

## SNx4AHCT573 具有三态输出的八路透明 D 类锁存器

### 1 特性

- 输入兼容 TTL 电压
- 闩锁性能超过 250mA，符合 JESD 17 规范
- 对于符合 MIL-PRF-38535 标准的产品，所有参数均经过测试，除非另有说明。对于所有其他产品，生产流程不一定包含对所有参数的测试。

### 2 应用

- 服务器
- PC 和笔记本电脑
- 网络交换机
- 可穿戴保健和健身设备
- 电信基础设施
- 电子销售终端

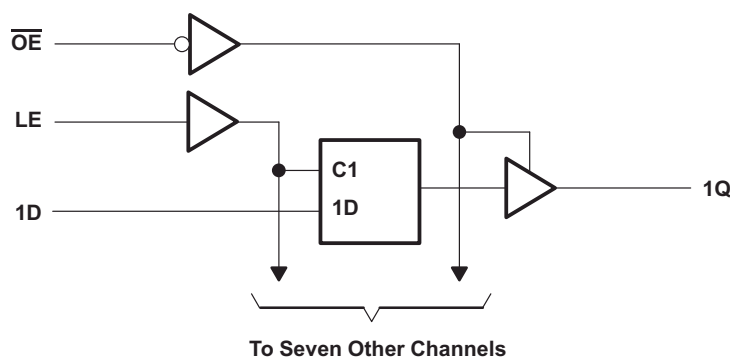
### 3 说明

SNx4AHCT573 器件是八路透明 D 类锁存器。在锁存器使能 (LE) 输入为高电平时，Q 输出将跟随数据 (D) 输入。当 LE 为低电平时，Q 输出被锁存在 D 输入端的逻辑电平上。

#### 器件信息

器件型号	等级 <sup>(1)</sup>	封装 <sup>(1)</sup>
SN74AHCT573	目录	DB ( SSOP , 20 )
		DGV ( TVSOP , 20 )
		DW ( SOIC , 20 )
		N ( PDIP , 20 )
		PW ( TSSOP , 20 )
SN54AHCT573	军用	J ( CDIP , 20 )
		W ( CFP , 20 )

(1) 有关更多信息，请参阅节 11。



简化原理图



## Table of Contents

<b>1 特性</b> .....	1	7.2 Functional Block Diagram.....	9
<b>2 应用</b> .....	1	7.3 Feature Description.....	9
<b>3 说明</b> .....	1	7.4 Device Functional Modes.....	9
<b>4 Pin Configuration and Functions</b> .....	3	<b>8 Application and Implementation</b> .....	10
<b>5 Specifications</b> .....	4	8.1 Application Information.....	10
5.1 Absolute Maximum Ratings.....	4	8.2 Typical Application.....	10
5.2 ESD Ratings.....	4	8.3 Power Supply Recommendations.....	11
5.3 Recommended Operating Conditions.....	4	8.4 Layout.....	11
5.4 Thermal Information.....	5	<b>9 Device and Documentation Support</b> .....	12
5.5 Electrical Characteristics.....	5	9.1 接收文档更新通知.....	12
5.6 Timing Requirements.....	5	9.2 支持资源.....	12
5.7 Switching Characteristics, SNx4AHCT573 .....	6	9.3 Trademarks.....	12
5.8 Switching Characteristics, SN54AHCT573.....	6	9.4 静电放电警告.....	12
5.9 Operating Characteristics.....	6	9.5 术语表.....	12
5.10 Typical Characteristics.....	7	<b>10 Revision History</b> .....	12
<b>6 Parameter Measurement Information</b> .....	7	<b>11 Mechanical, Packaging, and Orderable Information</b> .....	12
<b>7 Detailed Description</b> .....	8		
7.1 Overview.....	8		

## 4 Pin Configuration and Functions

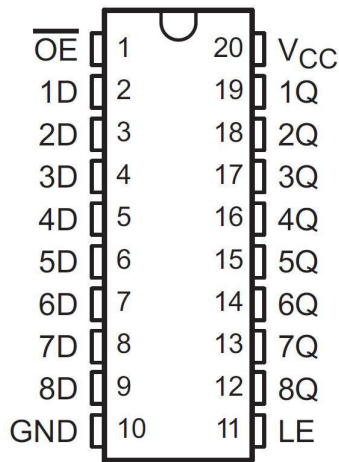


图 4-1. SN54AHCT573 J or W Package  
SN74AHCT573 DB, DGV, DW, N, NS, or PW  
Package (Top View)

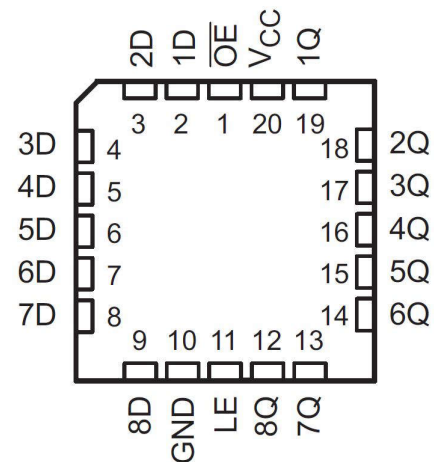


图 4-2. SN54AHCT573 FK Package (Top View)

表 4-1. Pin Functions

PIN		TYPE <sup>(1)</sup>	DESCRIPTION
NO.	NAME		
1	$\overline{OE}$	I	Output Enable
2	1D	I	1D Input
3	2D	I	2D Input
4	3D	I	3D Input
5	4D	I	4D Input
6	5D	I	5D Input
7	6D	I	6D Input
8	7D	I	7D Input
9	8D	I	8D Input
10	GND	—	Ground
11	LE	I	Latch Enable
12	8Q	O	8Q Output
13	7Q	O	7Q Output
14	6Q	O	6Q Output
15	5Q	O	5Q Output
16	4Q	O	4Q Output
17	3Q	O	3Q Output
18	2Q	O	2Q Output
19	1Q	O	1Q Output
20	V <sub>CC</sub>	—	Power Pin

(1) I = input, O = output

## 5 Specifications

### 5.1 Absolute Maximum Ratings

over operating free-air temperature range (unless otherwise noted)<sup>(1)</sup>

		MIN	MAX	UNIT
V <sub>CC</sub>	Supply voltage range	-0.5	7	V
V <sub>I</sub>	Input voltage range <sup>(2)</sup>	-0.5	7	V
V <sub>O</sub>	Output voltage range <sup>(2)</sup>	-0.5	V <sub>CC</sub> + 0.5	V
I <sub>IK</sub>	Input clamp current	V <sub>I</sub> < 0	-20	mA
I <sub>OK</sub>	Output clamp current	V <sub>O</sub> < 0 or V <sub>O</sub> > V <sub>CC</sub>	±20	mA
I <sub>O</sub>	Continuous output current	V <sub>O</sub> = 0 to V <sub>CC</sub>	±25	mA
	Continuous current through V <sub>CC</sub> or GND		±75	mA
T <sub>J</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature	-65	150	°C

- (1) Stresses beyond those listed under *Absolute Maximum Ratings* may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under *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.

### 5.2 ESD Ratings

			MIN	MAX	UNIT
V <sub>(ESD)</sub>	Electrostatic discharge	Human body model (HBM), per ANSI/ESDA/JEDEC JS-001 <sup>(1)</sup>		±2000	V
		Charged-device model (CDM), per ANSI/ESDA/JEDEC JS-002 <sup>(2)</sup>		±1000	

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

### 5.3 Recommended Operating Conditions

over operating free-air temperature range (unless otherwise noted)<sup>(1)</sup>

		SN54AHCT573		SN74AHCT573		UNIT
		MIN	MAX	MIN	MAX	
V <sub>CC</sub>	Supply voltage	4.5	5.5	4.5	5.5	V
V <sub>IH</sub>	High-level input voltage	2		2		V
V <sub>IL</sub>	Low-level input voltage		0.8		0.8	V
V <sub>I</sub>	Input voltage	0	5.5	0	5.5	V
V <sub>O</sub>	Output voltage	0	V <sub>CC</sub>	0	V <sub>CC</sub>	V
I <sub>OH</sub>	High-level output current		-8		-8	mA
I <sub>OL</sub>	Low-level output current		8		8	mA
Δt/Δv	Input transition rise or fall rate		20		20	ns/V
T <sub>A</sub>	Operating free-air temperature	-55	125	-40	125	°C

- (1) 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 (SCBA004)*.

## 5.4 Thermal Information

THERMAL METRIC <sup>(1)</sup>		SN74AHCT573						UNIT
		DW	DB	DGV	N	NS	PW	
		20 PINS						
R <sub>θJA</sub>	Junction-to-ambient thermal resistance	79.4	97.9	117.2	53.3	79.2	116.8	°C/W
R <sub>θJC(top)</sub>	Junction-to-case (top) thermal resistance	45.7	59.6	32.7	40.0	45.7	58.5	
R <sub>θJB</sub>	Junction-to-board thermal resistance	46.9	53.1	58.7	34.2	46.8	78.7	
ψ <sub>JT</sub>	Junction-to-top characterization parameter	18.7	21.3	1.15	26.4	19.3	12.6	
ψ <sub>JB</sub>	Junction-to-board characterization parameter	46.5	52.7	58.0	34.1	46.4	77.9	
R <sub>θJC(bot)</sub>	Junction-to-case (bottom) thermal resistance	N/A	N/A	N/A	N/A	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 recommended operating free-air temperature range (unless otherwise noted)

PARAMETER	TEST CONDITIONS	V <sub>CC</sub>	T <sub>A</sub> = 25°C			–55°C to 125°C SN54AHCT573		–40°C to 85°C SN74AHCT573		–40°C to 125°C SN74AHCT573		UNIT
			MIN	TYP	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
V <sub>OH</sub>	I <sub>OH</sub> = –50 μA	4.5V	4.4	4.5		4.4		4.4		4.4		V
	I <sub>OH</sub> = –8mA		3.94			3.8		3.8		3.8		
V <sub>OL</sub>	I <sub>OL</sub> = 50 μA	4.5V			0.1		0.1		0.1		0.1	V
	I <sub>OL</sub> = 8mA				0.36		0.44		0.44		0.44	
I <sub>I</sub>	V <sub>I</sub> = 5.5V or GND	0V to 5.5V			±0.1		±1 <sup>(1)</sup>		±1		±2	μA
I <sub>OZ</sub>	V <sub>O</sub> = V <sub>CC</sub> or GND	5.5V			±0.25		±2.5		±2.5		±2.5	μA
I <sub>CC</sub>	V <sub>I</sub> = V <sub>CC</sub> or GND, I <sub>O</sub> = 0	5.5V			4		40		40		40	μA
ΔI <sub>CC</sub> <sup>(2)</sup>	One input at 3.4V, Other inputs at V <sub>CC</sub> or GND	5.5V			1.35		1.5		1.5		1.5	mA
C <sub>i</sub>	V <sub>I</sub> = V <sub>CC</sub> or GND	5V		2.5	10				10		10	pF
C <sub>o</sub>	V <sub>O</sub> = V <sub>CC</sub> or GND	5V		3								pF

(1) On products compliant to MIL-PRF-38535, this parameter is not production tested at V<sub>CC</sub> = 0V.

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

## 5.6 Timing Requirements

over recommended operating free-air temperature range, V<sub>CC</sub> = 5V ± 0.5V (unless otherwise noted) (see 节 6)

PARAMETER		T <sub>A</sub> = 25°C		–55°C to 125°C SN54AHCT573		–40°C to 85°C SN74AHCT573		–40°C to 125°C SN74AHCT573		UNIT
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
t <sub>w</sub>	Pulse duration, LE high	5		5		5		5		ns
t <sub>su</sub>	Setup time, data before LE↓	3.5		3.5		3.5		3.5		ns
t <sub>h</sub>	Hold time, data after LE↓	1.5		1.5		1.5		1.5		ns

## 5.7 Switching Characteristics, SNx4AHCT573

over recommended operating free-air temperature range,  $V_{CC} = 5V \pm 0.5V$  (unless otherwise noted) (see 节 6)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	$T_A = 25^\circ\text{C}$			$T_A = -40^\circ\text{C to } 85^\circ\text{C}$		$T_A = -40^\circ\text{C to } 125^\circ\text{C}$		UNIT
			MIN	TYP	MAX	MIN	MAX	MIN	MAX	
$C_L = 15\text{pF}$										
$t_{pd}$	D	Q		5.1	7	1	9	1	9.5	ns
$t_{pd}$	LE	Q		5.6	7.5	1	9	1	9.5	ns
$t_{en}$	$\overline{OE}$	Q		5.5	7.5	1	10	1	11	ns
$t_{dis}$	$\overline{OE}$	Q		5.5	8	1	11	1	12	ns
$C_L = 50\text{pF}$										
$t_{pd}$	D	Q		6.1	8	1	10	1	10.5	ns
$t_{pd}$	LE	Q		6.6	8.5	1	10	1	10.5	ns
$t_{en}$	$\overline{OE}$	Q		6.5	8.5	1	11	1	11.5	ns
$t_{dis}$	$\overline{OE}$	Q		6.7	9	1	12	1	12.5	ns
$t_{sk(o)}$					1.5		1.5			ns

(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.

## 5.8 Switching Characteristics, SN54AHCT573

over recommended operating free-air temperature range,  $V_{CC} = 5V \pm 0.5V$  (unless otherwise noted) (see 节 6)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	$T_A = 25^\circ\text{C}$			$T_A = -55^\circ\text{C to } 125^\circ\text{C}$		UNIT
			MIN	TYP	MAX	MIN	MAX	
$C_L = 15\text{pF}$								
$t_{pd}$	D	Q		5.1 <sup>(1)</sup>	7 <sup>(1)</sup>	1 <sup>(1)</sup>	9 <sup>(1)</sup>	ns
$t_{pd}$	LE	Q		5.6 <sup>(1)</sup>	7.5 <sup>(1)</sup>	1 <sup>(1)</sup>	9 <sup>(1)</sup>	ns
$t_{en}$	$\overline{OE}$	Q		5.5 <sup>(1)</sup>	7.5 <sup>(1)</sup>	1 <sup>(1)</sup>	9 <sup>(1)</sup>	ns
$t_{dis}$	$\overline{OE}$	Q		5.5 <sup>(1)</sup>	8 <sup>(1)</sup>	1 <sup>(1)</sup>	11 <sup>(1)</sup>	ns
$C_L = 50\text{pF}$								
$t_{pd}$	D	Q		6.1	8	1	10	ns
$t_{pd}$	LE	Q		6.6	8.5	1	10	ns
$t_{en}$	$\overline{OE}$	Q		6.5	8.5	1	11	ns
$t_{dis}$	$\overline{OE}$	Q		6.7	9	1	12	ns
$t_{sk(o)}$						1.5 <sup>(2)</sup>		ns

## 5.9 Operating Characteristics

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

PARAMETER	TEST CONDITIONS	TYP	UNIT
$C_{pd}$ Power dissipation capacitance	No load, $f = 1\text{MHz}$	16	pF

### 5.10 Typical Characteristics

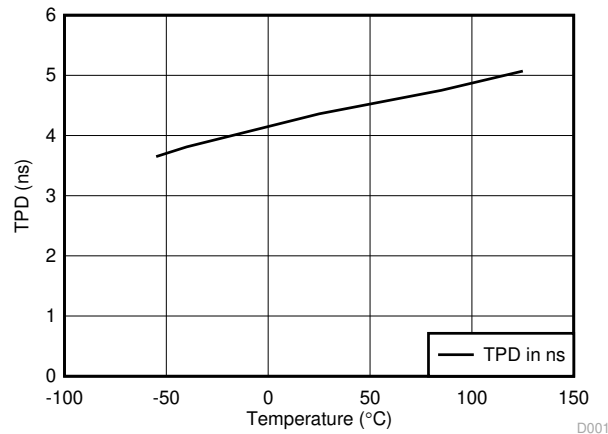


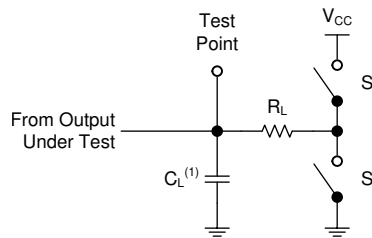
图 5-1. TPD vs Temperature at 5V

### 6 Parameter Measurement Information

Phase relationships between waveforms were chosen arbitrarily. All input pulses are supplied by generators having the following characteristics: PRR ≤ 1MHz, Z<sub>O</sub> = 50Ω, R<sub>L</sub> = 1kΩ, t<sub>t</sub> < 3ns, V<sub>t</sub> = 1.5V.

For clock inputs, f<sub>max</sub> is measured when the input duty cycle is 50%.

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



(1) C<sub>L</sub> includes probe and test-fixture capacitance.

图 6-1. Load Circuit for 3-State Outputs

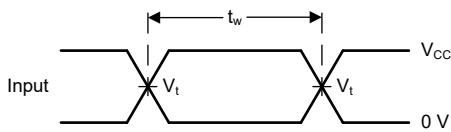


图 6-2. Voltage Waveforms, Pulse Duration

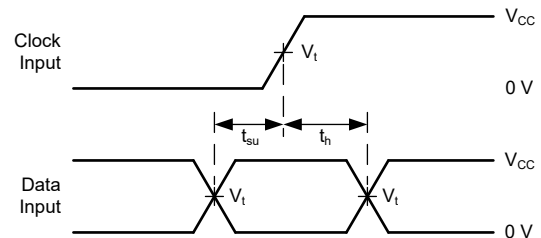
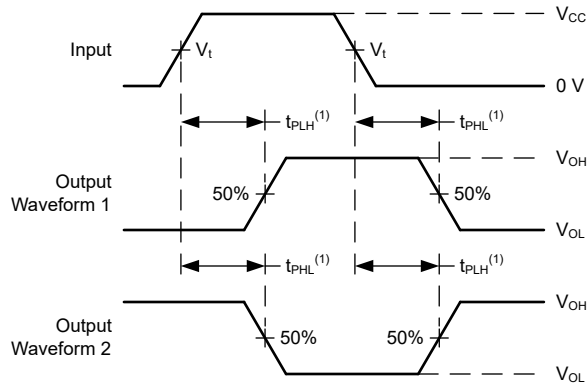
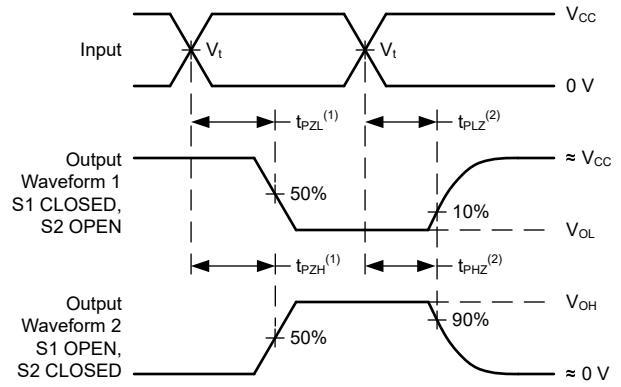


图 6-3. Voltage Waveforms, Setup and Hold Times



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

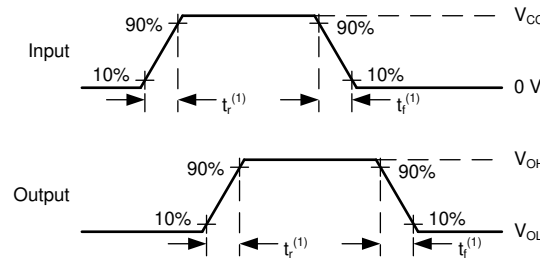
**图 6-4. Voltage Waveforms, Propagation Delays**



(1)  $t_{PZL}$  and  $t_{PZH}$  are the same as  $t_{dis}$ .

(2)  $t_{PZL}$  and  $t_{PZH}$  are the same as  $t_{en}$ .

**图 6-5. Voltage Waveforms, Propagation Delays for 3-State Outputs**



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

**图 6-6. Voltage Waveforms, Input and Output Transition Times**

## 7 Detailed Description

### 7.1 Overview

The SNx4AHCT573 devices are octal transparent D-type latches. When the latch-enable (LE) input is high, the Q outputs follow the data (D) inputs. When LE is low, the Q outputs are latched at the logic levels of the D inputs.

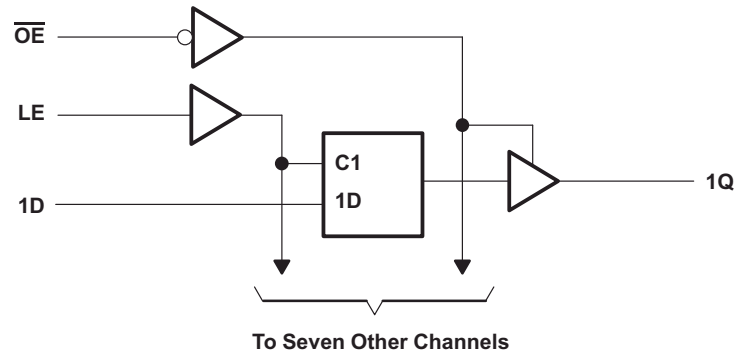
A buffered output-enable ( $\overline{OE}$ ) input can be used to place the eight outputs in either a normal logic state (high or low) or the high-impedance state. In the high-impedance state, the outputs neither load nor drive the bus lines significantly. The high-impedance state and increased drive provide the capability to drive bus lines without interface or pull-up components.

To put the device in the high-impedance state during power up or power down, tie  $\overline{OE}$  to  $V_{CC}$  through a pull-up resistor; the current-sinking capability of the driver determines the minimum value of the resistor.

$\overline{OE}$  does not affect the internal operations of the latches. Old data can be retained or new data can be entered while the outputs are in the high-impedance state.



## 7.2 Functional Block Diagram



## 7.3 Feature Description

- TTL inputs
  - Lowered switching threshold allows up translation 3.3V to 5V
- Slow edges reduce output ringing

## 7.4 Device Functional Modes

**表 7-1. Function Table  
(Each Latch)**

INPUTS			OUTPUT
$\overline{OE}$	LE	D	Q
L	H	H	H
L	H	L	L
L	L	X	$Q_0$
H	X	X	Z

## 8 Application and Implementation

### 备注

以下应用部分中的信息不属于 TI 器件规格的范围，TI 不担保其准确性和完整性。TI 的客户应负责确定器件是否适用于其应用。客户应验证并测试其设计，以确保系统功能。

### 8.1 Application Information

The SN74AHCT573 is a low-drive CMOS device that can be used for a multitude of bus interface 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  $0.8V_{IL}$  and  $2V_{IH}$ . This feature makes the device an excellent choice for translating up from 3.3V to 5V. 图 8-2 shows this type of translation.

### 8.2 Typical Application

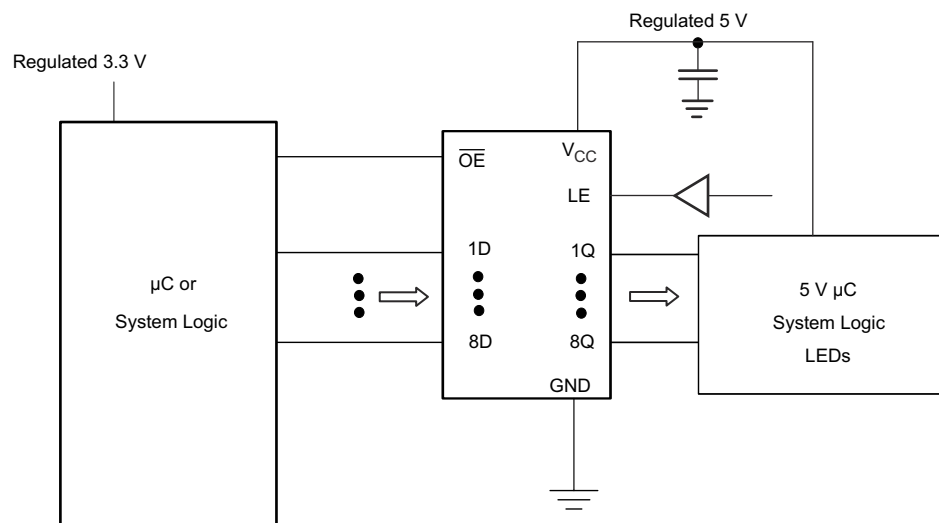


图 8-1. Typical Application Schematic

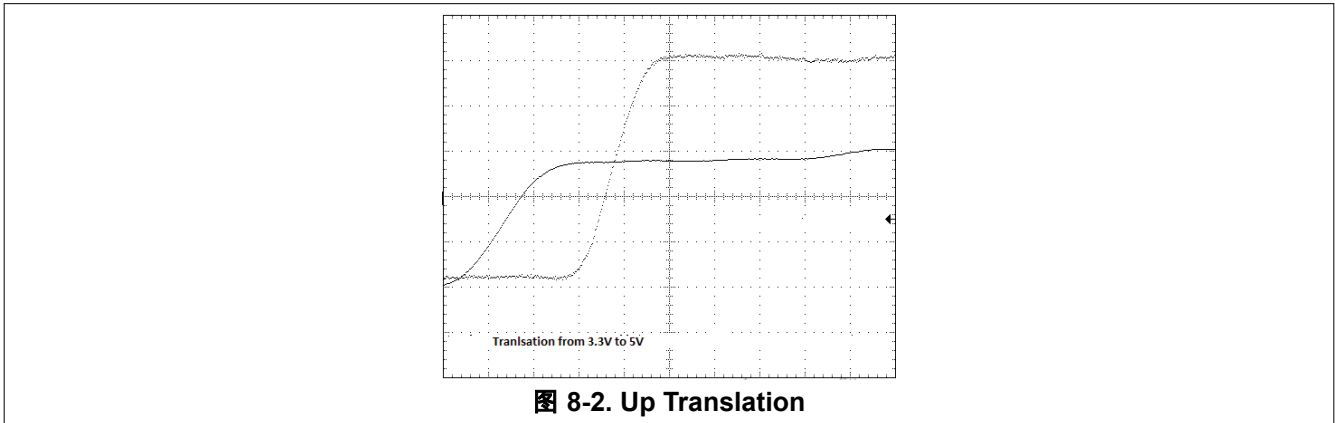
#### 8.2.1 Design Requirements

This device uses CMOS technology and has balanced output drive. Take care 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; therefore, routing and load conditions should be considered to prevent ringing.

#### 8.2.2 Detailed Design Procedure

1. Recommended input conditions:
  - Rise time and fall time specs: See  $(\Delta t/\Delta V)$  in the [Recommended Operating Conditions](#) table.
  - Specified High and low levels: See  $(V_{IH}$  and  $V_{IL})$  in the [Recommended Operating Conditions](#) 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 75mA total for the part.
  - Outputs should not be pulled above  $V_{CC}$ .

### 8.2.3 Application Curves



### 8.3 Power Supply Recommendations

The power supply can be any voltage between the MIN and MAX supply voltage rating located in the [Recommended Operating Conditions](#) table.

Each  $V_{CC}$  pin should have a good bypass capacitor to prevent power disturbance. For devices with a single supply, 0.1 $\mu$ F bypass capacitor is recommended. If there are multiple  $V_{CC}$  pins, 0.01 $\mu$ F or 0.022 $\mu$ F is recommended for each power pin. It is acceptable to parallel multiple bypass capacitors to reject different frequencies of noise. A 0.1 $\mu$ F and 1 $\mu$ F 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

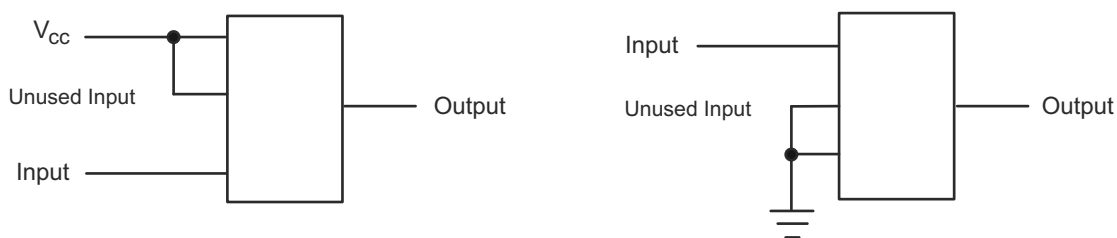
#### 8.4.1 Layout Guidelines

When using multiple bit logic devices inputs should never float.

In many cases, functions or parts of functions of digital logic devices are unused (for example, when only two inputs of a triple-input AND gate are used or only 3 of the 4 buffer gates are used). Such input pins should not be left unconnected because the undefined voltages at the outside connections result in undefined operational states. [图 8-3](#) specifies the rules that must be observed under all circumstances.

All unused inputs of digital logic devices must be connected to a high or low bias to prevent them from floating. The logic level that should be applied to any particular unused input depends on the function of the device. Generally they will be tied to GND or  $V_{CC}$ ; whichever makes more sense or is more convenient. It is generally acceptable to float outputs unless the part is a transceiver. If the transceiver has an output enable pin, then it will disable the outputs section of the part when asserted. This will not disable the input section of the IOs so they cannot float when disabled.

#### 8.4.2 Layout Example



**图 8-3. Layout Diagram**

## 9 Device and Documentation Support

### 9.1 接收文档更新通知

要接收文档更新通知，请导航至 [ti.com](http://ti.com) 上的器件产品文件夹。点击 [通知](#) 进行注册，即可每周接收产品信息更改摘要。有关更改的详细信息，请查看任何已修订文档中包含的修订历史记录。

### 9.2 支持资源

[TI E2E™ 中文支持论坛](#) 是工程师的重要参考资料，可直接从专家处获得快速、经过验证的解答和设计帮助。搜索现有解答或提出自己的问题，获得所需的快速设计帮助。

链接的内容由各个贡献者“按原样”提供。这些内容并不构成 TI 技术规范，并且不一定反映 TI 的观点；请参阅 TI 的 [使用条款](#)。

### 9.3 Trademarks

TI E2E™ is a trademark of Texas Instruments.  
所有商标均为其各自所有者的财产。

### 9.4 静电放电警告



静电放电 (ESD) 会损坏这个集成电路。德州仪器 (TI) 建议通过适当的预防措施处理所有集成电路。如果不遵守正确的处理和安装程序，可能会损坏集成电路。

ESD 的损坏小至导致微小的性能降级，大至整个器件故障。精密的集成电路可能更容易受到损坏，这是因为非常细微的参数更改都可能会导致器件与其发布的规格不相符。

### 9.5 术语表

[TI 术语表](#) 本术语表列出并解释了术语、首字母缩略词和定义。

## 10 Revision History

注：以前版本的页码可能与当前版本的页码不同

Changes from Revision P (April 2024) to Revision Q (July 2024)	Page
• Updated thermal values for PW package from RθJA = 103.3 to 116.8, RθJC(top) = 37.8 to 58.5, RθJB = 54.3 to 78.7, ΨJT = 2.9 to 12.6, ΨJB = 53.8 to 77.9, RθJC(bot) = N/A, all values in °C/W .....	5

Changes from Revision O (July 2014) to Revision P (April 2024)	Page
• Moved storage temperature from <i>Handling Ratings</i> table to <i>Absolute Maximum Ratings</i> table.....	4
• Changed Handling Ratings table to ESD Ratings table.....	4
• Added temperature range column labels in Electrical Characteristics table.....	5
• Added temperature range column labels in Timing Requirements table.....	5
• Changed t <sub>PLH</sub> and t <sub>PHL</sub> to be t <sub>pd</sub> , t <sub>PZH</sub> and t <sub>PZL</sub> to be t <sub>en</sub> , and t <sub>PLZ</sub> and t <sub>PHZ</sub> to be t <sub>dis</sub> .....	6
• Changed <i>Switching Characteristics</i> table to be two tables separating military and catalog device characteristics.....	6
• Changed parameter measurement information section images and tables to improve clarity and update formatting.....	7

## 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)
<a href="#">5962-9685501QRA</a>	Active	Production	CDIP (J)   20	20   TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	5962-9685501QR A SNJ54AHCT573J
<a href="#">5962-9685501QSA</a>	Active	Production	CFP (W)   20	25   TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	5962-9685501QS A SNJ54AHCT573W
<a href="#">SN74AHCT573DBR</a>	Active	Production	SSOP (DB)   20	2000   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 125	HB573
SN74AHCT573DBR.A	Active	Production	SSOP (DB)   20	2000   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 125	HB573
<a href="#">SN74AHCT573DGSR</a>	Active	Production	VSSOP (DGS)   20	5000   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 125	HB573
<a href="#">SN74AHCT573DGVR</a>	Active	Production	TVSOP (DGV)   20	2000   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 125	HB573
SN74AHCT573DGVR.A	Active	Production	TVSOP (DGV)   20	2000   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 125	HB573
<a href="#">SN74AHCT573DWR</a>	Active	Production	SOIC (DW)   20	2000   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 125	AHCT573
SN74AHCT573DWR.A	Active	Production	SOIC (DW)   20	2000   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 125	AHCT573
<a href="#">SN74AHCT573N</a>	Active	Production	PDIP (N)   20	20   TUBE	Yes	NIPDAU	N/A for Pkg Type	-40 to 125	SN74AHCT573N
SN74AHCT573N.A	Active	Production	PDIP (N)   20	20   TUBE	Yes	NIPDAU	N/A for Pkg Type	-40 to 125	SN74AHCT573N
<a href="#">SN74AHCT573PW</a>	Obsolete	Production	TSSOP (PW)   20	-	-	Call TI	Call TI	-40 to 125	HB573
<a href="#">SN74AHCT573PWR</a>	Active	Production	TSSOP (PW)   20	2000   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 125	(AHCT573, HB573)
SN74AHCT573PWR.A	Active	Production	TSSOP (PW)   20	2000   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 125	(AHCT573, HB573)
SN74AHCT573PWRE4	Active	Production	TSSOP (PW)   20	2000   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 125	HB573
<a href="#">SN74AHCT573PWRG4</a>	Active	Production	TSSOP (PW)   20	2000   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 125	HB573
SN74AHCT573PWRG4.A	Active	Production	TSSOP (PW)   20	2000   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 125	HB573
<a href="#">SN74AHCT573RKS</a>	Active	Production	VQFN (RKS)   20	3000   LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-40 to 125	AHCT573
<a href="#">SNJ54AHCT573J</a>	Active	Production	CDIP (J)   20	20   TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	5962-9685501QR A SNJ54AHCT573J
SNJ54AHCT573J.A	Active	Production	CDIP (J)   20	20   TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	5962-9685501QR A SNJ54AHCT573J
<a href="#">SNJ54AHCT573W</a>	Active	Production	CFP (W)   20	25   TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	5962-9685501QS A SNJ54AHCT573W

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)
SNJ54AHCT573W.A	Active	Production	CFP (W)   20	25   TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	5962-9685501QS A SNJ54AHCT573W

(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.

**Important Information and Disclaimer:** The information provided on this page represents TI's knowledge and belief as of the date that it is provided. TI bases its knowledge and belief on information provided by third parties, and makes no representation or warranty as to the accuracy of such information. Efforts are underway to better integrate information from third parties. TI has taken and continues to take reasonable steps to provide representative and accurate information but may not have conducted destructive testing or chemical analysis on incoming materials and chemicals. TI and TI suppliers consider certain information to be proprietary, and thus CAS numbers and other limited information may not be available for release.

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 SN54AHCT573, SN74AHCT573 :**

● Catalog : [SN74AHCT573](#)

● Military : [SN54AHCT573](#)

**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
SN74AHCT573DBR	SSOP	DB	20	2000	330.0	16.4	8.2	7.5	2.5	12.0	16.0	Q1
SN74AHCT573DGSR	VSSOP	DGS	20	5000	330.0	16.4	5.4	5.4	1.45	8.0	16.0	Q1
SN74AHCT573DGVR	TVSOP	DGV	20	2000	330.0	12.4	6.9	5.6	1.6	8.0	12.0	Q1
SN74AHCT573DWR	SOIC	DW	20	2000	330.0	24.4	10.8	13.3	2.7	12.0	24.0	Q1
SN74AHCT573PWR	TSSOP	PW	20	2000	330.0	16.4	6.95	7.0	1.4	8.0	16.0	Q1
SN74AHCT573PWRG4	TSSOP	PW	20	2000	330.0	16.4	6.95	7.0	1.4	8.0	16.0	Q1
SN74AHCT573PWRG4	TSSOP	PW	20	2000	330.0	16.4	6.95	7.0	1.4	8.0	16.0	Q1
SN74AHCT573RKSR	VQFN	RKS	20	3000	180.0	12.4	2.8	4.8	1.2	4.0	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)
SN74AHCT573DBR	SSOP	DB	20	2000	353.0	353.0	32.0
SN74AHCT573DGSR	VSSOP	DGS	20	5000	353.0	353.0	32.0
SN74AHCT573DGVR	TVSOP	DGV	20	2000	353.0	353.0	32.0
SN74AHCT573DWR	SOIC	DW	20	2000	356.0	356.0	45.0
SN74AHCT573PWR	TSSOP	PW	20	2000	353.0	353.0	32.0
SN74AHCT573PWRG4	TSSOP	PW	20	2000	353.0	353.0	32.0
SN74AHCT573PWRG4	TSSOP	PW	20	2000	353.0	353.0	32.0
SN74AHCT573RKSR	VQFN	RKS	20	3000	210.0	185.0	35.0

**TUBE**


\*All dimensions are nominal

Device	Package Name	Package Type	Pins	SPQ	L (mm)	W (mm)	T (μm)	B (mm)
5962-9685501QSA	W	CFP	20	25	506.98	26.16	6220	NA
SN74AHCT573N	N	PDIP	20	20	506	13.97	11230	4.32
SN74AHCT573N.A	N	PDIP	20	20	506	13.97	11230	4.32
SNJ54AHCT573W	W	CFP	20	25	506.98	26.16	6220	NA
SNJ54AHCT573W.A	W	CFP	20	25	506.98	26.16	6220	NA

W (R-GDFP-F20)

CERAMIC DUAL FLATPACK



- 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 ceramic lid using glass frit.
  - D. Index point is provided on cap for terminal identification only.
  - E. Falls within Mil-Std 1835 GDFP2-F20

PW0020A



# PACKAGE OUTLINE

## TSSOP - 1.2 mm max height

SMALL OUTLINE PACKAGE



4220206/A 02/2017

### NOTES:

- All linear dimensions are in millimeters. Any dimensions in parenthesis are for reference only. Dimensioning and tolerancing per ASME Y14.5M.
- This drawing is subject to change without notice.
- 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.
- This dimension does not include interlead flash. Interlead flash shall not exceed 0.25 mm per side.
- Reference JEDEC registration MO-153.

# EXAMPLE BOARD LAYOUT

PW0020A

TSSOP - 1.2 mm max height

SMALL OUTLINE PACKAGE



LAND PATTERN EXAMPLE  
EXPOSED METAL SHOWN  
SCALE: 10X



4220206/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

PW0020A

TSSOP - 1.2 mm max height

SMALL OUTLINE PACKAGE

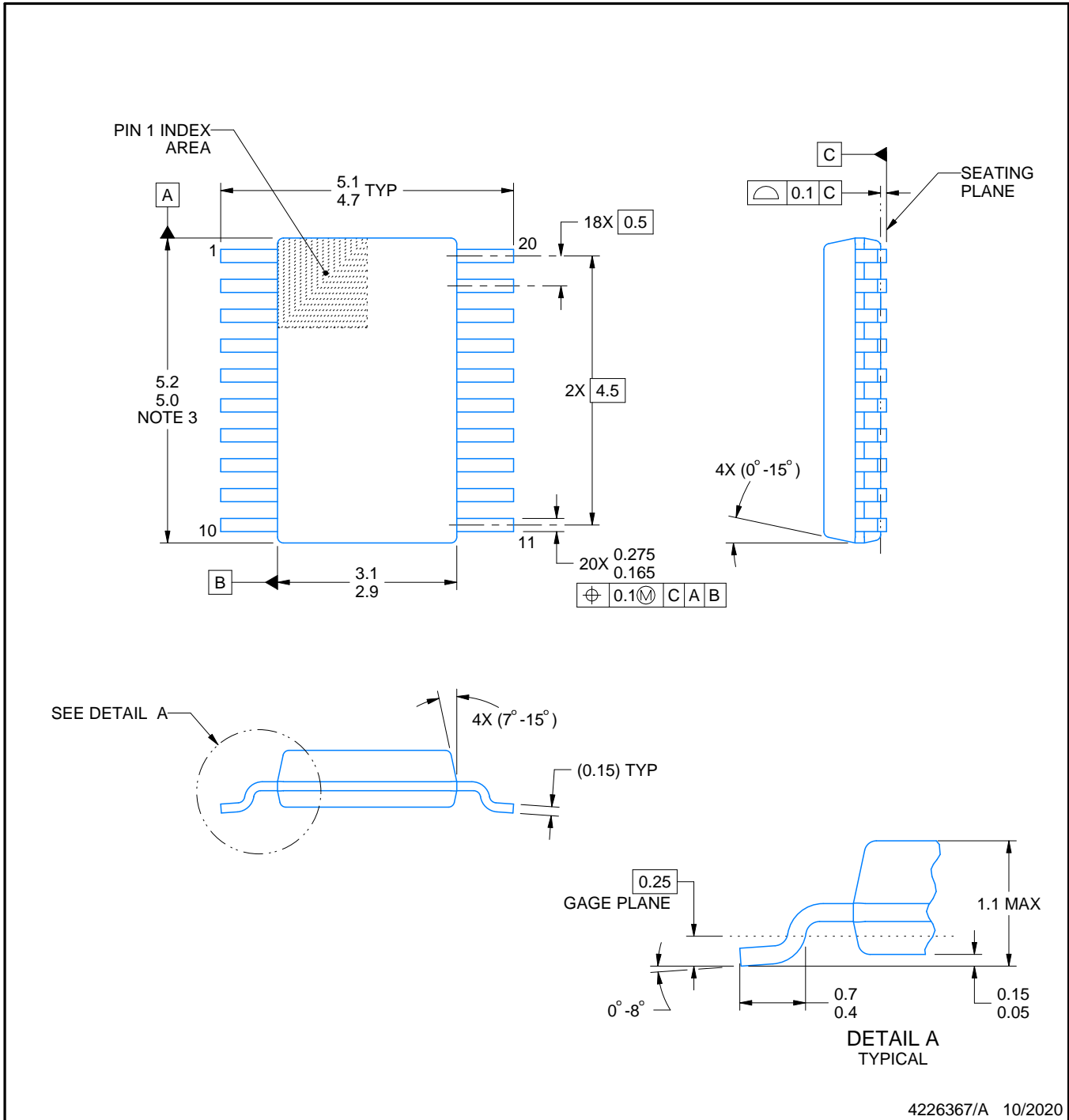


SOLDER PASTE EXAMPLE  
BASED ON 0.125 mm THICK STENCIL  
SCALE: 10X

4220206/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.



4226367/A 10/2020

NOTES:

PowerPAD is a trademark of Texas Instruments.

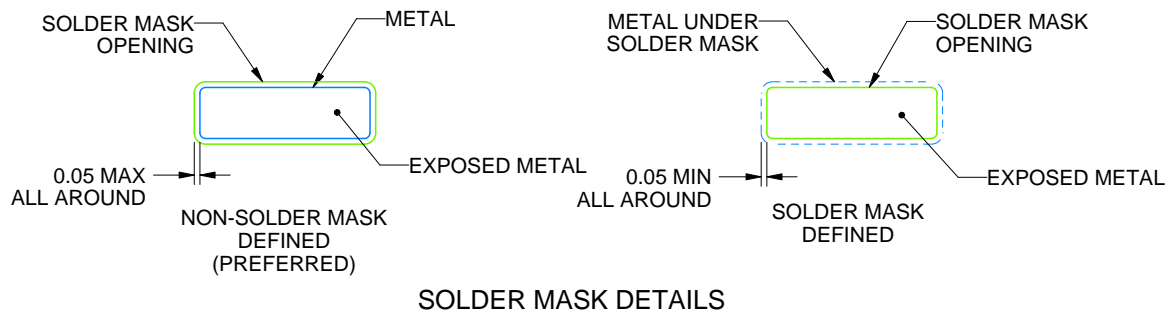
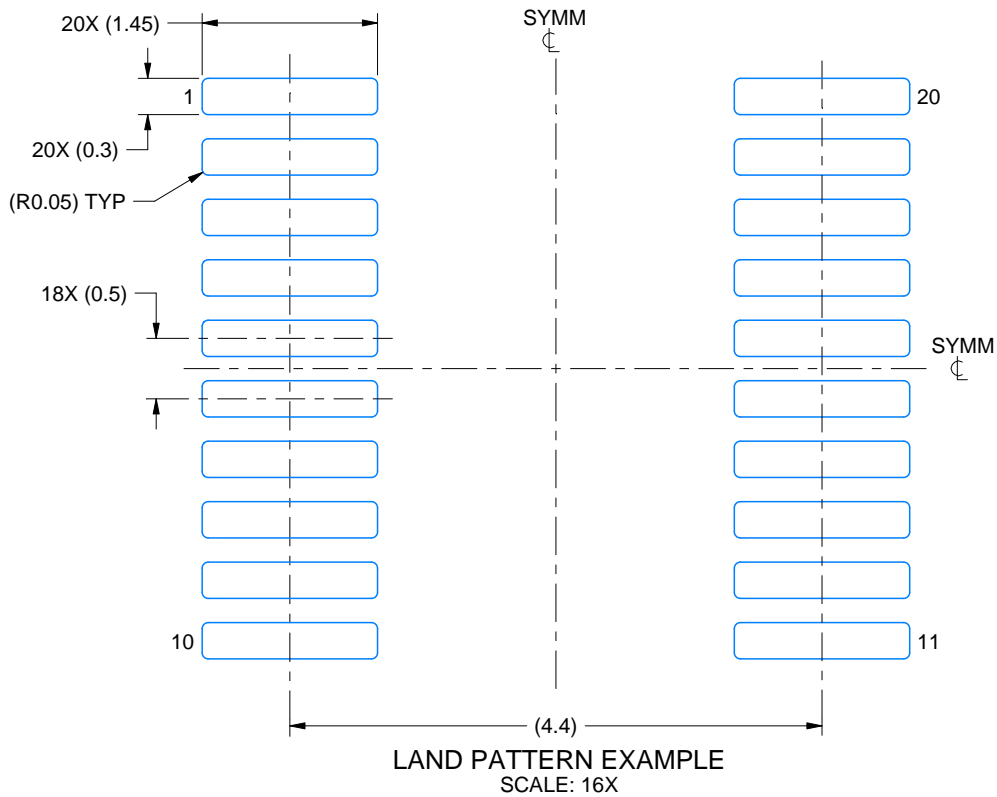
1. All linear dimensions are in millimeters. Any dimensions in parenthesis are for reference only. Dimensioning and tolerancing per ASME Y14.5M.
2. This drawing is subject to change without notice.
3. This dimension does not include mold flash, protrusions, or gate burrs. Mold flash, protrusions, or gate burrs shall not exceed 0.15 mm per side.
4. No JEDEC registration as of September 2020.
5. Features may differ or may not be present.

# EXAMPLE BOARD LAYOUT

DGS0020A

VSSOP - 1.1 mm max height

SMALL OUTLINE PACKAGE



4226367/A 10/2020

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.
8. This package is designed to be soldered to a thermal pad on the board. For more information, see Texas Instruments literature numbers SLMA002 ([www.ti.com/lit/slma002](http://www.ti.com/lit/slma002)) and SLMA004 ([www.ti.com/lit/slma004](http://www.ti.com/lit/slma004)).
9. Size of metal pad may vary due to creepage requirement.
10. Vias are optional depending on application, refer to device data sheet. It is recommended that vias under paste be filled, plugged or tented.

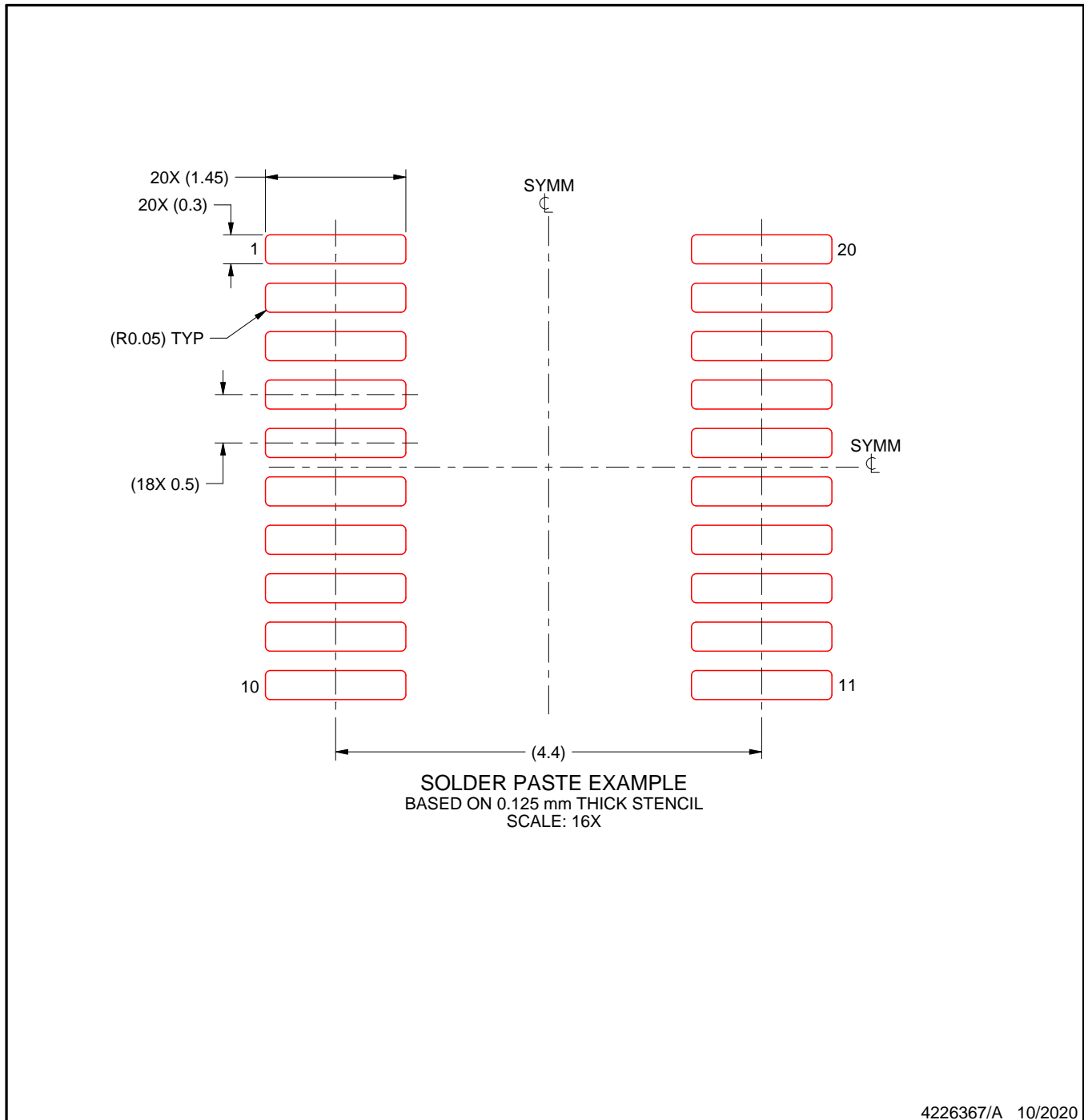


# EXAMPLE STENCIL DESIGN

DGS0020A

VSSOP - 1.1 mm max height

SMALL OUTLINE PACKAGE



NOTES: (continued)

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



# EXAMPLE BOARD LAYOUT

DB0020A

SSOP - 2 mm max height

SMALL OUTLINE PACKAGE



LAND PATTERN EXAMPLE  
EXPOSED METAL SHOWN  
SCALE: 10X



4214851/B 08/2019

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

DB0020A

SSOP - 2 mm max height

SMALL OUTLINE PACKAGE



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

4214851/B 08/2019

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.

## GENERIC PACKAGE VIEW

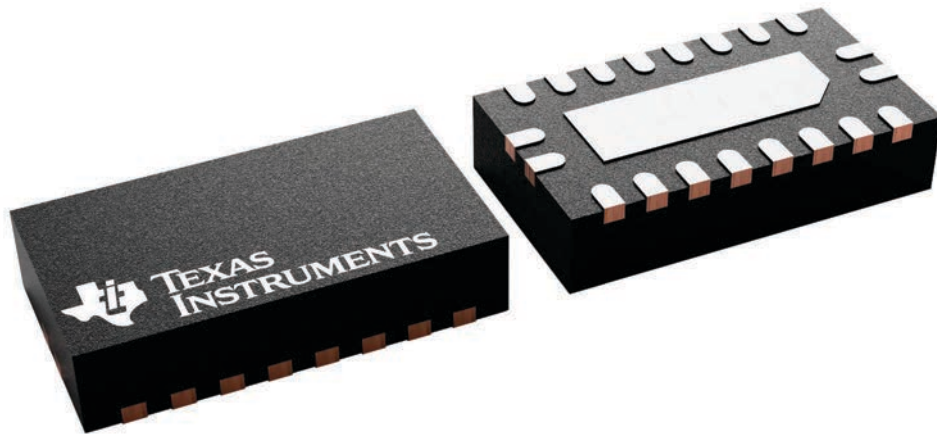
**RKS 20**

**VQFN - 1 mm max height**

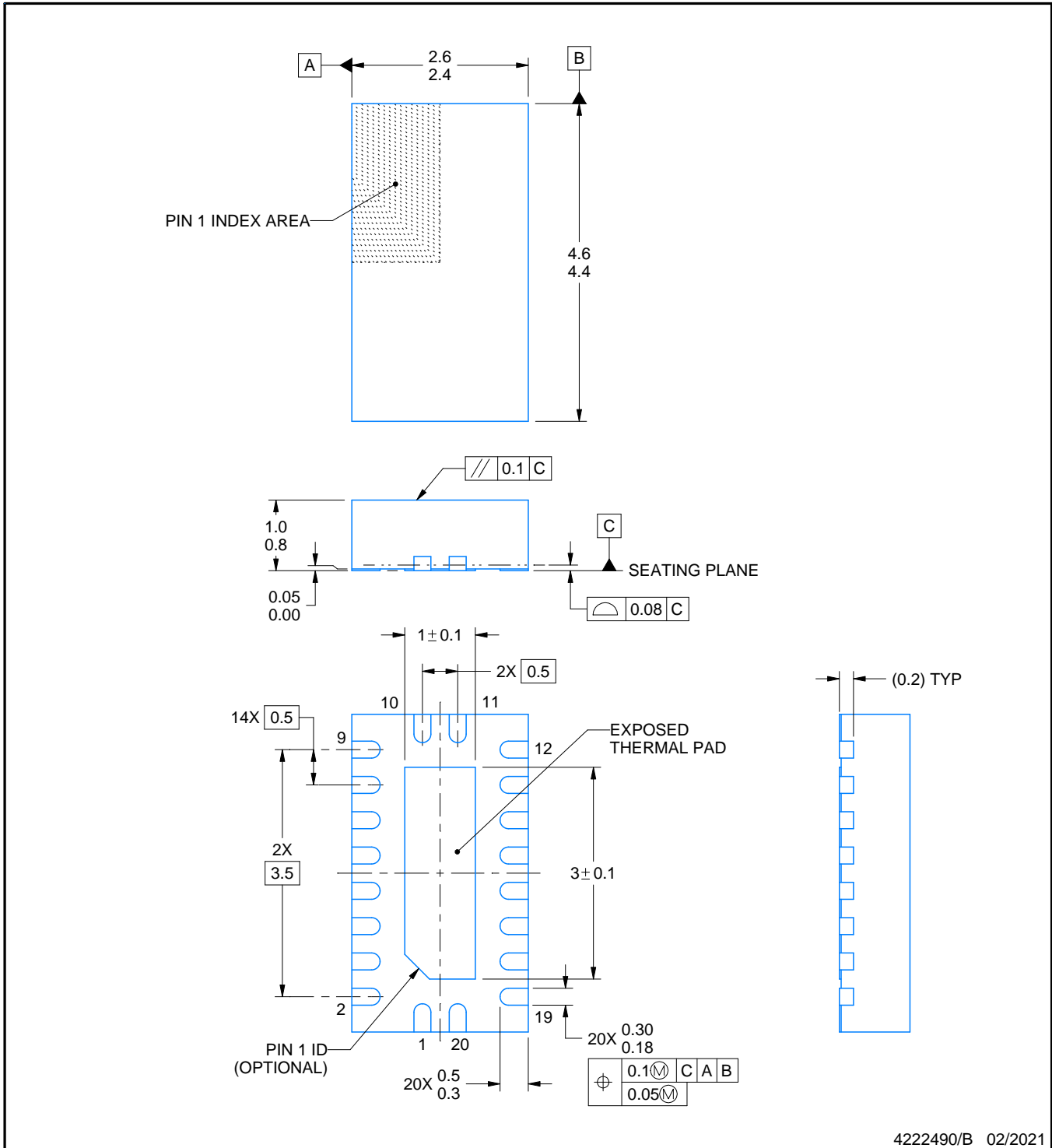
2.5 x 4.5, 0.5 mm pitch

PLASTIC QUAD FLATPACK - NO LEAD

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



4226872/A



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. The package thermal pad must be soldered to the printed circuit board for thermal and mechanical performance.

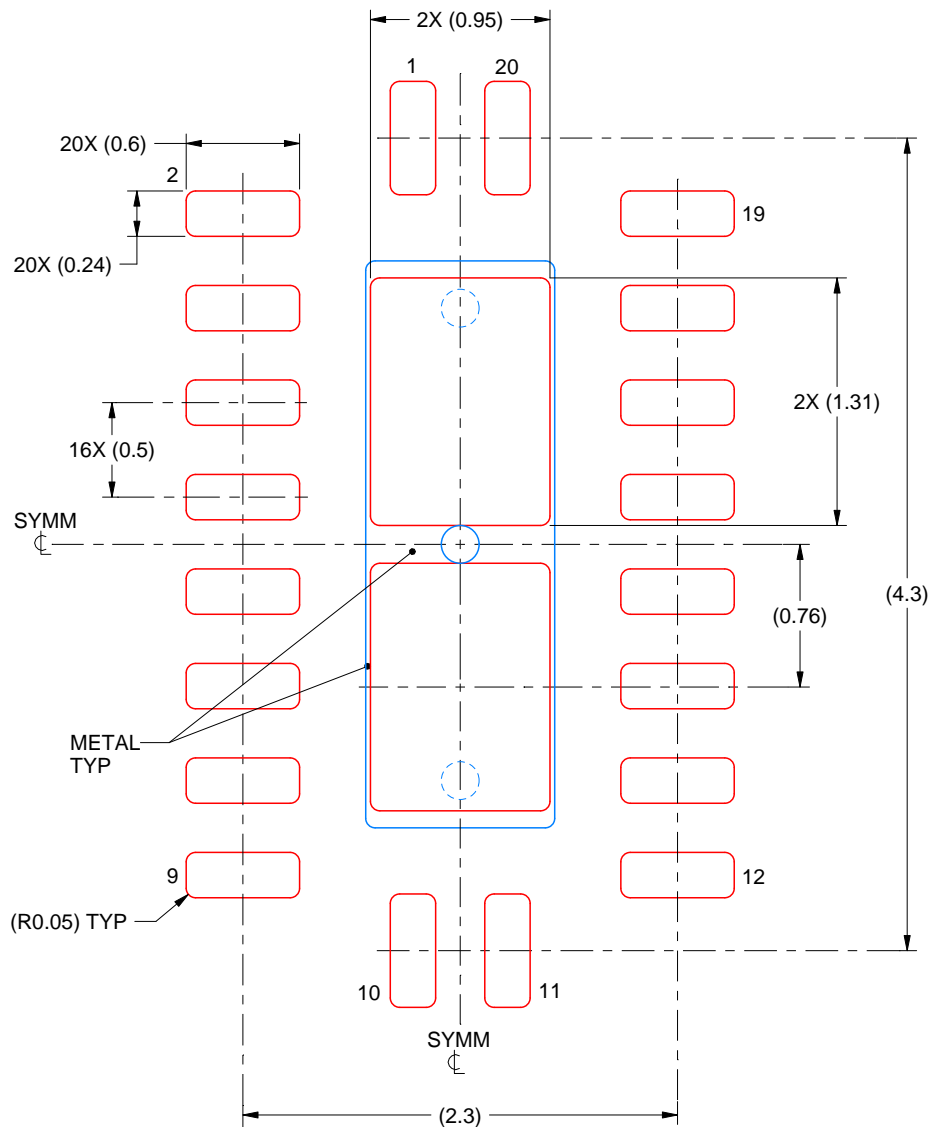


# EXAMPLE STENCIL DESIGN

RKS0020A

VQFN - 1 mm max height

PLASTIC QUAD FLATPACK - NO LEAD



**SOLDER PASTE EXAMPLE**  
 BASED ON 0.125 mm THICK STENCIL

EXPOSED PAD  
 83% PRINTED SOLDER COVERAGE BY AREA  
 SCALE:25X

4222490/B 02/2021

NOTES: (continued)

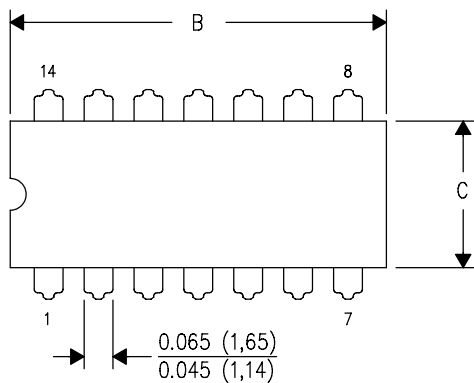
6. Laser cutting apertures with trapezoidal walls and rounded corners may offer better paste release. IPC-7525 may have alternate design recommendations.



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.

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

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.

4040049/E 12/2002



# EXAMPLE BOARD LAYOUT

DW0020A

SOIC - 2.65 mm max height

SOIC



LAND PATTERN EXAMPLE  
SCALE:6X



SOLDER MASK DETAILS

4220724/A 05/2016

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

DW0020A

SOIC - 2.65 mm max height

SOIC



SOLDER PASTE EXAMPLE  
BASED ON 0.125 mm THICK STENCIL  
SCALE:6X

4220724/A 05/2016

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.

## 重要通知和免责声明

TI“按原样”提供技术和可靠性数据（包括数据表）、设计资源（包括参考设计）、应用或其他设计建议、网络工具、安全信息和其他资源，不保证没有瑕疵且不做任何明示或暗示的担保，包括但不限于对适销性、与某特定用途的适用性或不侵犯任何第三方知识产权的暗示担保。

这些资源可供使用 TI 产品进行设计的熟练开发人员使用。您将自行承担以下全部责任：(1) 针对您的应用选择合适的 TI 产品，(2) 设计、验证并测试您的应用，(3) 确保您的应用满足相应标准以及任何其他安全、安保法规或其他要求。

这些资源如有变更，恕不另行通知。TI 授权您仅可将这些资源用于研发本资源所述的 TI 产品的相关应用。严禁以其他方式对这些资源进行复制或展示。您无权使用任何其他 TI 知识产权或任何第三方知识产权。对于因您对这些资源的使用而对 TI 及其代表造成的任何索赔、损害、成本、损失和债务，您将全额赔偿，TI 对此概不负责。

TI 提供的产品受 [TI 销售条款](#)、[TI 通用质量指南](#) 或 [ti.com](#) 上其他适用条款或 TI 产品随附的其他适用条款的约束。TI 提供这些资源并不会扩展或以其他方式更改 TI 针对 TI 产品发布的适用的担保或担保免责声明。除非德州仪器 (TI) 明确将某产品指定为定制产品或客户特定产品，否则其产品均为按确定价格收入目录的标准通用器件。

TI 反对并拒绝您可能提出的任何其他或不同的条款。

版权所有 © 2025，德州仪器 (TI) 公司

最后更新日期：2025 年 10 月