

OCTAL BUFFERS/DRIVERS WITH 3-STATE OUTPUTS

Check for Samples: [SN54AHCT540](#), [SN74AHCT540](#)

FEATURES

- Inputs Are TTL-Voltage Compatible
- Latch-Up Performance Exceeds 250 mA Per JESD 17
- ESD Protection Exceeds JESD 22
 - 2000-V Human-Body Model (A114-A)
 - 200-V Machine Model (A115-A)
 - 1000-V Charged-Device Model (C101)

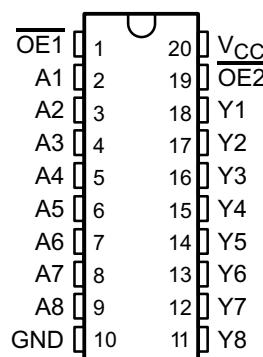
DESCRIPTION

The 'AHCT540 octal buffers/drivers are ideal for driving bus lines or buffer memory address registers. These devices feature inputs and outputs on opposite sides of the package to facilitate printed circuit board layout.

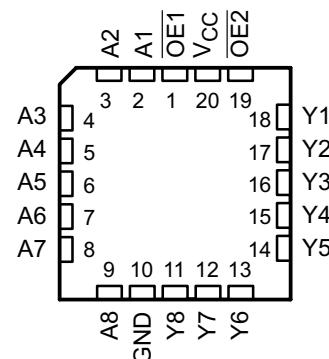
The 3-state control gate is a two-input AND gate with active-low inputs so that if either output-enable (\overline{OE}_1 or \overline{OE}_2) input is high, all corresponding outputs are in the high-impedance state. The outputs provide inverted data when they are not in the high-impedance state.

To ensure the high-impedance state during power up or power down, OE 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.

**SN54AHCT540 . . . J OR W PACKAGE
SN74AHCT540 . . . DB, DGV, DW, N, NS, OR PW PACKAGE
(TOP VIEW)**



**SN54AHCT540 . . . FK PACKAGE
(TOP VIEW)**



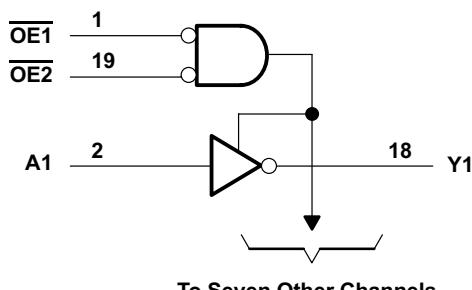
**FUNCTION TABLE
(EACH BUFFER/DRIVER)**

INPUTS			OUTPUT Y
\overline{OE}_1	\overline{OE}_2	A	
L	L	L	H
L	L	H	L
H	X	X	Z
X	H	X	Z



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.

LOGIC DIAGRAM (POSITIVE LOGIC)



To Seven Other Channels

ABSOLUTE MAXIMUM RATINGS

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

	VALUE	UNIT
Supply voltage range, V_{CC}	-0.5 to 7	V
Input voltage range, V_I ⁽²⁾	-0.5 to 7	V
Output voltage range, V_O ⁽²⁾	-0.5 to $V_{CC} + 0.5$	V
Input clamp current, I_{IK} ($V_I < 0$)	-20	mA
Output clamp current, I_{OK} ($V_O < 0$ or $V_O > V_{CC}$)	± 20	mA
Continuous output current, I_O ($V_O = 0$ to V_{CC})	± 25	mA
Continuous current through V_{CC} or GND	± 75	mA
Package thermal impedance, θ_{JA} ⁽³⁾	DB package	70
	DGV package	92
	DW package	58
	N package	69
	NS package	60
	PW package	83
Storage temperature range, T_{stg}	-65 to 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 "recommended operating conditions" 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.
- (3) The package thermal impedance is calculated in accordance with JESD 51-7.

RECOMMENDED OPERATING CONDITIONS⁽¹⁾

		SN54AHCT540		SN74AHCT540		UNIT
		MIN	MAX	MIN	MAX	
V_{CC}	Supply voltage	4.5	5.5	4.5	5.5	V
V_{IH}	High-level input voltage	2		2		V
V_{IL}	Low-level Input voltage		0.8		0.8	V
V_I	Input voltage	0	5.5	0	5.5	V
V_O	Output voltage	0	V_{CC}	0	V_{CC}	V
I_{OH}	High-level output current		-8		-8	mA
I_{OL}	Low-level output current		8		8	mA
$\Delta t/\Delta v$	Input Transition rise or fall rate		20		20	ns/V
T_A	Operating free-air temperature	-55	125	-40	125	°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](#).

ELECTRICAL CHARACTERISTICS

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

PARAMETER	TEST CONDITIONS	V_{CC}	$T_A = 25^\circ C$	$T_A = -55^\circ C$ TO $125^\circ C$	$T_A = -40^\circ C$ TO $85^\circ C$	$T_A = -40^\circ C$ TO $125^\circ C$	UNIT	
				Recommended		Recommended		
				SN54AHCT540	SN74AHCT540	SN74AHCT540		
V_{OH}	$I_{OH} = -50 \mu A$	4.5 V	4.4	4.5	4.4	4.4	V	
	$I_{OH} = -8 \text{ mA}$		3.94		3.8	3.8		
V_{OL}	$I_{OL} = 50 \mu A$	4.5 V		0.1	0.1	0.1	V	
	$I_{OH} = 8 \text{ mA}$			0.36	0.44	0.44		
I_I	$V_I = 5.5 \text{ V}$ or GND	0 V to 5.5 V		± 0.1	$\pm 1^{(1)}$	± 1	μA	
I_{OZ}	$V_O = V_{CC}$ or GND	5.5 V		± 0.25	± 2.5	± 2.5	μA	
I_{CC}	$V_I = V_{CC}$ or GND, $I_O = 0$	5.5 V		4	40	20	μA	
$\Delta I_{CC}^{(2)}$	One input at 3.4 V, Other inputs at V_{CC} or GND	5.5 V		1.35	1.5	1.5	mA	
C_I	$V_I = V_{CC}$ or GND	5 V	2	10		10	pF	
C_O	$V_O = V_{CC}$ or GND	5 V	4				pF	

(1) On products compliant to MIL-PRF-38535, this parameter is not production tested at $V_{CC} = 0 \text{ V}$.

(2) This is the increase in supply current for each input at one of the specified TTL voltage levels, rather than 0 V or V_{CC} .

SWITCHING CHARACTERISTICS

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

PARAMETER	FROM (INPUT)	TO (OUTPUT)	LOAD CAPACITANCE	$T_A = 25^\circ\text{C}$	$T_A = -55^\circ\text{C} \text{ TO } 125^\circ\text{C}$	$T_A = -40^\circ\text{C} \text{ TO } 85^\circ\text{C}$	$T_A = -40^\circ\text{C} \text{ TO } 125^\circ\text{C}$	UNIT		
					SN54AHCT540	SN54AHCT540	SN54AHCT540			
				TYP	MAX	MIN	MAX			
t_{PLH}	A	Y	$C_L = 15 \text{ pF}$	4.0 ⁽¹⁾	6.0 ⁽¹⁾	1 ⁽¹⁾	7.5 ⁽¹⁾	1	7.5	ns
t_{PHL}				4.0 ⁽¹⁾	6.0 ⁽¹⁾	1 ⁽¹⁾	7.5 ⁽¹⁾	1	7.5	ns
t_{PZH}	\overline{OE}	Y	$C_L = 15 \text{ pF}$	5.5 ⁽¹⁾	8.0 ⁽¹⁾	1 ⁽¹⁾	9 ⁽¹⁾	1	9.0	ns
t_{PZL}				5.5 ⁽¹⁾	8.0 ⁽¹⁾	1 ⁽¹⁾	9 ⁽¹⁾	1	9.0	ns
t_{PHZ}	\overline{OE}	Y	$C_L = 15 \text{ pF}$	5.0 ⁽¹⁾	8.0 ⁽¹⁾	1 ⁽¹⁾	9 ⁽¹⁾	1	9	ns
t_{PLZ}				5.0 ⁽¹⁾	8.0 ⁽¹⁾	1 ⁽¹⁾	9 ⁽¹⁾	1	9	ns
t_{PLH}	A	Y	$C_L = 50 \text{ pF}$	6.0	8.5	1	10	1	10	ns
t_{PHL}				6.0	8.5	1	10	1	10	ns
t_{PZH}	\overline{OE}	Y	$C_L = 50 \text{ pF}$	7.5	11.0	1	12	1	12	ns
t_{PZL}				7.5	11.0	1	12	1	12	ns
t_{PHZ}	\overline{OE}	Y	$C_L = 50 \text{ pF}$	8.0	11.0	1	12	1	12	ns
t_{PLZ}				8.0	11.0	1	12	1	12	ns
$t_{sk(o)}$			$C_L = 50 \text{ pF}$		1 ⁽²⁾			1		

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

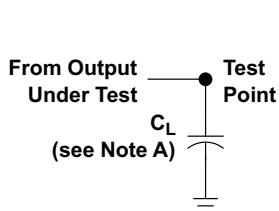
(2) On products compliant to MIL-PRF-38535, this parameter does not apply

OPERATING CHARACTERISTICS

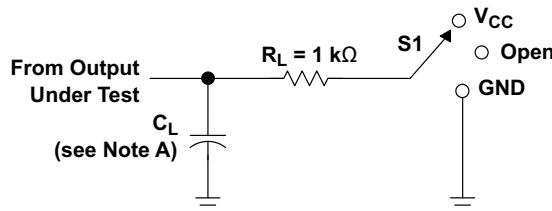
 $V_{CC} = 5 \text{ V}$, $T_A = 25^\circ\text{C}$

PARAMETER	TEST CONDITIONS	TYP	UNIT
C_{pd} Power dissipation capacitance	No load, $f = 1 \text{ MHz}$	12	pF

PARAMETER MEASUREMENT INFORMATION

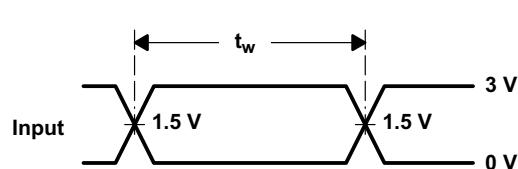


LOAD CIRCUIT FOR
TOTEM-POLE OUTPUTS

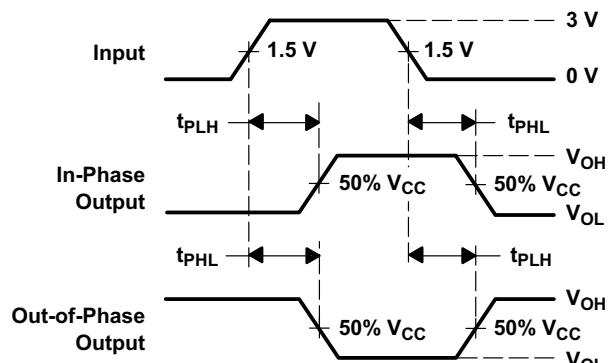


LOAD CIRCUIT FOR
3-STATE AND OPEN-DRAIN OUTPUTS

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

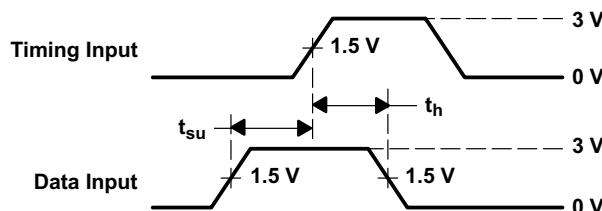


VOLTAGE WAVEFORMS
PULSE DURATION

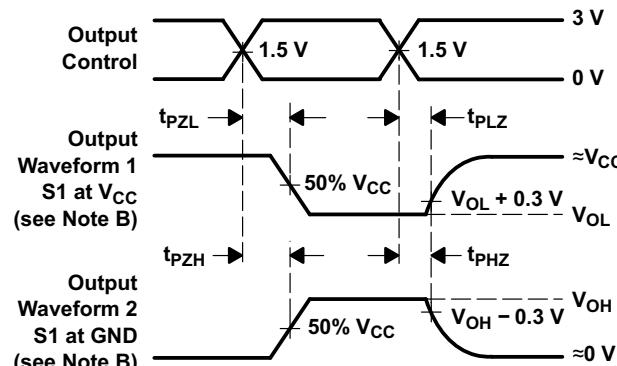


VOLTAGE WAVEFORMS
PROPAGATION DELAY TIMES
INVERTING AND NONINVERTING OUTPUTS

- C_L includes probe and jig capacitance.
- 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.
- All input pulses are supplied by generators having the following characteristics: $PRR \leq 1 \text{ MHz}$, $Z_O = 50 \Omega$, $t_r \leq 3 \text{ ns}$, $t_f \leq 3 \text{ ns}$.
- The outputs are measured one at a time with one input transition per measurement.
- All parameters and waveforms are not applicable to all devices.



VOLTAGE WAVEFORMS
SETUP AND HOLD TIMES



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

Figure 1. Load Circuit and Voltage Waveforms

REVISION HISTORY

Changes from Revision L (July 2003) to Revision M	Page
• Changed document format from Quicksilver to DocZone.	1
• Extended operating temperature range to 125°C	3

PACKAGING INFORMATION

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/Ball Finish	MSL Peak Temp (3)	Op Temp (°C)	Device Marking (4/5)	Samples
5962-9685101Q2A	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type	-55 to 125	5962-9685101Q2A SNJ54AHCT540FK	Samples
5962-9685101QRA	ACTIVE	CDIP	J	20	1	TBD	A42	N / A for Pkg Type	-55 to 125	5962-9685101QR A SNJ54AHCT540J	Samples
5962-9685101QSA	ACTIVE	CFP	W	20	1	TBD	Call TI	N / A for Pkg Type	-55 to 125	5962-9685101QS A SNJ54AHCT540W	Samples
SN74AHCT540DBLE	OBsolete	SSOP	DB	20		TBD	Call TI	Call TI	-40 to 125		
SN74AHCT540DBR	ACTIVE	SSOP	DB	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	HB540	Samples
SN74AHCT540DBRE4	ACTIVE	SSOP	DB	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	HB540	Samples
SN74AHCT540DBRG4	ACTIVE	SSOP	DB	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	HB540	Samples
SN74AHCT540DGVR	ACTIVE	TVSOP	DGV	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	HB540	Samples
SN74AHCT540DGVRE4	ACTIVE	TVSOP	DGV	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	HB540	Samples
SN74AHCT540DGVRG4	ACTIVE	TVSOP	DGV	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	HB540	Samples
SN74AHCT540DW	ACTIVE	SOIC	DW	20	25	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	AHCT540	Samples
SN74AHCT540DWE4	ACTIVE	SOIC	DW	20	25	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	AHCT540	Samples
SN74AHCT540DWG4	ACTIVE	SOIC	DW	20	25	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	AHCT540	Samples
SN74AHCT540DWR	ACTIVE	SOIC	DW	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	AHCT540	Samples
SN74AHCT540DWRE4	ACTIVE	SOIC	DW	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	AHCT540	Samples
SN74AHCT540DWRG4	ACTIVE	SOIC	DW	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	AHCT540	Samples

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/Ball Finish	MSL Peak Temp (3)	Op Temp (°C)	Device Marking (4/5)	Samples
SN74AHCT540N	ACTIVE	PDIP	N	20	20	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type	-40 to 125	SN74AHCT540N	Samples
SN74AHCT540NE4	ACTIVE	PDIP	N	20	20	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type	-40 to 125	SN74AHCT540N	Samples
SN74AHCT540NSR	ACTIVE	SO	NS	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	AHCT540	Samples
SN74AHCT540NSRE4	ACTIVE	SO	NS	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	AHCT540	Samples
SN74AHCT540NSRG4	ACTIVE	SO	NS	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	AHCT540	Samples
SN74AHCT540PW	ACTIVE	TSSOP	PW	20	70	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	HB540	Samples
SN74AHCT540PWE4	ACTIVE	TSSOP	PW	20	70	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	HB540	Samples
SN74AHCT540PWG4	ACTIVE	TSSOP	PW	20	70	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	HB540	Samples
SN74AHCT540PWLE	OBsolete	TSSOP	PW	20		TBD	Call TI	Call TI	-40 to 125		
SN74AHCT540PWR	ACTIVE	TSSOP	PW	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	HB540	Samples
SN74AHCT540PWRE4	ACTIVE	TSSOP	PW	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	HB540	Samples
SN74AHCT540PWRG4	ACTIVE	TSSOP	PW	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	HB540	Samples
SNJ54AHCT540FK	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type	-55 to 125	5962-9685101Q2A SNJ54AHCT540FK	Samples
SNJ54AHCT540J	ACTIVE	CDIP	J	20	1	TBD	A42	N / A for Pkg Type	-55 to 125	5962-9685101QR A SNJ54AHCT540J	Samples
SNJ54AHCT540W	ACTIVE	CFP	W	20	1	TBD	Call TI	N / A for Pkg Type	-55 to 125	5962-9685101QS A SNJ54AHCT540W	Samples

(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.

(4) There may be additional marking, which relates to the logo, the lot trace code information, or the environmental category on the device.

(5) Multiple Device Markings will be inside parentheses. Only one Device Marking contained in parentheses and separated by a "~" will appear on a device. If a line is indented then it is a continuation of the previous line and the two combined represent the entire Device Marking for that device.

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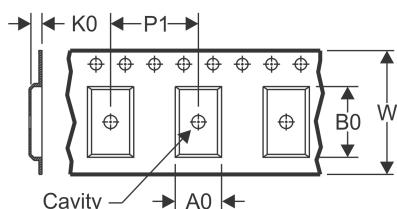
OTHER QUALIFIED VERSIONS OF SN54AHCT540, SN74AHCT540 :

- Catalog: [SN74AHCT540](#)
- Military: [SN54AHCT540](#)

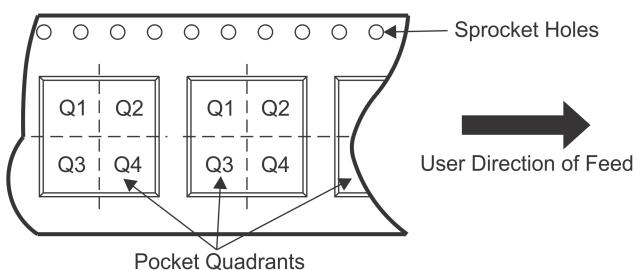
NOTE: Qualified Version Definitions:

- Catalog - TI's standard catalog product
- 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
SN74AHCT540DBR	SSOP	DB	20	2000	330.0	16.4	8.2	7.5	2.5	12.0	16.0	Q1
SN74AHCT540DGVR	TVSOP	DGV	20	2000	330.0	12.4	6.9	5.6	1.6	8.0	12.0	Q1
SN74AHCT540DWR	SOIC	DW	20	2000	330.0	24.4	10.8	13.3	2.7	12.0	24.0	Q1
SN74AHCT540NSR	SO	NS	20	2000	330.0	24.4	8.2	13.0	2.5	12.0	24.0	Q1
SN74AHCT540PWR	TSSOP	PW	20	2000	330.0	16.4	6.95	7.1	1.6	8.0	16.0	Q1

TAPE AND REEL BOX DIMENSIONS


*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
SN74AHCT540DBR	SSOP	DB	20	2000	367.0	367.0	38.0
SN74AHCT540DGVR	TVSOP	DGV	20	2000	367.0	367.0	35.0
SN74AHCT540DWR	SOIC	DW	20	2000	367.0	367.0	45.0
SN74AHCT540NSR	SO	NS	20	2000	367.0	367.0	45.0
SN74AHCT540PWR	TSSOP	PW	20	2000	367.0	367.0	38.0

J (R-GDIP-T**)

14 LEADS SHOWN

CERAMIC DUAL IN-LINE PACKAGE



PINS ** DIM	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)

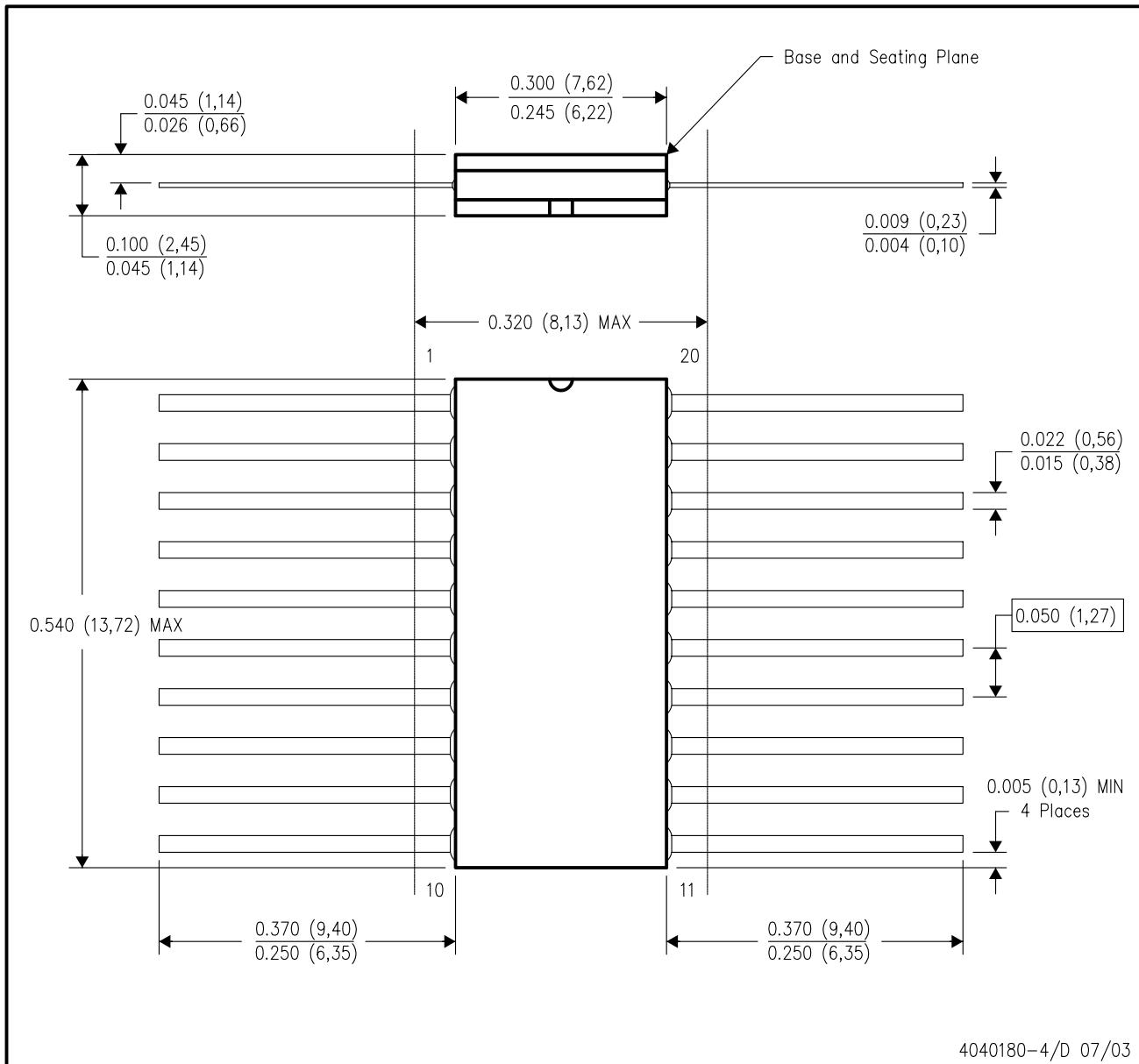


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NOTES: A. All linear dimensions are in inches (millimeters).
B. This drawing is subject to change without notice.
C. This package is hermetically sealed with a ceramic lid using glass frit.
D. Index point is provided on cap for terminal identification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

W (R-GDFP-F20)

CERAMIC DUAL FLATPACK



NOTES:

- All linear dimensions are in inches (millimeters).
- This drawing is subject to change without notice.
- This package can be hermetically sealed with a ceramic lid using glass frit.
- Index point is provided on cap for terminal identification only.
- Falls within Mil-Std 1835 GDFP2-F20

FK (S-CQCC-N**)

28 TERMINAL SHOWN

LEADLESS CERAMIC CHIP CARRIER



NOTES:

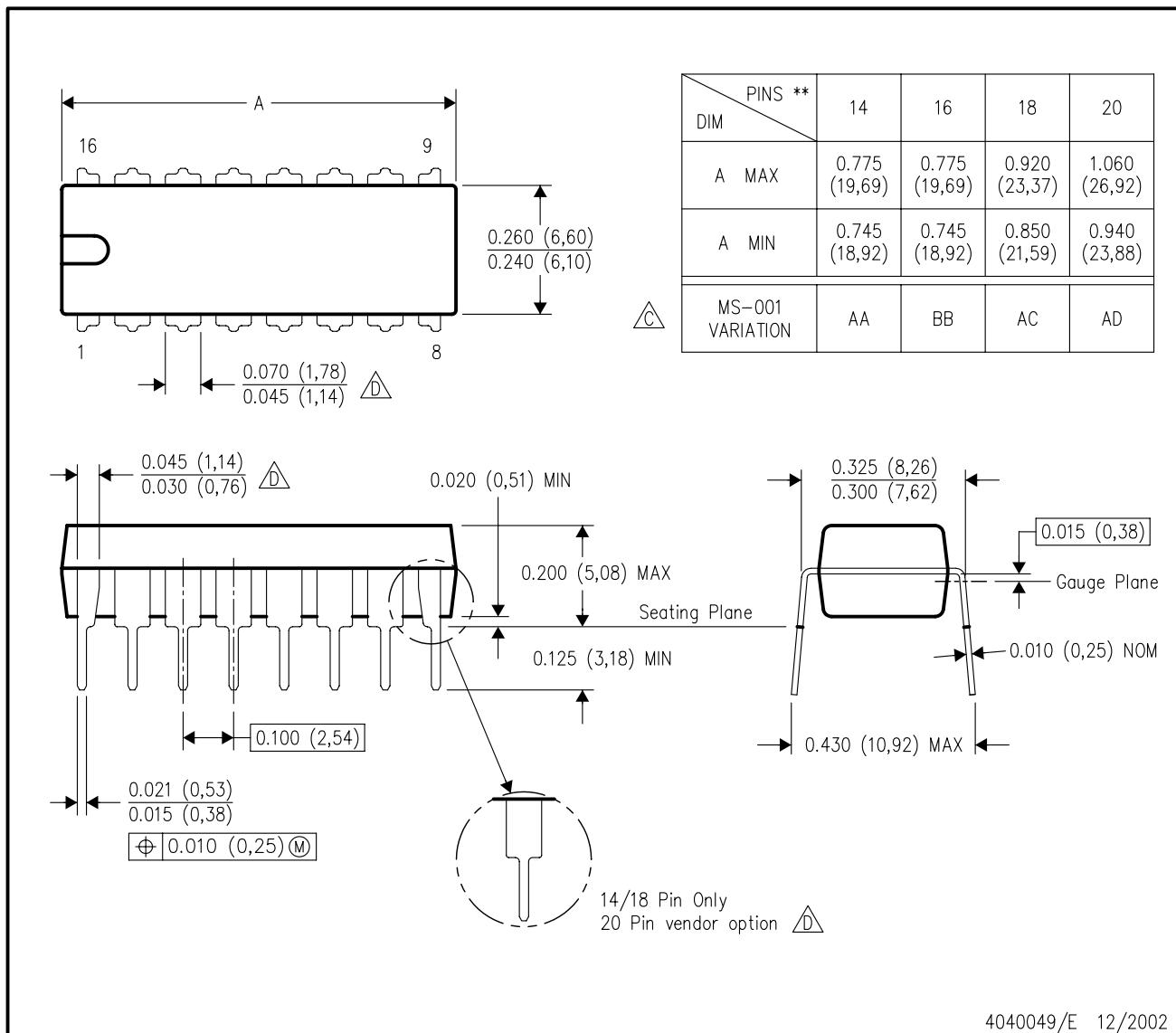
- A. All linear dimensions are in inches (millimeters).
- B. This drawing is subject to change without notice.
- C. This package can be hermetically sealed with a metal lid.
- D. Falls within JEDEC MS-004

4040140/D 01/11

N (R-PDIP-T**)

16 PINS SHOWN

PLASTIC DUAL-IN-LINE PACKAGE



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.

DGV (R-PDSO-G**)

PLASTIC SMALL-OUTLINE

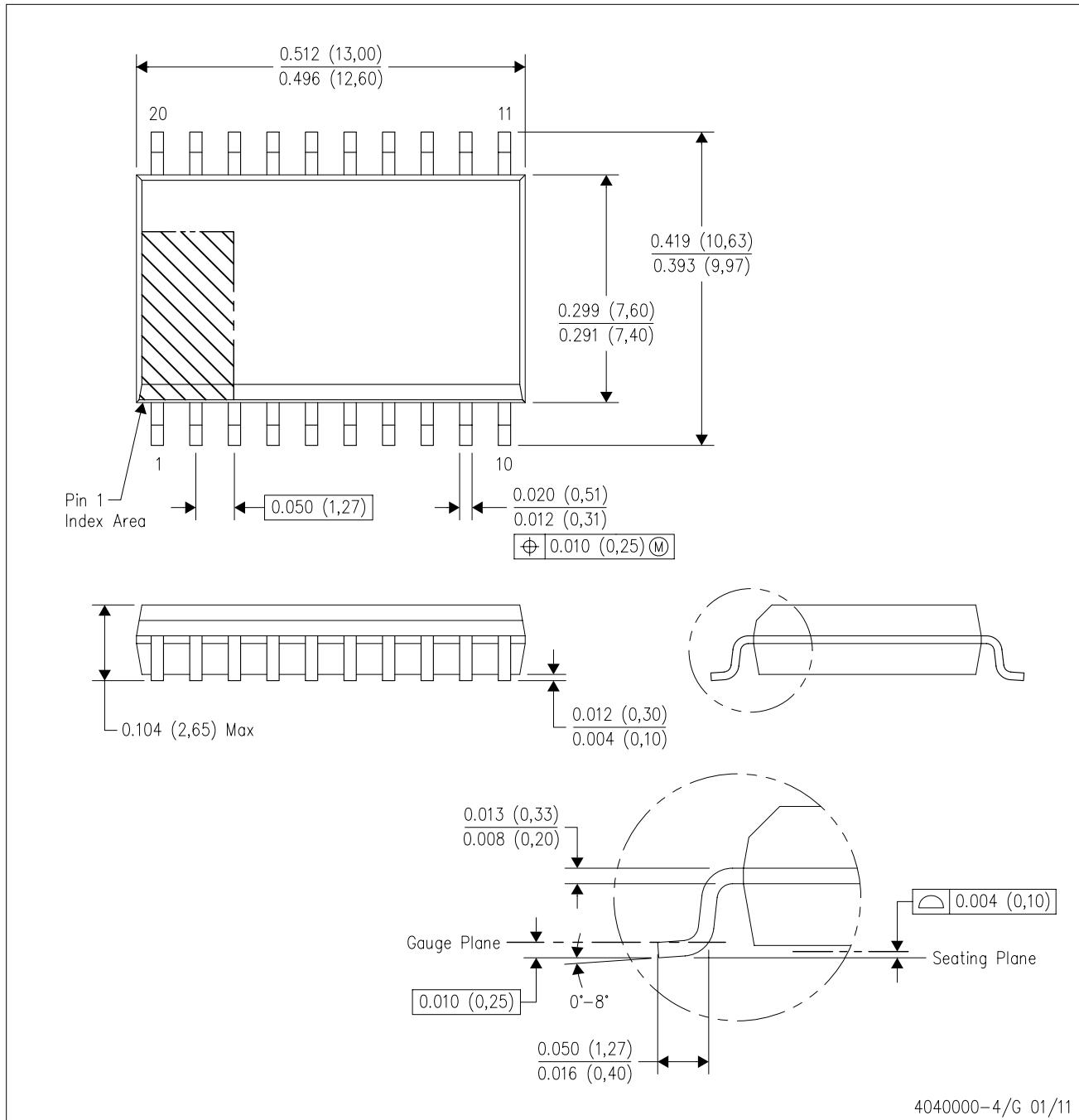
24 PINS SHOWN



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

DW (R-PDSO-G20)

PLASTIC SMALL OUTLINE

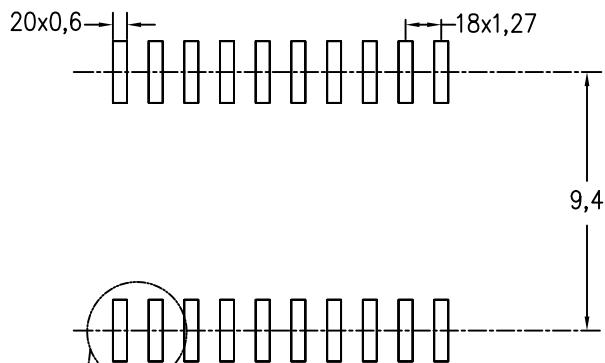
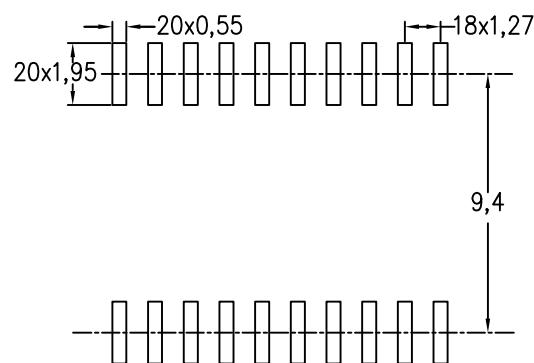


NOTES:

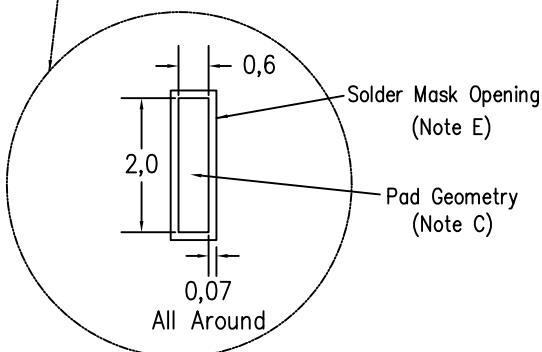
- All linear dimensions are in inches (millimeters). Dimensioning and tolerancing per ASME Y14.5M-1994.
- This drawing is subject to change without notice.
- Body dimensions do not include mold flash or protrusion not to exceed 0.006 (0.15).
- Falls within JEDEC MS-013 variation AC.

DW (R-PDSO-G20)

PLASTIC SMALL OUTLINE

Example Board Layout
(Note C)Stencil Openings
(Note D)

Non Solder Mask Define Pad



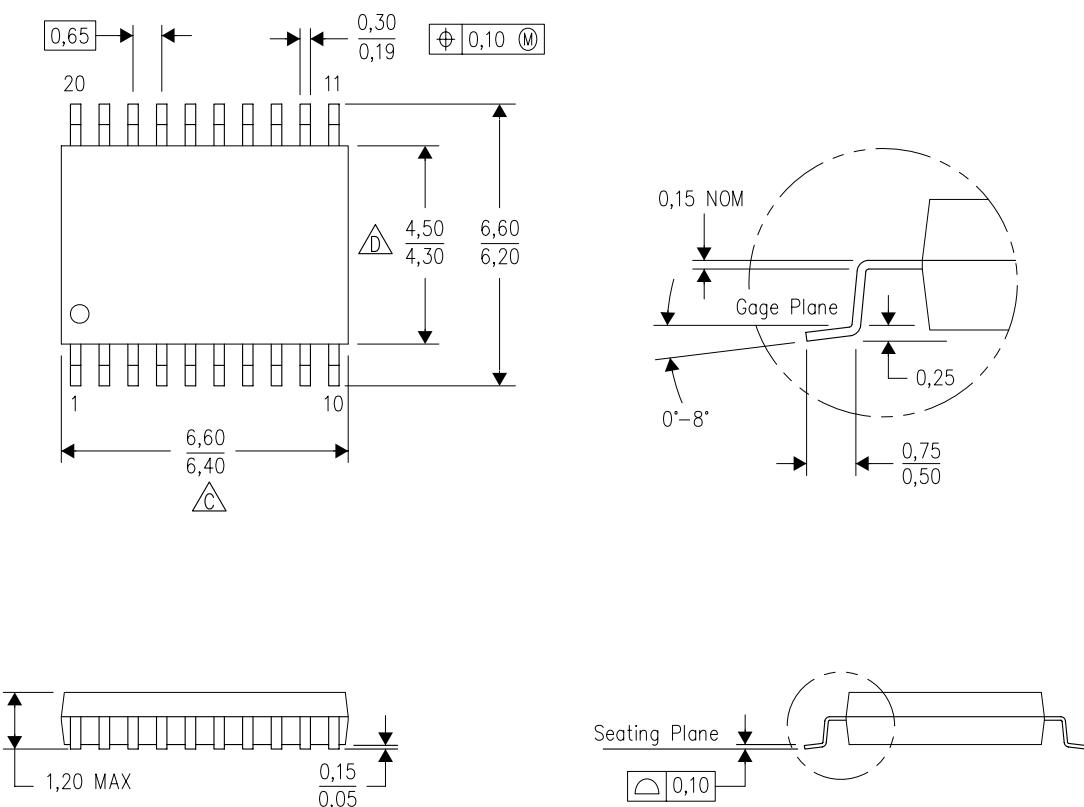
4209202-4/F 08/13

NOTES:

- All linear dimensions are in millimeters.
- This drawing is subject to change without notice.
- Refer to IPC7351 for alternate board design.
- 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
- Customers should contact their board fabrication site for solder mask tolerances between and around signal pads.

PW (R-PDSO-G20)

PLASTIC SMALL OUTLINE



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.

 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.

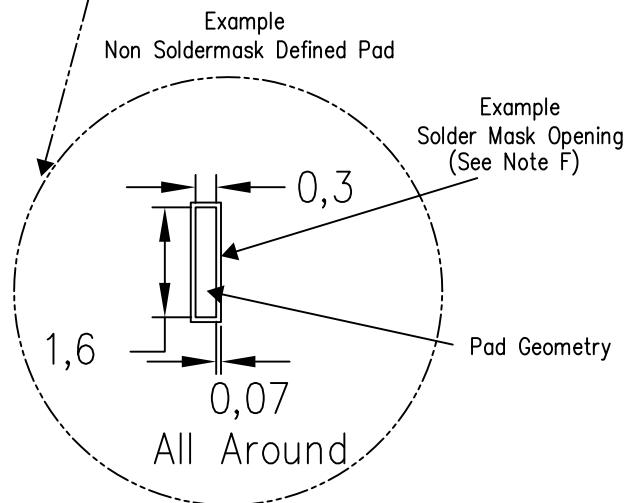
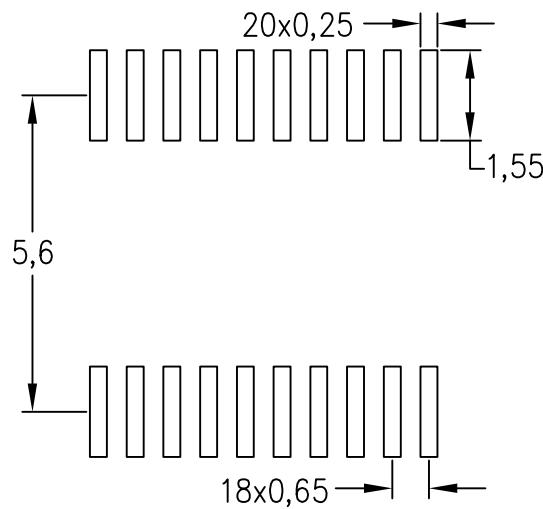
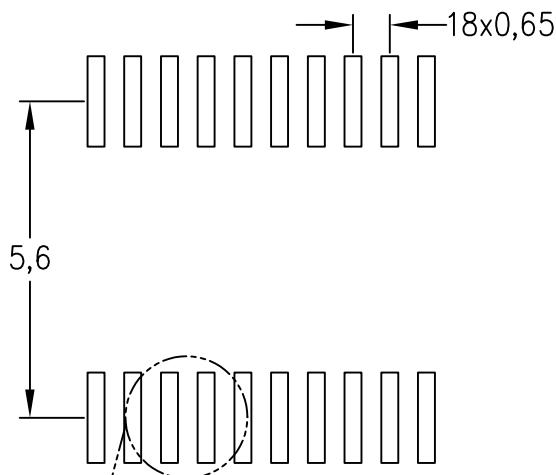
E. Falls within JEDDEC MO-153

PW (R-PDSO-G20)

PLASTIC SMALL OUTLINE

Example Board Layout

Based on a stencil thickness
of .127mm (.005inch).



4211284-5/F 12/12

NOTES:

- All linear dimensions are in millimeters.
- This drawing is subject to change without notice.
- Publication IPC-7351 is recommended for alternate design.
- 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.
- 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



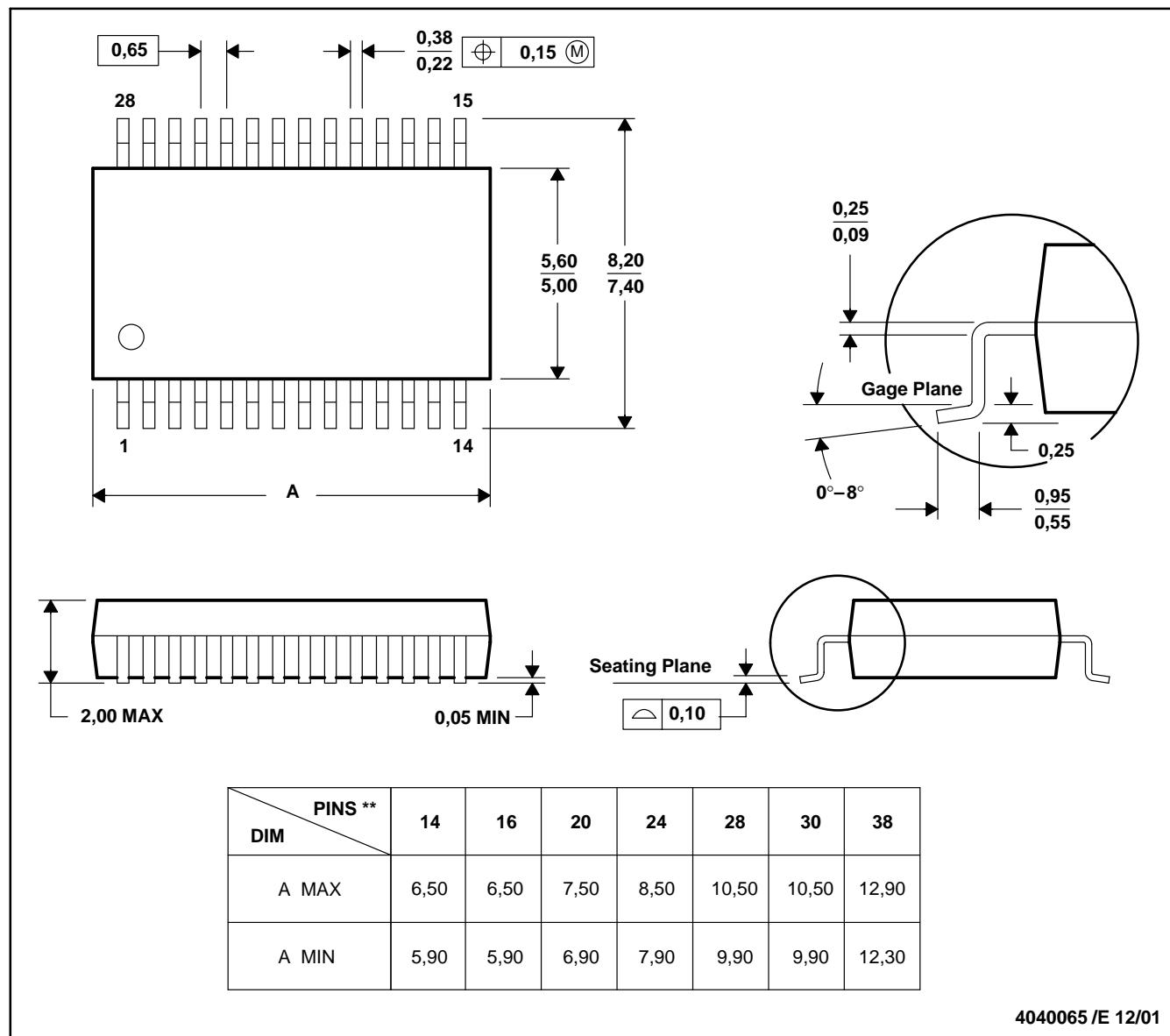
NOTES:

- 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.

DB (R-PDSO-G**)

PLASTIC SMALL-OUTLINE

28 PINS SHOWN



NOTES: A. All linear dimensions are in millimeters.
 B. This drawing is subject to change without notice.
 C. Body dimensions do not include mold flash or protrusion not to exceed 0,15.
 D. Falls within JEDEC MO-150

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