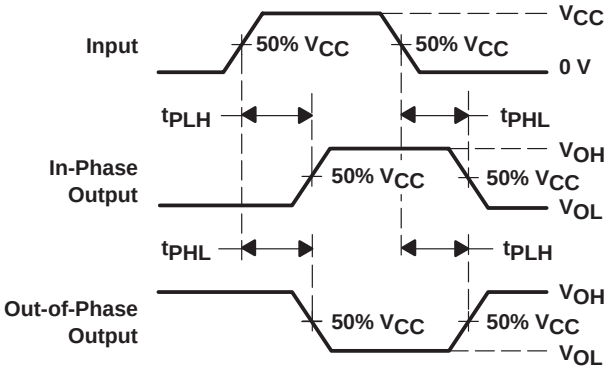
TEST	S1
t_{PLH}/t_{PHL}	Open
t_{PLZ}/t_{PZL}	V_{CC}
t_{PHZ}/t_{PZH}	GND
Open Drain	V_{CC}



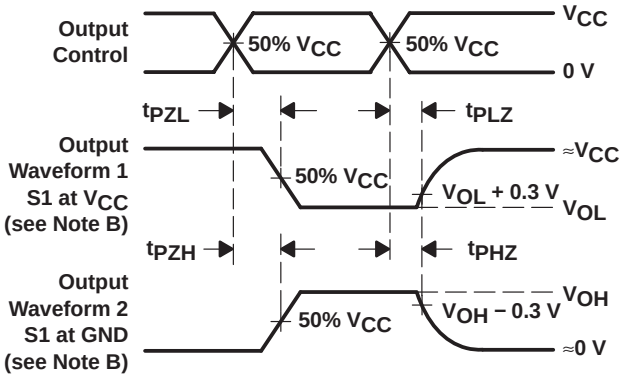
VOLTAGE WAVEFORMS
PULSE DURATION



VOLTAGE WAVEFORMS
SETUP AND HOLD TIMES



VOLTAGE WAVEFORMS
PROPAGATION DELAY TIMES
INVERTING AND NONINVERTING OUTPUTS



VOLTAGE WAVEFORMS
ENABLE AND DISABLE TIMES
LOW- AND HIGH-LEVEL ENABLING

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 ≤ 1 MHz, Z_O = 50 Ω, t_r ≤ 3 ns, t_f ≤ 3 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_{PHL} and t_{PLH} are the same as t_{pd}.
H. All parameters and waveforms are not applicable to all devices.

Figure 1. Load Circuit and Voltage Waveforms

PACKAGING INFORMATION

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/Ball Finish	MSL Peak Temp (3)
SN74LV126AD	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126ADBR	ACTIVE	SSOP	DB	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126ADBRE4	ACTIVE	SSOP	DB	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126ADBRG4	ACTIVE	SSOP	DB	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126ADE4	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126ADG4	ACTIVE	SOIC	D	14	50	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126ADGVR	ACTIVE	TVSOP	DGV	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126ADGVRE4	ACTIVE	TVSOP	DGV	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126ADGVRG4	ACTIVE	TVSOP	DGV	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126ADR	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126ADRE4	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126ADRG4	ACTIVE	SOIC	D	14	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126ANSR	ACTIVE	SO	NS	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126ANSRE4	ACTIVE	SO	NS	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126ANSRG4	ACTIVE	SO	NS	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126APW	ACTIVE	TSSOP	PW	14	90	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126APWE4	ACTIVE	TSSOP	PW	14	90	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126APWG4	ACTIVE	TSSOP	PW	14	90	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126APWR	ACTIVE	TSSOP	PW	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126APWRE4	ACTIVE	TSSOP	PW	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126APWRG4	ACTIVE	TSSOP	PW	14	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126APWT	ACTIVE	TSSOP	PW	14	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126APWTE4	ACTIVE	TSSOP	PW	14	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV126APWTG4	ACTIVE	TSSOP	PW	14	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM

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

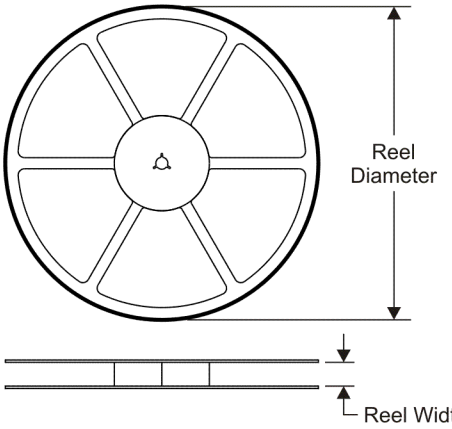
ACTIVE: Product device recommended for new designs.
LIFEBUY: TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.
NRND: Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new 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)

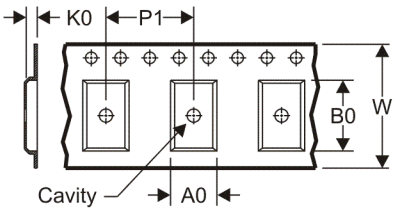
(3) MSL, Peak Temp. -- The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.

TAPE AND REEL INFORMATION

REEL DIMENSIONS

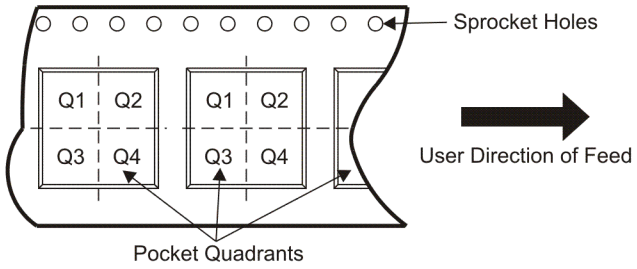


TAPE DIMENSIONS



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

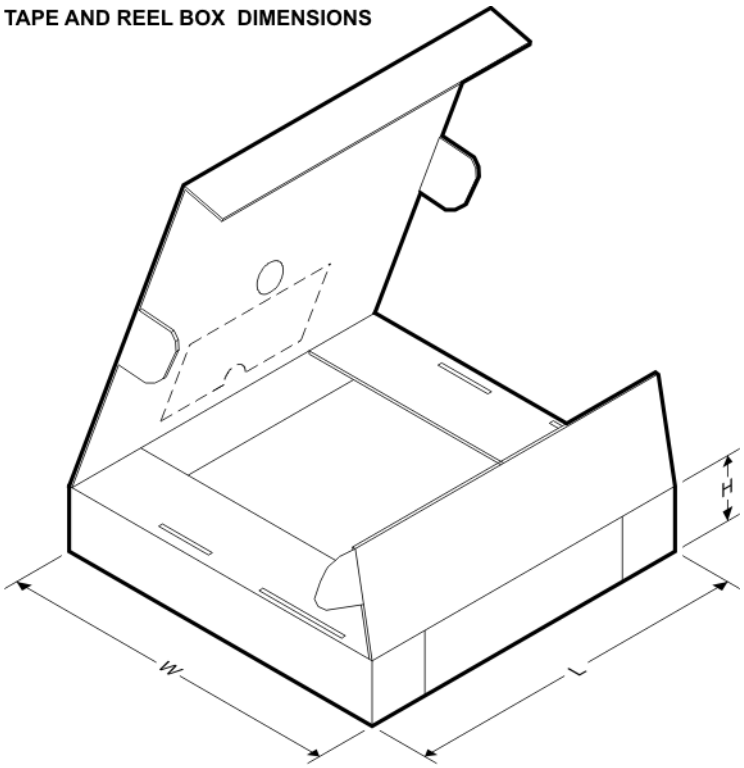
QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE



*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
SN74LV126ADBR	SSOP	DB	14	2000	330.0	16.4	8.2	6.6	2.5	12.0	16.0	Q1
SN74LV126ADGVR	TVSOP	DGV	14	2000	330.0	12.4	6.8	4.0	1.6	8.0	12.0	Q1
SN74LV126ADR	SOIC	D	14	2500	330.0	16.4	6.5	9.0	2.1	8.0	16.0	Q1
SN74LV126ANSR	SO	NS	14	2000	330.0	16.4	8.2	10.5	2.5	12.0	16.0	Q1
SN74LV126APWR	TSSOP	PW	14	2000	330.0	12.4	6.9	5.6	1.6	8.0	12.0	Q1
SN74LV126APWT	TSSOP	PW	14	250	330.0	12.4	6.9	5.6	1.6	8.0	12.0	Q1

TAPE AND REEL BOX DIMENSIONS

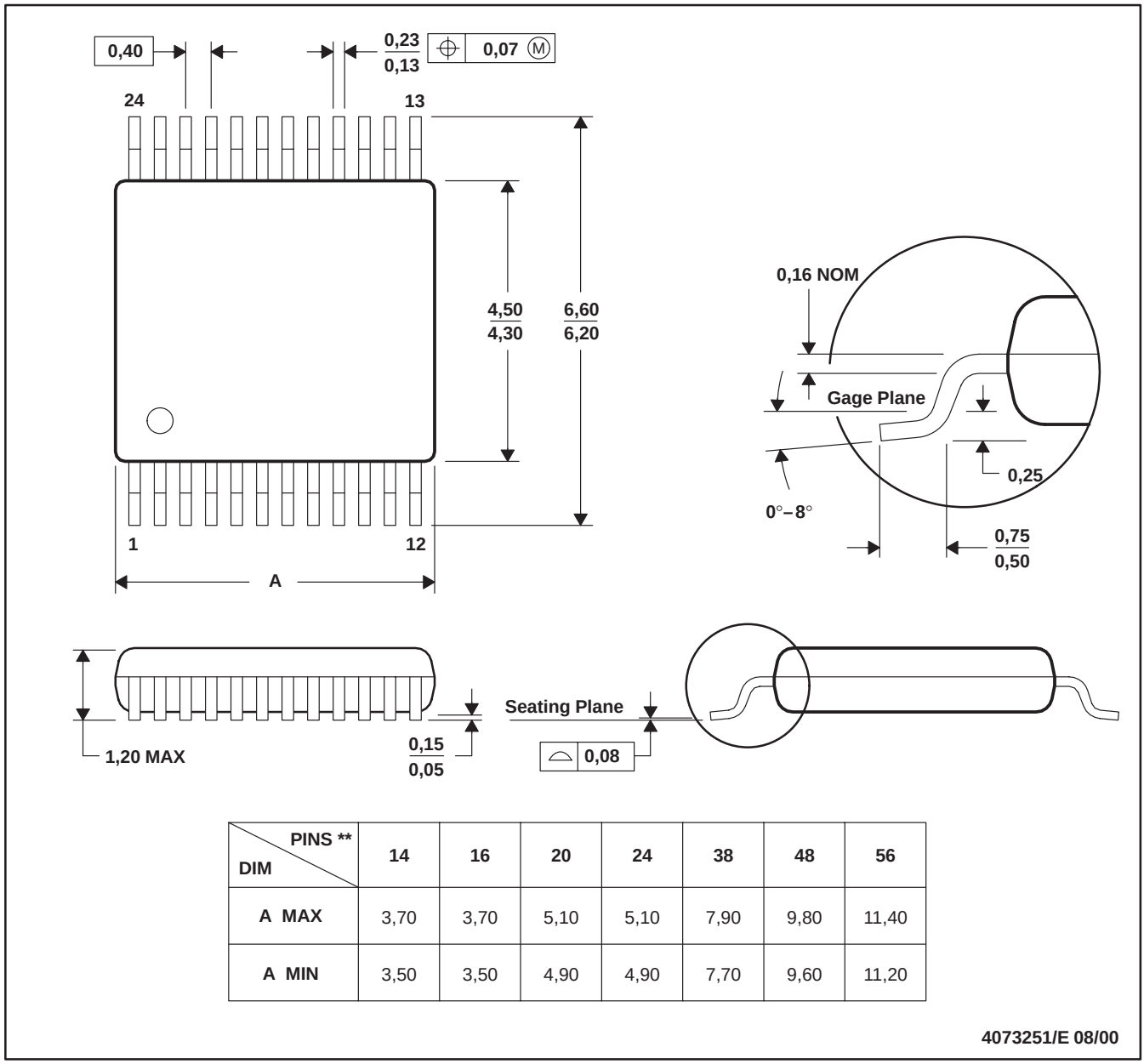


*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
SN74LV126ADBR	SSOP	DB	14	2000	346.0	346.0	33.0
SN74LV126ADGVR	TVSOP	DGV	14	2000	346.0	346.0	29.0
SN74LV126ADR	SOIC	D	14	2500	346.0	346.0	33.0
SN74LV126ANSR	SO	NS	14	2000	346.0	346.0	33.0
SN74LV126APWR	TSSOP	PW	14	2000	346.0	346.0	29.0
SN74LV126APWT	TSSOP	PW	14	250	346.0	346.0	29.0

DGV (R-PDSO-G)** **PLASTIC SMALL-OUTLINE**

24 PINS SHOWN

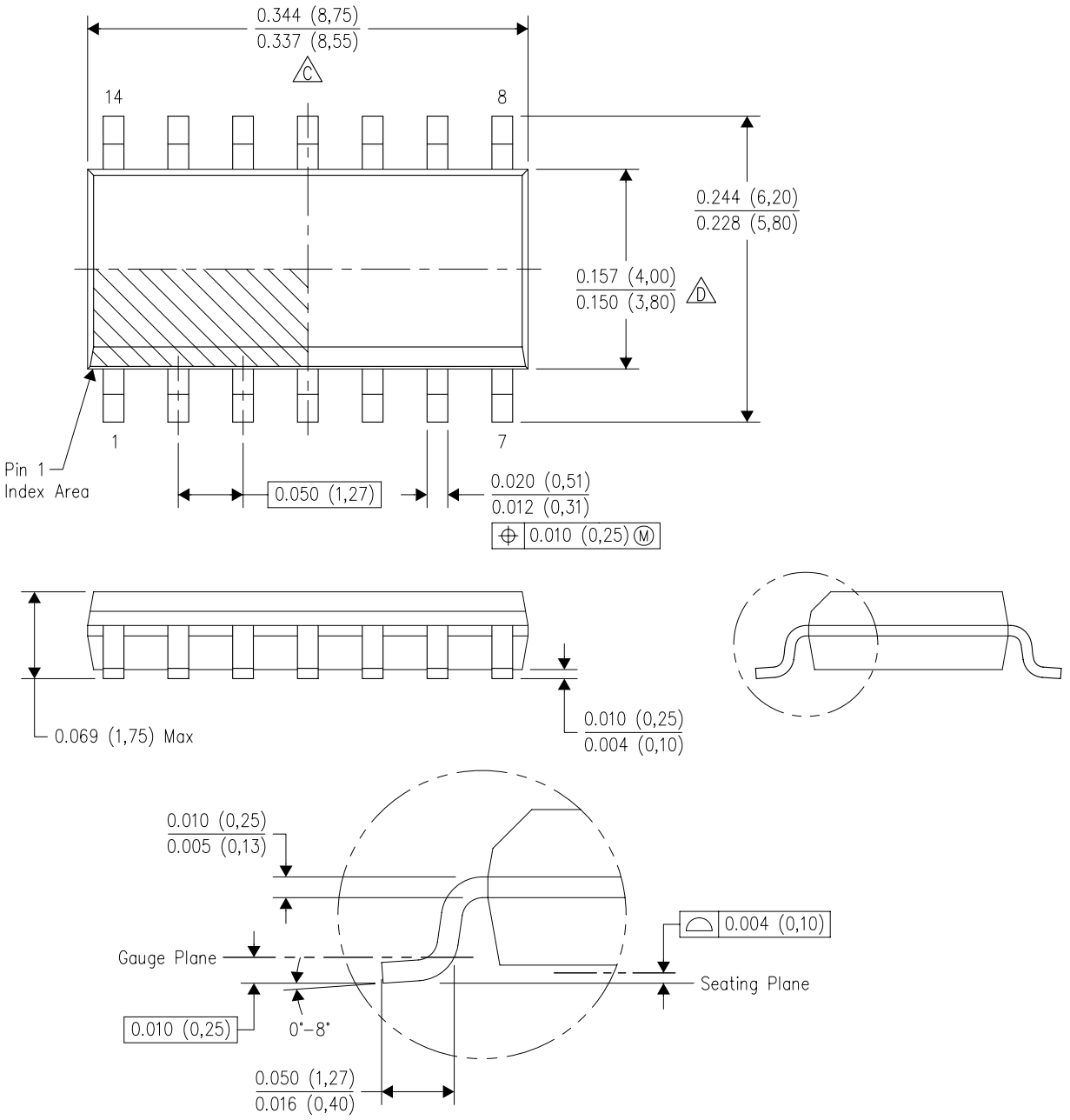


DIM \ PINS **	14	16	20	24	38	48	56
A MAX	3,70	3,70	5,10	5,10	7,90	9,80	11,40
A MIN	3,50	3,50	4,90	4,90	7,70	9,60	11,20

4073251/E 08/00

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

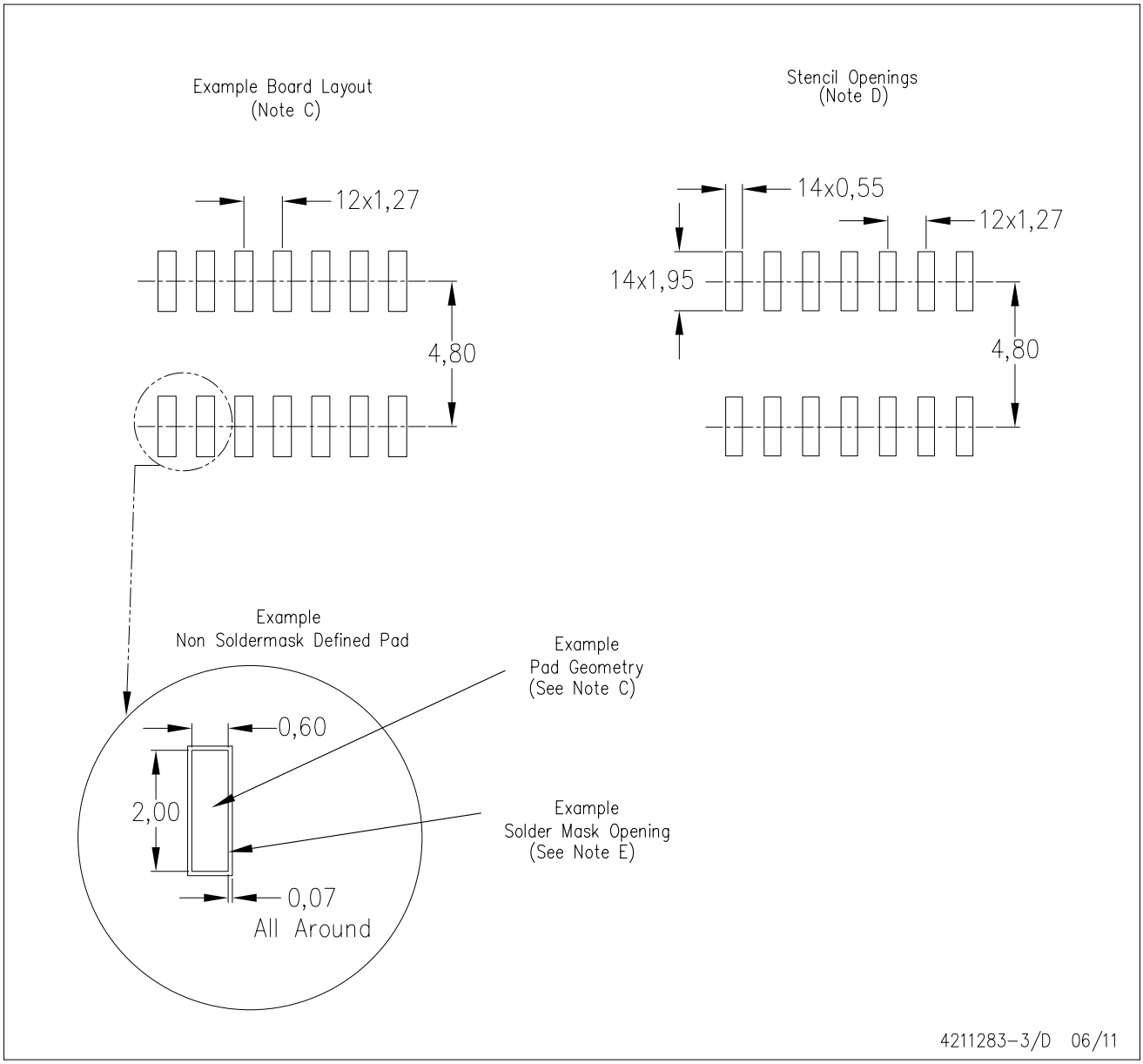
D (R–PDSO–G14) PLASTIC SMALL OUTLINE



4040047–5/M 06/11

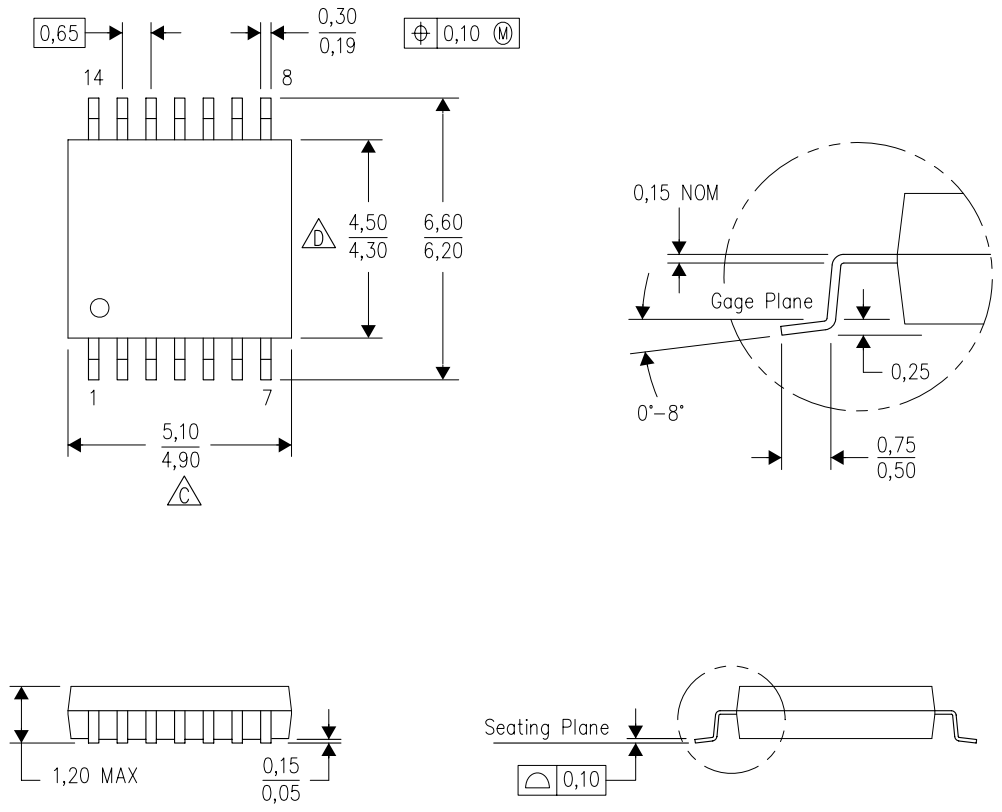
NOTES:
A. All linear dimensions are in inches (millimeters).
B. This drawing is subject to change without notice.
C. Body length does not include mold flash, protrusions, or gate burrs. Mold flash, protrusions, or gate burrs shall not exceed 0.006 (0,15) each side.
D. Body width does not include interlead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

D (R–PDSO–G14) PLASTIC SMALL OUTLINE



NOTES:
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. 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 other stencil recommendations.
E. Customers should contact their board fabrication site for solder mask tolerances between and around signal pads.

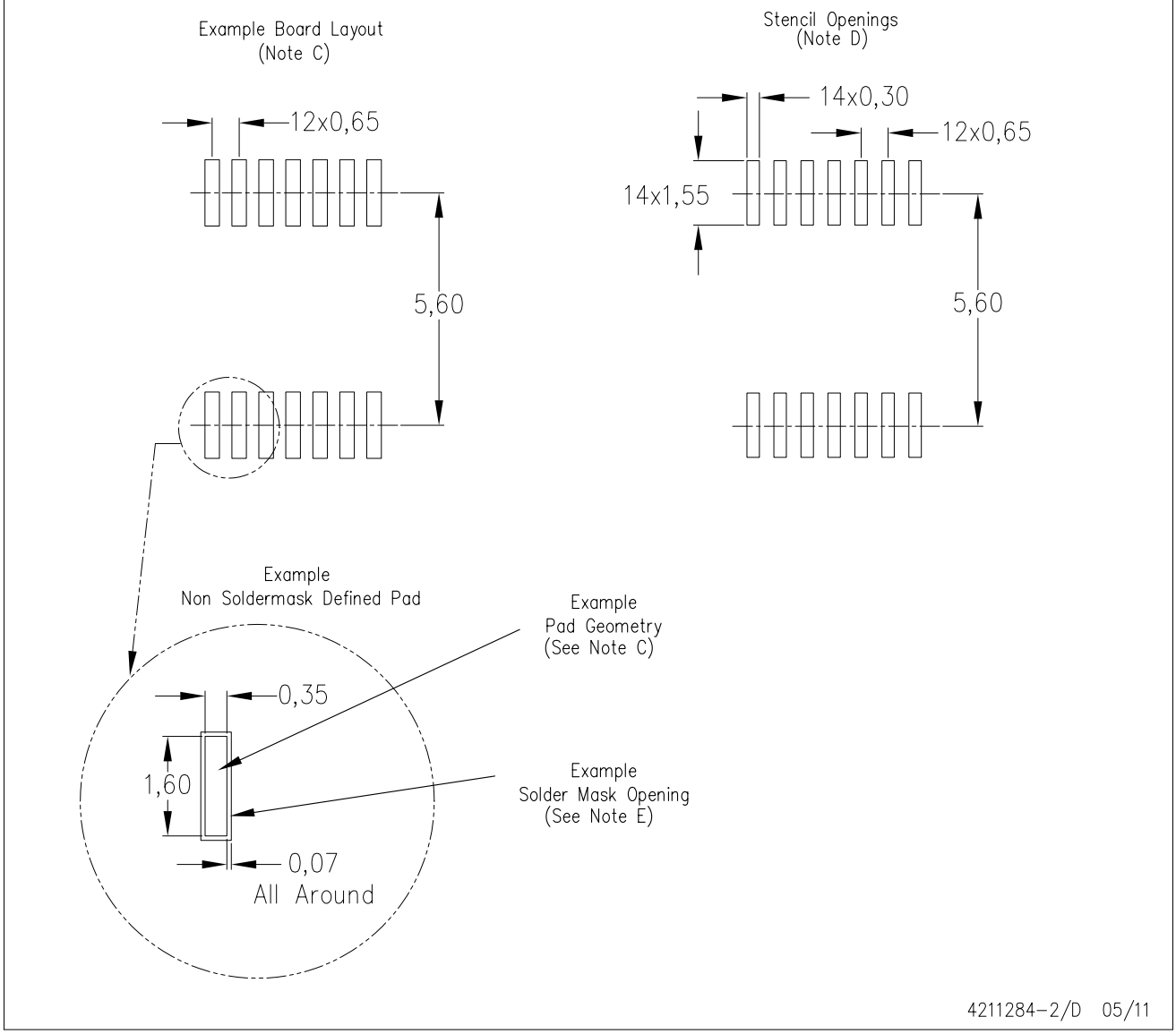
PW (R–PDSO–G14) PLASTIC SMALL OUTLINE



4040064–3/G 02/11

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. Body length does not include mold flash, protrusions, or gate burrs. Mold flash, protrusions, or gate burrs shall not exceed 0,15 each side.
D. Body width does not include interlead flash. Interlead flash shall not exceed 0,25 each side.
E. Falls within JEDEC MO–153

PW (R–PDSO–G14) PLASTIC SMALL OUTLINE

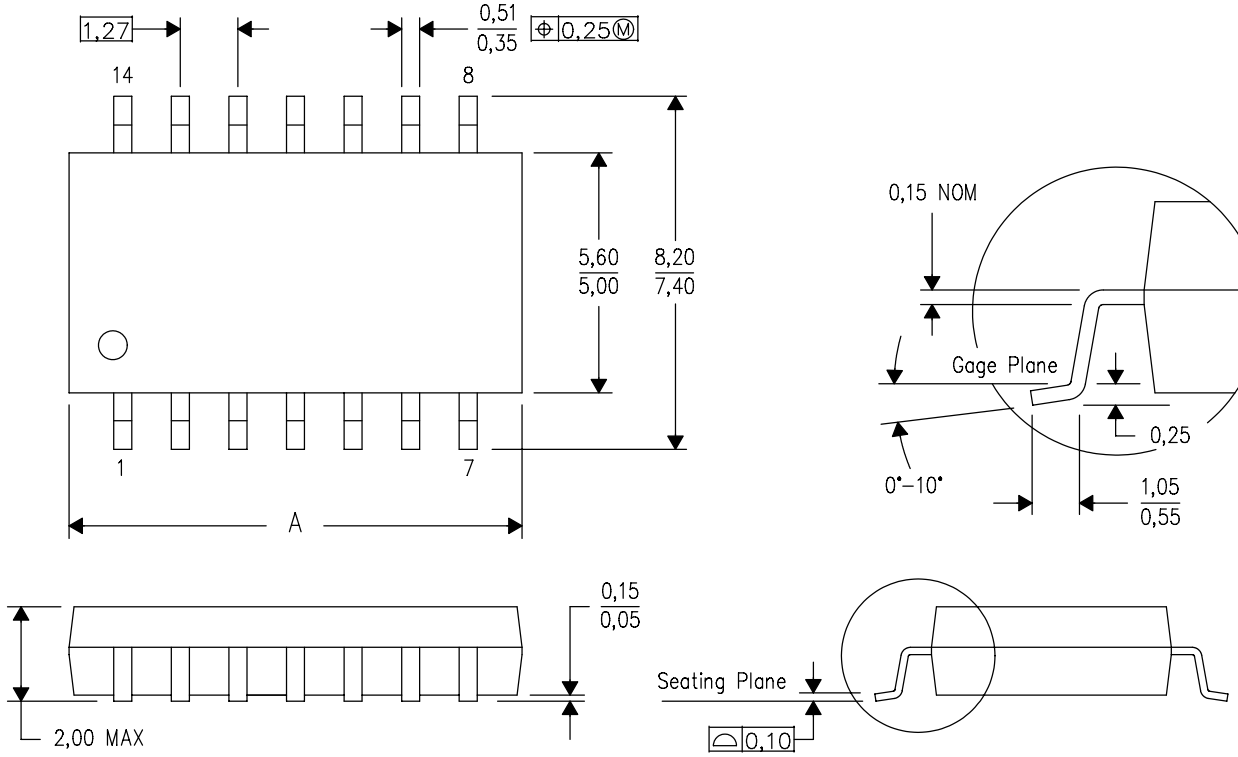


NOTES:
A. All linear dimensions are in millimeters.
B. This drawing is subject to change without notice.
C. Publication IPC–7351 is recommended for alternate designs.
D. Laser cutting apertures with trapezoidal walls and also rounding corners will offer better paste release. Customers should contact their board assembly site for stencil design recommendations. Refer to IPC–7525 for other stencil recommendations.
E. Customers should contact their board fabrication site for solder mask tolerances between and around signal pads.

MECHANICAL DATA

NS (R-PDSO-G)** **PLASTIC SMALL-OUTLINE PACKAGE**

14-PINS SHOWN



DIM \ PINS **	14	16	20	24
A MAX	10,50	10,50	12,90	15,30
A MIN	9,90	9,90	12,30	14,70

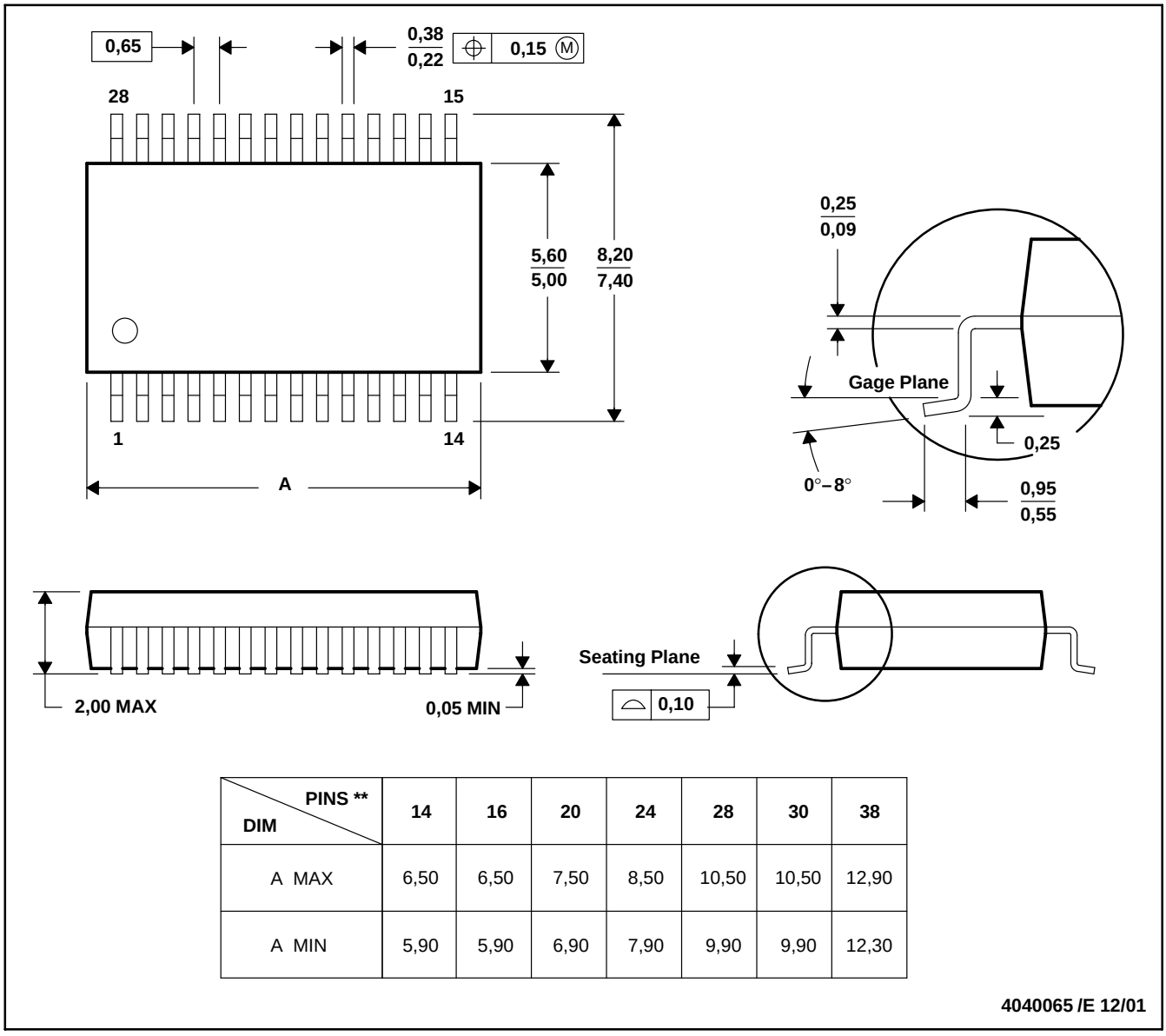
4040062/C 03/03

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.

MSSO002E – JANUARY 1995 – REVISED DECEMBER 2001

DB (R-PDSO-G)** **PLASTIC SMALL-OUTLINE**

28 PINS SHOWN



DIM \ PINS **	14	16	20	24	28	30	38
A MAX	6,50	6,50	7,50	8,50	10,50	10,50	12,90
A MIN	5,90	5,90	6,90	7,90	9,90	9,90	12,30

4040065 /E 12/01

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

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