SN74AHCT1G04 Single Inverter Gate

1 Features

- Operating range 4.5V to 5.5V
- Max t_{pd} of 7.5ns at 5V
- Low power consumption, 10µA max I_{CC}
- ±8mA output drive at 5V
- Inputs are TTL-voltage compatible
- Latch-up performance exceeds 250mA per JESD 17

2 Applications

- Notebook PCs
- Electronic points of sale
- Patient monitoring
- Motor controls: AC induction
- Network switches
- Tests

3 Description

The SN74AHCT1G04 contains one gate. The device performs the Boolean function $Y = \overline{A}$.

Package Information

PART NUMBER	PACKAGE(1)	PACKAGE SIZE(2)	BODY SIZE(3)
SN74AHCT1G04	DBV (SOT-23, 5)	2.8mm x 2.8mm	2.9mm × 1.6mm
	DCK (SC-70, 5)	2.00mm x 1.25mm	2.00mm × 1.25mm

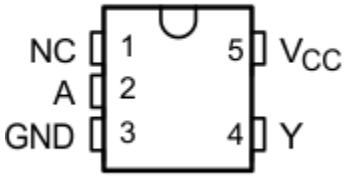
(1) For more information, see Section 11.
(2) The package size (length × width) is a nominal value and includes pins, where applicable.
(3) The body size (length × width) is a nominal value and does not include pins.

Simplified Schematic

Table of Contents

4 Pin Configuration and Functions

DBV OR DCK PACKAGE
(TOP VIEW)



NC – No internal connection

Table 4-1. Pin Functions

PIN		TYPE[1]	DESCRIPTION
NO.	NAME		
1	NC	—	No Connection
2	A	I	Input A
3	GND	—	Ground Pin
4	Y	O	Output Y
5	V_{CC}	—	Power Pin

(1) Signal Types: I = Input, O = Output, I/O = Input or Output

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	V
V_I (2)	Input voltage range		–0.5	7	V
V_O (2)	Output voltage range		–0.5	V_{CC} + 0.5	V
I_{IK}	Input clamp current	V_I < 0		–20	mA
I_{OK}	Output clamp current	V_O < 0 or V_O > V_{CC}		±20	mA
I_O	Continuous output current	V_O = 0 to V_{CC}		±25	mA
	Continuous current through V_{CC} or GND			±50	mA
T_{stg}	Storage temperature range		–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 *Section 5.3* 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 ESD Ratings

			VALUE	UNIT
$V_{(ESD)}$	Electrostatic discharge	Human body model (HBM), per ANSI/ESDA/JEDEC JS-001, all pins(1)	±1500	V
		Charged device model (CDM), per JEDEC specification JESD22-C101, all pins(2)	±1000	

(1) JEDEC document JEP155 states that 500V HBM allows safe manufacturing with a standard ESD control process.
(2) JEDEC document JEP157 states that 250V CDM allows safe manufacturing with a standard ESD control process.

5.3 Recommended Operating Conditions

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

		MIN(1)	MAX	UNIT
V_{CC}	Supply voltage	4.5	5.5	V
V_{IH}	High-level input voltage	2		V
V_{IL}	Low-level Input voltage		0.8	V
V_I	Input voltage	0	5.5	V
V_O	Output voltage	0	V_{CC}	V
I_{OH}	High-level output current		–8	mA
I_{OL}	Low-level output current		8	mA
Δt/Δv	Input Transition rise or fall rate		20	ns/V
T_A	Operating free-air temperature	–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* (SCBA004)

5.4 Thermal Information

THERMAL METRIC[1]		SN74AHCT1G04		UNIT
		DBV	DCK	
		5 PINS		
$R_{\theta JA}$	Junction-to-ambient thermal resistance	278	289.2	°C/W
$R_{\theta JC(top)}$	Junction-to-case (top) thermal resistance	180.5	205.8	
$R_{\theta JB}$	Junction-to-board thermal resistance	184.4	176.2	
ψ_{JT}	Junction-to-top characterization parameter	115.4	117.6	
ψ_{JB}	Junction-to-board characterization parameter	183.4	175.1	
$R_{\theta JC(bot)}$	Junction-to-case (bot) thermal resistance	N/A	N/A	

(1) For more information about traditional and new thermal metrics, see the *IC Package Thermal Metrics* application report (SPRA953).

5.5 Electrical Characteristics

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

PARAMETER		TEST CONDITIONS	V_{CC}	T_A = 25°C			–40°C to 85°C		–40°C to 125°C		UNIT
				MIN	TYP	MAX	MIN	MAX	MIN	MAX	
V_{OH}	High level output voltage	I_{OH} = –50µA	4.5 V	4.4	4.5		4.4		4.4		V
		I_{OH} = –8mA		3.94			3.8		3.8		
V_{OL}	Low level output voltage	I_{OL} = 50µA	4.5 V			0.1		0.1		0.1	V
		I_{OL} = 8mA				0.36		0.44		0.44	
I_I	Input leakage current	V_I = 5.5V or GND	0 V to 5.5 V			±0.1		±1		±1	µA
I_{CC}	Supply current	V_I = V_{CC} or GND, I_O = 0	5.5 V			1		10		10	µA
ΔI_{CC} [1]	Supply-Current Change	One input at 3.4V, Other Inputs at V_{CC} or GND	5.5 V			1.35		1.5		1.5	mA
C_i	Input Capacitance	V_I = V_{CC} or GND	5 V		4			10		10	pF

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

5.6 Switching Characteristics

over recommended operating free-air temperature range, V_{CC} = 5V ± 0.5V (unless otherwise noted) (see Load Circuit And Voltage Waveforms)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	OUTPUT CAPACITANCE	T_A = 25°C		–40°C to 85°C		–40°C to 125°C		UNIT
				TYP	MAX	MIN	MAX	MIN	MAX	
t_{PLH}	A or B	Y	C_L = 15pF	4.7		1	7.5	1	8	ns
t_{PHL}				4.7		1	7.5	1	8	
t_{PLH}	A or B	Y	C_L = 50pF	5.5		1	8.5	1	9	ns
t_{PHL}				5.5		1	8.5	1	9	

5.7 Operating Characteristics

V_{CC} = 5V, T_A = 25°C

PARAMETER		TEST CONDITIONS		TYP	UNIT
C_{pd}	Power dissipation capacitance	No load,	f = 1MHz	14	pF

5.8 Typical Characteristics

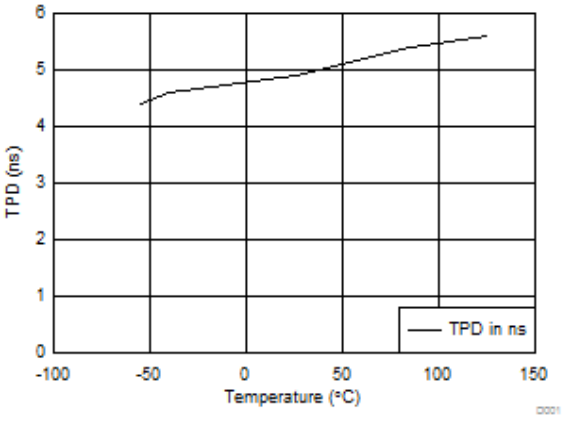
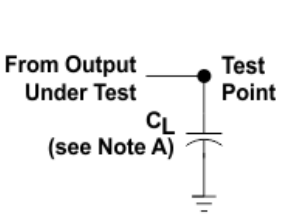
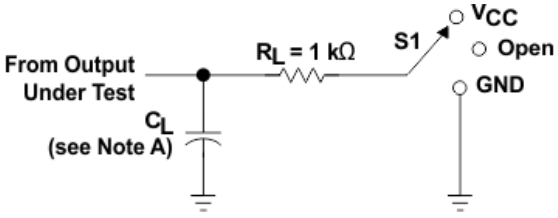


Figure 5-1. TPD vs Temperature

6 Parameter Measurement Information

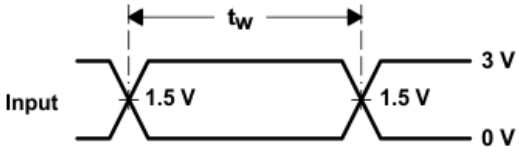


LOAD CIRCUIT FOR
TOTEM-POLE OUTPUTS

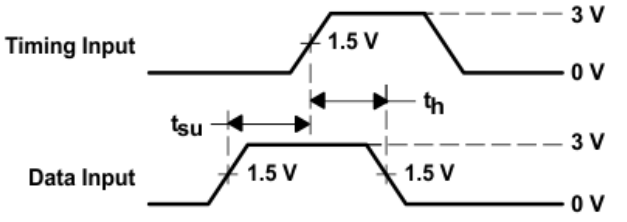


TEST	S1
t_{PLH}/t_{PHL}	Open
t_{PLZ}/t_{PZL}	V_{CC}
t_{PHZ}/t_{PZH}	GND
Open Drain	V_{CC}

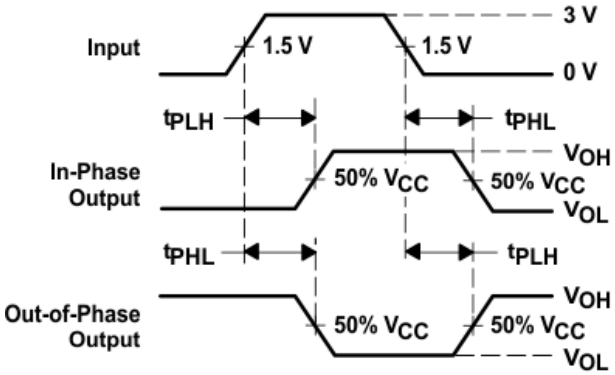
LOAD CIRCUIT FOR
3-STATE AND OPEN-DRAIN OUTPUTS



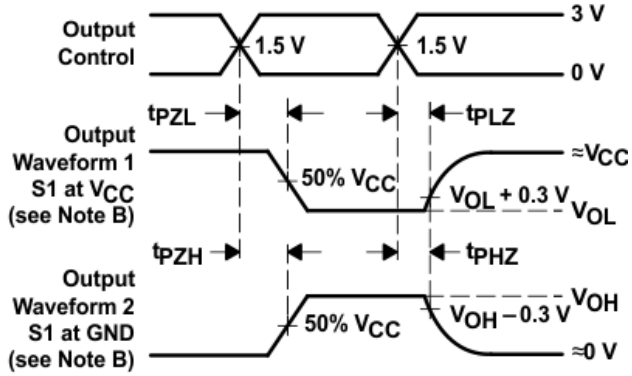
VOLTAGE WAVEFORMS
PULSE DURATION



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

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 ≤ 1MHz, Z_O = 50Ω, t_r ≤ 3ns, t_f ≤ 3ns.
D. The outputs are measured one at a time with one input transition per measurement.
E. All parameters and waveforms are not applicable to all devices.

Figure 6-1. Load Circuit And Voltage Waveforms

7 Detailed Description

7.1 Overview

The SN74AHCT1G04 device contains one inverter. This device has TTL input levels that allow up translation from 3.3V to 5V.

7.2 Functional Block Diagram

Figure 7-1. Logic Diagram (Positive Logic)

7.3 Feature Description

- V_{CC} is optimized at 5V
- Allows up voltage translation from 3.3V to 5V
  - Inputs accept V_{IH} levels of 2V
- Slow edge rates minimize output ringing
- Inputs are TTL-Voltage compatible

7.4 Device Functional Modes

Table 7-1. Function Table

INPUT(1) A	OUTPUT(2) Y
H	L
L	H

(1) H = High Voltage Level, L = Low Voltage Level, X = Don't Care
(2) H = Driving High, L = Driving Low, Z = High Impedance State

8 Application and Implementation

Note

Information in the following applications sections is not part of the TI component specification, and TI does not warrant its accuracy or completeness. TI's customers are responsible for determining suitability of components for their purposes, as well as validating and testing their design implementation to confirm system functionality.

8.1 Application Information

SN74AHCT1G04 is a low-drive CMOS device that can be used for a multitude of inverting type applications where output ringing is a concern. The low drive and slow edge rates will minimize overshoot and undershoot on the outputs. The input switching levels have been lowered to accommodate TTL inputs of 0.8V $V_{IL}$and 2V V_{IH}. This feature makes it Ideal for translating up from 3.3V to 5V. Figure 8-2 shows this type of translation.

8.2 Typical Application

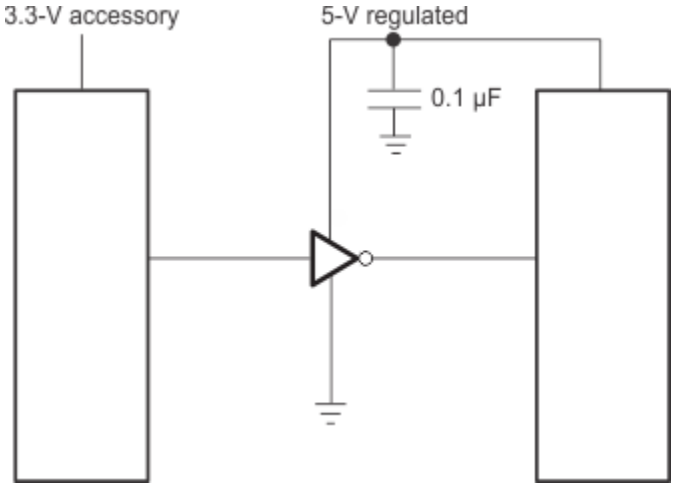


Figure 8-1. Typical Application Schematic

8.2.1 Design Requirements

This device uses CMOS technology and has balanced output drive. Care should be taken to avoid bus contention because it can drive currents that would exceed maximum limits. The high drive will also create fast edges into light loads, so routing and load conditions should be considered to prevent ringing.

8.2.2 Detailed Design Procedure

1. Recommended Input Conditions
   - For rise time and fall time specifications, see Δt/ΔV in the *Section 5.3* table.
   - For specified High and low levels, see V_{IH} and V_{IL} in the *Section 5.3* table.
   - Inputs are overvoltage tolerant allowing them to go as high as 5.5V at any valid V_{CC}.
2. Recommend Output Conditions
   - Load currents should not exceed 25mA per output and 50mA total for the part.
   - Outputs should not be pulled above V_{CC}.

8.2.3 Application Curves

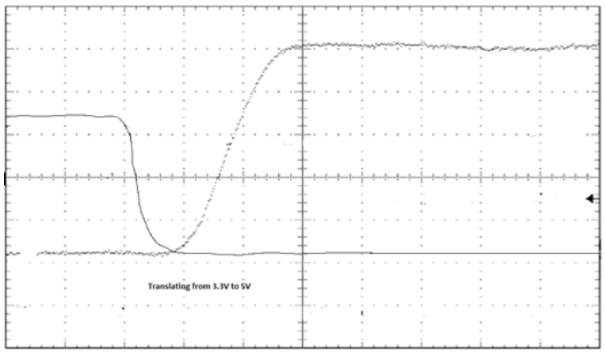


Figure 8-2. 3.3V to 5V Translation

8.3 Power Supply Recommendations

The power supply can be any voltage between the MIN and MAX supply voltage rating located in the *Section 5.3* table.

Each V_{CC} pin should have a good bypass capacitor to prevent power disturbance. For devices with a single supply, 0.1µF is recommended. If there are multiple V_{CC} pins, 0.01µF or 0.022µF is recommended for each power pin. It is acceptable to parallel multiple bypass caps to reject different frequencies of noise. A 0.1µF and 1µF are commonly used in parallel. The bypass capacitor should be installed as close to the power pin as possible for best results.

8.4 Layout

8.4.1 Layout Example

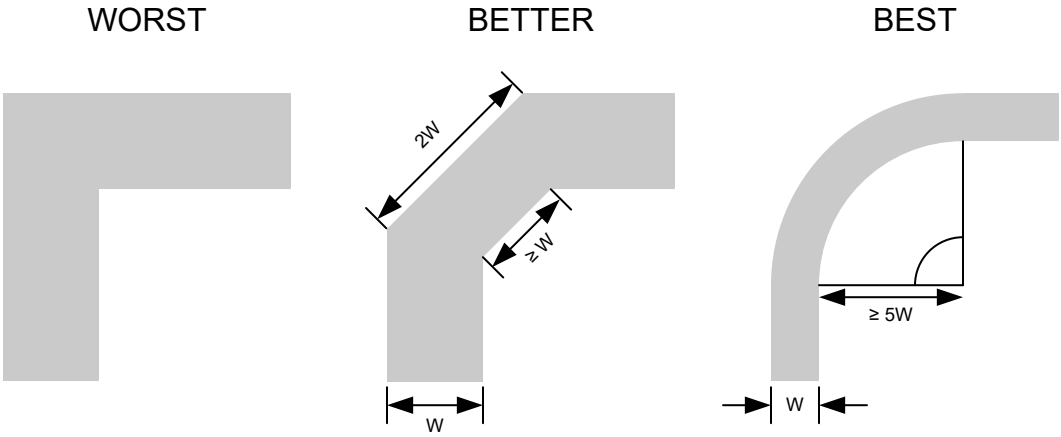


Figure 8-3. Example Trace Corners for Improved Signal Integrity

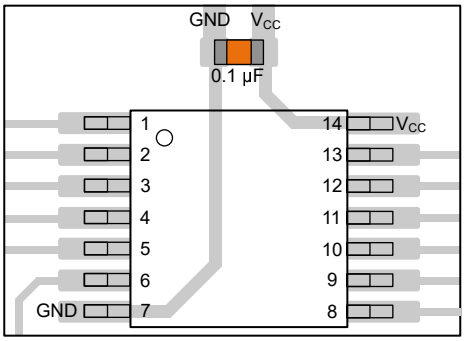


Figure 8-4. Example Bypass Capacitor Placement for TSSOP and Similar Packages

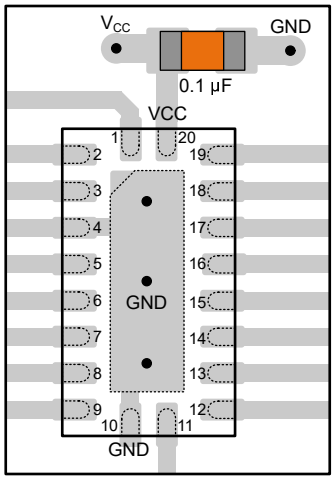


Figure 8-5. Example Bypass Capacitor Placement for WQFN and Similar Packages

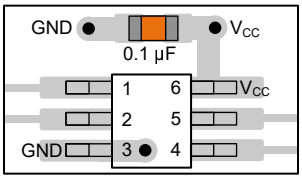


Figure 8-6. Example Bypass Capacitor Placement for SOT, SC70 and Similar Packages

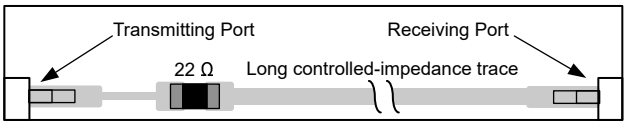


Figure 8-7. Example Damping Resistor Placement for Improved Signal Integrity

8.4.2 Layout Guidelines

- Bypass capacitor placement
  - Place near the positive supply terminal of the device
  - Provide an electrically short ground return path
  - Use wide traces to minimize impedance
  - Keep the device, capacitors, and traces on the same side of the board whenever possible
- Signal trace geometry
  - 8mil to 12mil trace width
  - Lengths less than 12cm to minimize transmission line effects
  - Avoid 90° corners for signal traces
  - Use an unbroken ground plane below signal traces
  - Flood fill areas around signal traces with ground
  - Parallel traces must be separated by at least 3x dielectric thickness
  - For traces longer than 12cm
    - Use impedance controlled traces
    - Source-terminate using a series damping resistor near the output
    - Avoid branches; buffer each signal that must branch separately

9 Device and Documentation Support

9.1 Documentation Support

9.1.1 Related Documentation

For related documentation, see the following:

- Texas Instruments, *CMOS Power Consumption and Cpd Calculation* application note
- Texas Instruments, *Designing With Logic* application note
- Texas Instruments, *Thermal Characteristics of Standard Linear and Logic (SLL) Packages and Devices* application note
- Texas Instruments, *Implications of Slow or Floating CMOS Inputs* application note

9.2 Receiving Notification of Documentation Updates

To receive notification of documentation updates, navigate to the device product folder on ti.com. Click on *Notifications* 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.

9.3 Support Resources

TI E2E™ support forums are an engineer's go-to source for fast, verified answers and design help — straight from the experts. Search existing answers or ask your own question to get the quick design help you need.

Linked content is provided "AS IS" by the respective contributors. They do not constitute TI specifications and do not necessarily reflect TI's views; see TI's Terms of Use.

9.4 Trademarks

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9.5 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.

9.6 Glossary

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

10 Revision History

Changes from Revision S (June 2025) to Revision T (July 2025)	Page
• Updated Layout Guidelines	10
• Updated Layout Example	10

Changes from Revision R (February 2024) to Revision S (June 2025)	Page
• Updated Layout Guidelines	10
• Updated Layout Example	10

Changes from Revision Q (October 2023) to Revision R (February 2024)	Page
• Updated thermal values for DBV package from RθJA = 208.2 to 278, RθJC(top) = 76.1 to 180.5, RθJB = 52.5 to 184.4, ΨJT = 4 to 115.4, ΨJB = 51.8 to 183.4, RθJC(bot) = N/A, all values in °C/W	5

Changes from Revision P (December 2014) to Revision Q (October 2023)	Page
• Updated the numbering format for tables, figures, and cross-references throughout the document	1
• Updated thermal values for DCK package from RθJA = 287.6 to 289.2, RθJC(top) = 97.7 to 205.8, RθJB = 65 to 176.2, ΨJT = 2 to 117.6, ΨJB = 64.2 to 175.1, RθJC(bot) = N/A, all values in °C/W	5

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.

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)
74AHCT1G04DBVRE4	Active	Production	SOT-23 (DBV) | 5	3000 | LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 125	B04G
74AHCT1G04DBVRG4	Active	Production	SOT-23 (DBV) | 5	3000 | LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 125	B04G
74AHCT1G04DBVRG4.A	Active	Production	SOT-23 (DBV) | 5	3000 | LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 125	B04G
74AHCT1G04DBVTG4	Active	Production	SOT-23 (DBV) | 5	250 | SMALL T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 125	B04G
74AHCT1G04DBVTG4.A	Active	Production	SOT-23 (DBV) | 5	250 | SMALL T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 125	B04G
74AHCT1G04DCKRE4	Active	Production	SC70 (DCK) | 5	3000 | LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 125	BC3
74AHCT1G04DCKRG4	Active	Production	SC70 (DCK) | 5	3000 | LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 125	BC3
74AHCT1G04DCKRG4.A	Active	Production	SC70 (DCK) | 5	3000 | LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 125	BC3
74AHCT1G04DCKTG4	Obsolete	Production	SC70 (DCK) | 5	-	-	Call TI	Call TI	-40 to 125	BC3
SN74AHCT1G04DBVR	Active	Production	SOT-23 (DBV) | 5	3000 | LARGE T&R	Yes	SN	Level-1-260C-UNLIM	-40 to 125	(38VH, 3C7F, B043, B04G, B04J, B 04L, B04S)
SN74AHCT1G04DBVR.A	Active	Production	SOT-23 (DBV) | 5	3000 | LARGE T&R	Yes	SN	Level-1-260C-UNLIM	-40 to 125	(38VH, 3C7F, B043, B04G, B04J, B 04L, B04S)
SN74AHCT1G04DBVT	Obsolete	Production	SOT-23 (DBV) | 5	-	-	Call TI	Call TI	-40 to 125	(B043, B04G, B04J, B04S)
SN74AHCT1G04DCKR	Active	Production	SC70 (DCK) | 5	3000 | LARGE T&R	Yes	SN	Level-1-260C-UNLIM	-40 to 125	(1QS, BC3, BCG, BC J, BCL, BCS)
SN74AHCT1G04DCKR.A	Active	Production	SC70 (DCK) | 5	3000 | LARGE T&R	Yes	SN	Level-1-260C-UNLIM	-40 to 125	(1QS, BC3, BCG, BC J, BCL, BCS)
SN74AHCT1G04DCKT	Obsolete	Production	SC70 (DCK) | 5	-	-	Call TI	Call TI	-40 to 125	(BC3, BCG, BCJ, BC S)

(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.

OTHER QUALIFIED VERSIONS OF SN74AHCT1G04 :

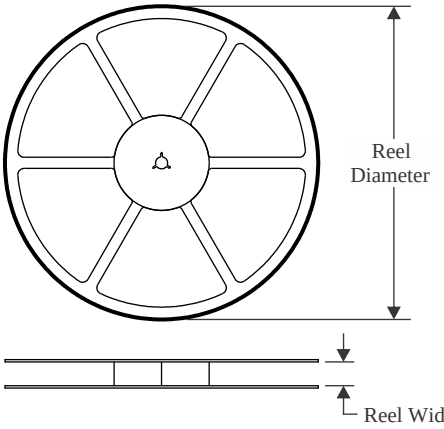
- Automotive : SN74AHCT1G04-Q1

NOTE: Qualified Version Definitions:

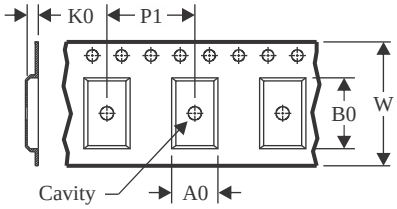
- Automotive - Q100 devices qualified for high-reliability automotive applications targeting zero defects

TAPE AND REEL INFORMATION

REEL DIMENSIONS

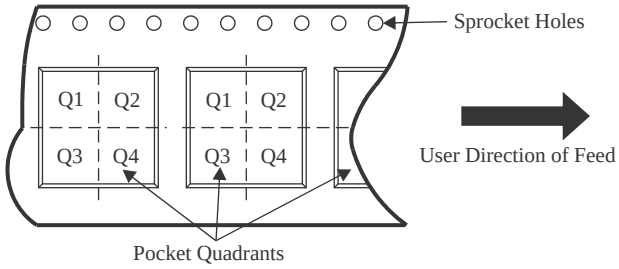


TAPE DIMENSIONS



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

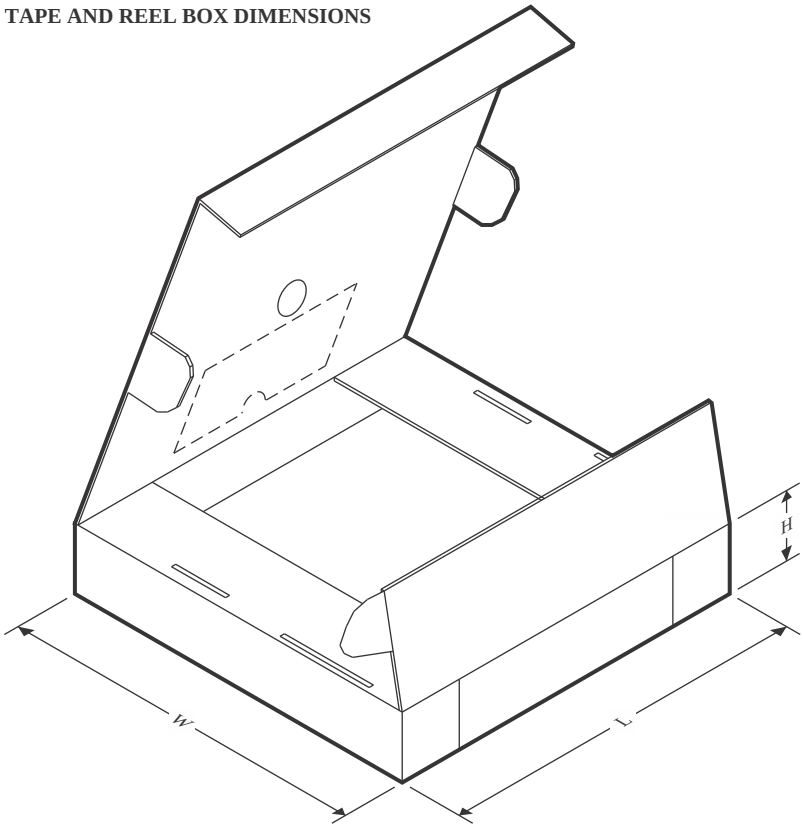
QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE



*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
74AHCT1G04DBVRG4	SOT-23	DBV	5	3000	178.0	9.0	3.23	3.17	1.37	4.0	8.0	Q3
74AHCT1G04DBVTG4	SOT-23	DBV	5	250	178.0	9.0	3.23	3.17	1.37	4.0	8.0	Q3
74AHCT1G04DCKRG4	SC70	DCK	5	3000	178.0	9.2	2.4	2.4	1.22	4.0	8.0	Q3
SN74AHCT1G04DBVR	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
SN74AHCT1G04DCKR	SC70	DCK	5	3000	180.0	8.4	2.3	2.5	1.2	4.0	8.0	Q3

TAPE AND REEL BOX DIMENSIONS



*All dimensions are nominal

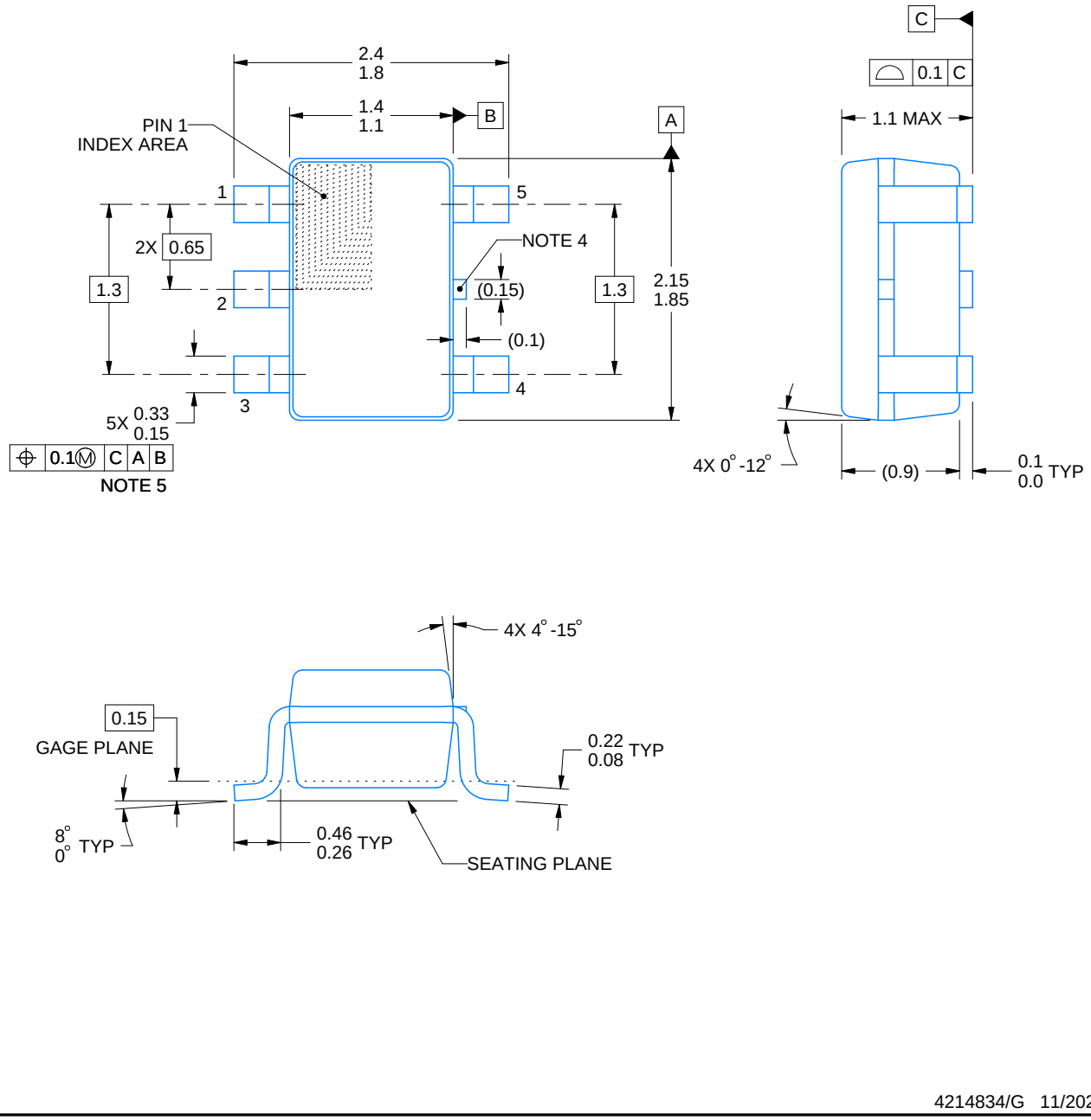
Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
74AHCT1G04DBVRG4	SOT-23	DBV	5	3000	180.0	180.0	18.0
74AHCT1G04DBVTG4	SOT-23	DBV	5	250	180.0	180.0	18.0
74AHCT1G04DCKRG4	SC70	DCK	5	3000	180.0	180.0	18.0
SN74AHCT1G04DBVR	SOT-23	DBV	5	3000	208.0	191.0	35.0
SN74AHCT1G04DCKR	SC70	DCK	5	3000	210.0	185.0	35.0

PACKAGE OUTLINE

DCK0005A

SOT - 1.1 max height

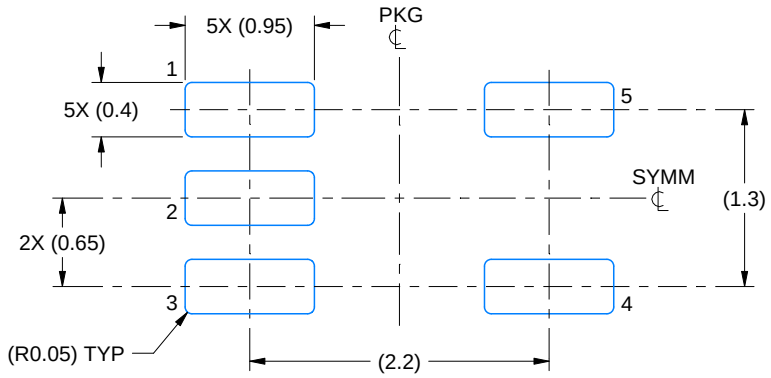
SMALL OUTLINE TRANSISTOR



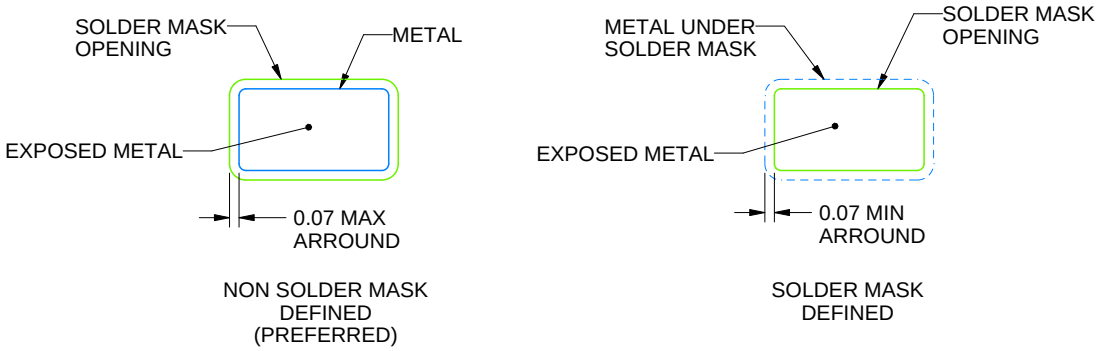
4214834/G 11/2024

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. Refernce JEDEC MO-203.
4. Support pin may differ or may not be present.
5. Lead width does not comply with JEDEC.
6. Body dimensions do not include mold flash, protrusions, or gate burrs. Mold flash, protrusions, or gate burrs shall not exceed 0.25mm per side



LAND PATTERN EXAMPLE
EXPOSED METAL SHOWN
SCALE:18X



SOLDER MASK DETAILS

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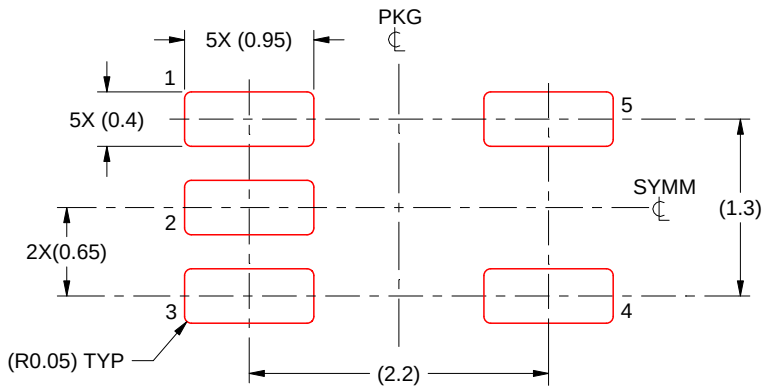
NOTES: (continued)

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



SOLDER PASTE EXAMPLE
BASED ON 0.125 THICK STENCIL
SCALE:18X

4214834/G 11/2024

NOTES: (continued)

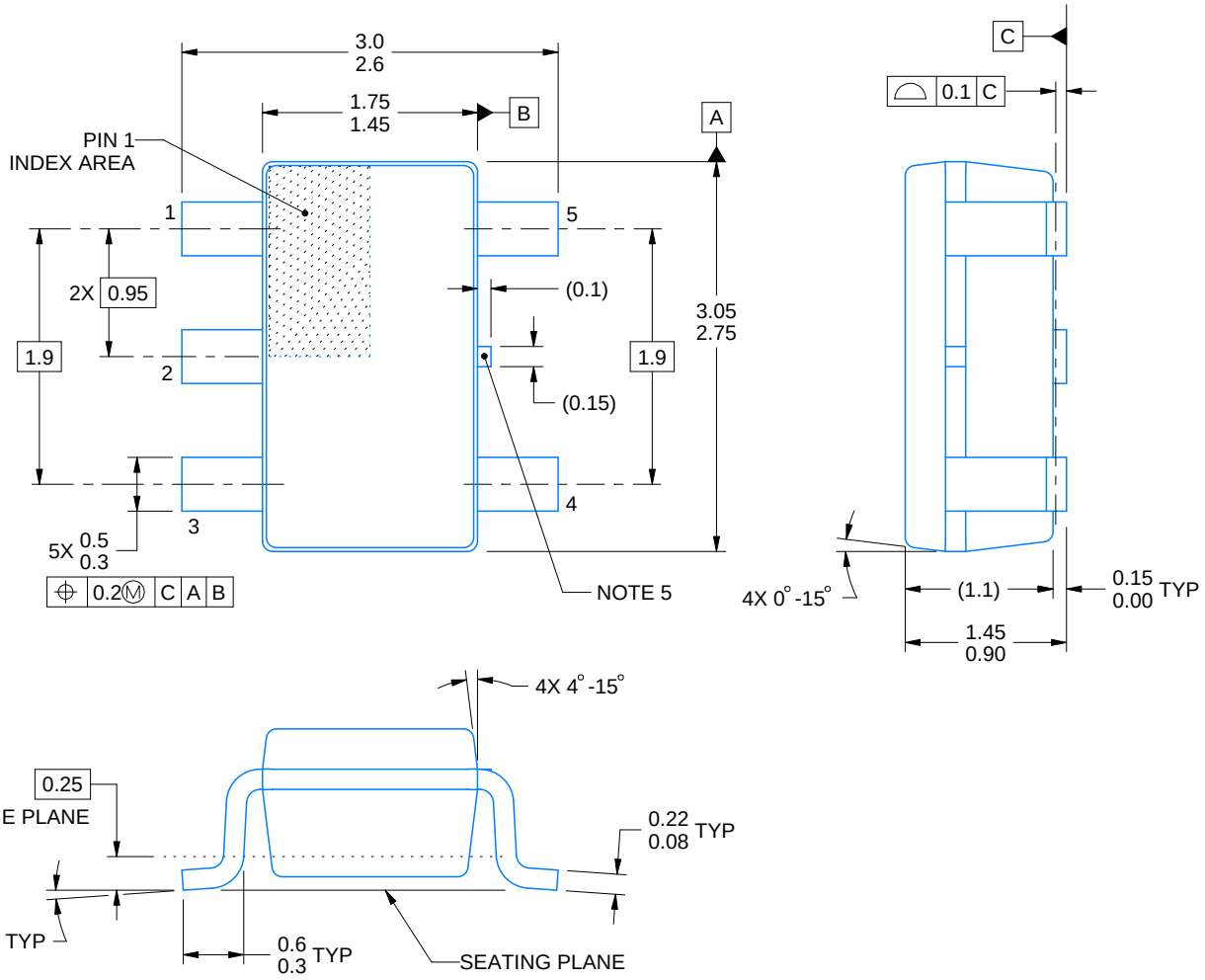
9. Laser cutting apertures with trapezoidal walls and rounded corners may offer better paste release. IPC-7525 may have alternate design recommendations.
10. Board assembly site may have different recommendations for stencil design.

PACKAGE OUTLINE

DBV0005A

SOT-23 - 1.45 mm max height

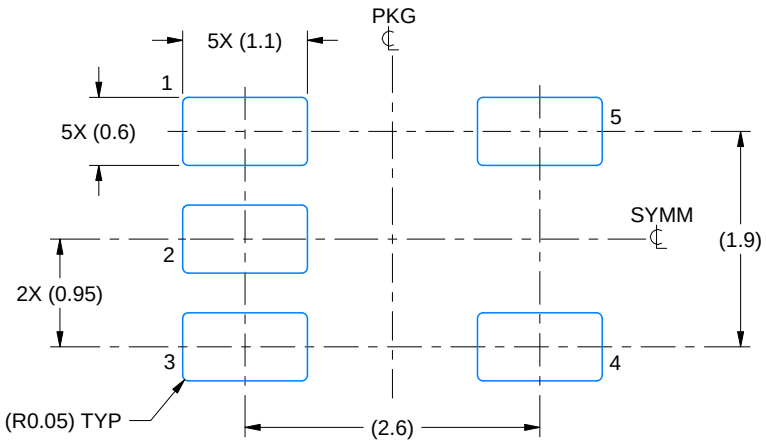
SMALL OUTLINE TRANSISTOR



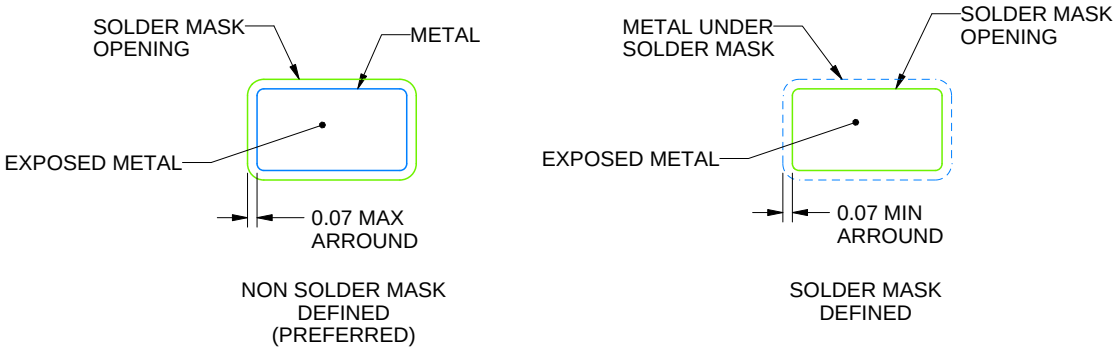
4214839/K 08/2024

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. Refernce JEDEC MO-178.
4. Body dimensions do not include mold flash, protrusions, or gate burrs. Mold flash, protrusions, or gate burrs shall not exceed 0.25 mm per side.
5. Support pin may differ or may not be present.



LAND PATTERN EXAMPLE
EXPOSED METAL SHOWN
SCALE:15X

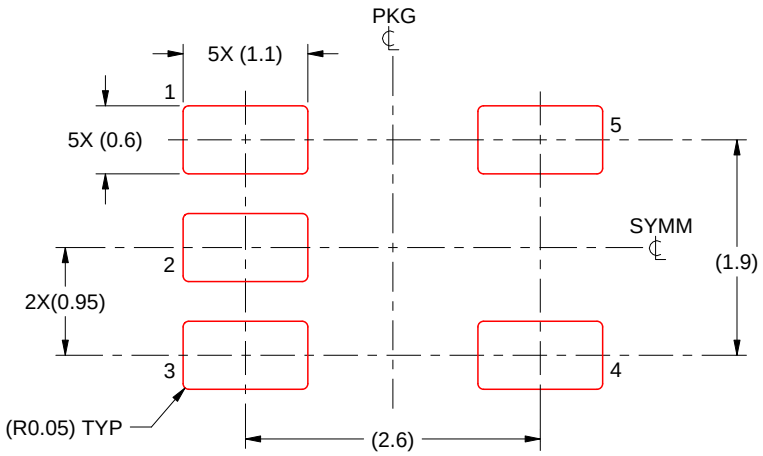


SOLDER MASK DETAILS

4214839/K 08/2024

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:15X

4214839/K 08/2024

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.

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