CDx4AC273、CDx4ACT273 具有复位功能的八通道 D 型触发器

1 特性

- 缓冲输入
- 典型传播延迟
  - V_{CC} = 5V、T_A = 25°C 且 C_L = 50pF 时为 6.5ns
- 防 SCR 闩锁 CMOS 工艺和电路设计
- 具有双极 FAST™/AS/S 的速度，同时功耗显著降低
- 平衡传播延迟
- 交流类型的工作电压范围为 1.5V 至 5.5V，并在电源电压的 30% 时具有平衡的抗噪性能
- ±24mA 输出驱动电流
  - 扇出到 15 个 FAST™ IC
  - 驱动 50Ω 传输线

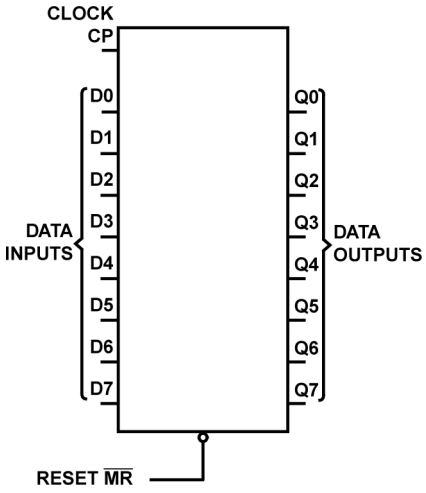
2 说明

’AC273 和 ’ACT273 器件是采用高级 CMOS 逻辑技术、具有复位功能的八通道 D 型触发器。D 输入端的信息在时钟脉冲的上升沿传输到 Q 输出端。所有八个触发器均由通用时钟 (CP) 和通用复位 ($\overline{MR}$) 控制。复位通过低电压电平完成，与时钟无关。

器件信息

器件型号	封装(1)	封装尺寸(2)	本体尺寸(3)
CD74AC273/ CD74ACT273	DW（SOIC，20）	12.8mm x 10.3mm	12.8mm x 7.5mm
	DB（SSOP，20）	7.2mm x 7.8mm	7.2mm x 5.3mm
	N（PDIP，20）	24.33mm x 9.4mm	24.33mm x 6.35mm
	PW（TSSOP，20）	5.00mm x 6.4mm	5.00mm x 4.4mm

(1) 有关更多信息，请参阅第 10 节。
(2) 封装尺寸（长 × 宽）为标称值，并包括引脚（如适用）。
(3) 本体尺寸（长 × 宽）为标称值，不包括引脚。



功能方框图

Table of Contents

3 Pin Configuration and Functions

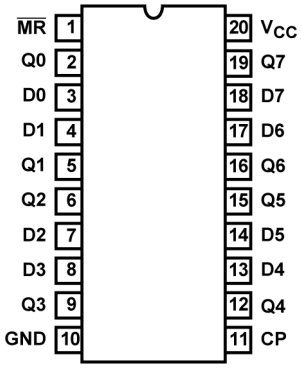


图 3-1. CD54AC273, CD54ACT273 (CDIP) CD74AC273, CD74ACT273 (PDIP, SOIC) Top View

Pin Functions

PIN		I/O[1]	DESCRIPTION
NO.	NAME		
!MR	1	I	Master reset, active low
Q0	2	O	Output Q0
D0	3	I	Input D0
D1	4	I	Input D1
Q1	5	O	Output Q1
Q2	6	O	Output Q2
D2	7	I	Input D2
D3	8	I	Input D3
Q3	9	O	Output Q3
GND	10	-	Ground
CP	11	I	Clock, rising edge triggered
Q4	12	O	Output Q4
D4	13	I	Input D4
D5	14	I	Input D5
Q5	15	O	Output Q5
Q6	16	O	Output Q6
D6	17	I	Input D6
D7	18	I	Input D7
Q7	19	O	Output Q7
V_{CC}	20	-	Supply

(1) I = input, O = output, I/O = input or output, G = ground, P = power.

4 Specifications

4.1 Absolute Maximum Ratings

			MIN	MAX	UNIT
V_{CC}	DC Supply Voltage		-0.5	6	V
I_{IK}	DC Input Diode Current	V_I < -0.5V or V_I > V_{CC} + 0.5V		±20	mA
I_{OK}	DC Output Diode Current	V_O < -0.5V or V_O > V_{CC} + 0.5V		±50	mA
I_O	DC Output Source or Sink Current per Output Pin	V_O > -0.5V or V_O < V_{CC} + 0.5V		±50	mA
	DC V_{CC} or Ground Current, I_{CC} or I_{GND} (1)			±100	mA
T_{stg}	Storage temperature		– 65	150	°C

(1) For up to 4 outputs per device, add ±25mA for each additional output.

Stresses above those listed in “Absolute Maximum Ratings” may cause permanent damage to the device. This is a stress only rating and operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied.

4.2 ESD Ratings

			VALUE	UNIT
$V_{(ESD)}$	Electrostatic discharge	Human-body model (HBM), per ANSI/ESDA/ JEDEC JS-001(1)	±2000	V

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

4.3 Recommended Operating Conditions

			MIN	MAX	UNIT
T_A	Temperature Range		-55	125	°C
V_{CC} (1)	Supply Voltage Range				
	AC Types		1.5	5.5	V
	ACT Types		4.5	5.5	V
V_I, V_O	DC Input or Output Voltage		0	V_{CC}	V
dt/dv	Input Rise and Fall Slew Rate				
	AC Types	1.5V to 3V		50	ns (Max)
	AC Types	3.6V to 5.5V		20	ns (Max)
	ACT Types	4.5V to 5.5V		10	ns (Max)

(1) Unless otherwise specified, all voltages are referenced to ground.

4.4 Thermal Information

THERMAL METRIC(1)		CDx4AC273、CDx4ACT273			UNIT
		N (PDIP)	DW (SOIC)	PW (TSSOP)	
		20 PINS	20 PINS	20 PINS	
θ_{JA}	Thermal Resistance	69	101.2	126.2	°C/W

(1) The package thermal impedance is calculated in accordance with JESD 51.

4.5 Electrical Characteristics

PARAMETER		TEST CONDITIONS		V_{CC} (V)	25°C		-40°C TO 85 °C		-55°C TO 125°C		UNITS
		V_I (V)	I_O (mA)		MIN	MAX	MIN	MAX	MIN	MAX	
	AC TYPES										
V_{IH}	High Level Input Voltage	-	-	1.5	1.2	-	1.2	-	1.2	-	V
				3	2.1	-	2.1	-	2.1	-	V
				5.5	3.85	-	3.85	-	3.85	-	V
V_{IL}	Low Level Input Voltage	-	-	1.5	-	0.3	-	0.3	-	0.3	V
				3	-	0.9	-	0.9	-	0.9	V
				5.5	-	1.65	-	1.65	-	1.65	V
V_{OH}	High Level Output Voltage	V_{IH} or V_{IL}	-0.05	1.5	1.4	-	1.4	-	1.4	-	V
			-0.05	3	2.9	-	2.9	-	2.9	-	V
			-0.05	4.5	4.4	-	4.4	-	4.4	-	V
			-4	3	2.58	-	2.48	-	2.4	-	V
			-24	4.5	3.94	-	3.8	-	3.7	-	V
			-75 (1) (2)	5.5	-	-	3.85	-	-	-	V
			-50 (1) (2)	5.5	-	-	-	-	3.85	-	V
V_{OL}	Low Level Output Voltage	V_{IH} or V_{IL}	0.05	1.5	-	0.1	-	0.1	-	0.1	V
			0.05	3	-	0.1	-	0.1	-	0.1	V
			0.05	4.5	-	0.1	-	0.1	-	0.1	V
			12	3	-	0.36	-	0.44	-	0.5	V
			24	4.5	-	0.36	-	0.44	-	0.5	V
			75(1) (2)	5.5	-	-	-	1.65	-	-	V
			50(1) (2)	5.5	-	-	-	-	-	1.65	V
I_I	Input Leakage Current	V_{CC} or GND	-	5.5	-	±0.1	-	±1	-	±1	μA
I_{CC}	Quiescent Supply Current MSI	V_{CC} or GND	0	5.5	-	8	-	80	-	160	μA
	ACT TYPES										
V_{IH}	High Level Input Voltage	-	-	4.5 to 5.5	2	-	2	-	2	-	V
V_{IL}	Low Level Input Voltage	-	-	4.5 to 5.5	-	0.8	-	0.8	-	0.8	V
V_{OH}	High Level Output Voltage	V_{IH} or V_{IL}	-0.05	4.5	4.4	-	4.4	-	4.4	-	V
			-24	4.5	3.94	-	3.8	-	3.7	-	V
			-75(1) (2)	5.5	-	-	3.85	-	-	-	V
			-50(1) (2)	5.5	-	-	-	-	3.85	-	V
V_{OL}	Low Level Output Voltage	V_{IH} or V_{IL}	0.05	4.5	-	0.1	-	0.1	-	0.1	V
			24	4.5	-	0.36	-	0.44	-	0.5	V
			75(1) (2)	5.5	-	-	-	1.65	-	-	V
			50(1) (2)	5.5	-	-	-	-	-	1.65	V
I_I	Input Leakage Current	V_{CC} or GND	-	5.5	-	±0.1	-	±1	-	±1	μA
I_{CC}	Quiescent Supply Current MSI	V_{CC} or GND	0	5.5	-	8	-	80	-	160	μA

PARAMETER		TEST CONDITIONS		V cc (V)	25°C		-40°C TO 85 °C		-55°C TO 125°C		UNITS
		V_I (V)	I_O (mA)		MIN	MAX	MIN	MAX	MIN	MAX	
ΔI_{CC}	Additional Supply Current per Input Pin TTL Inputs High 1 Unit Load	V_{CC} -2.1	-	4.5 to 5.5	-	2.4	-	2.8	-	3	mA

(1) Test one output at a time for a 1-second maximum duration. Measurement is made by forcing current and measuring voltage to minimize power dissipation.
(2) Test verifies a minimum 50 Ω transmission-line-drive capability at 85°C, 75 Ω at 125°C.

表 4-1. ACT Input Load Table

INPUT	UNIT LOAD
Dn	0.5
$\overline{MR}$	0.57
CP	1

4.6 Prerequisite for Switching Function

PARAMETER	SYMBOL	V_{CC} (V)	-40°C TO 85°C		-55°C TO 125°C		UNITS
			MIN	MAX	MIN	MAX	
AC TYPES							
Data to CP Set-Up Time	t_{SU}	1.5	2	-	2	-	ns
		3.3 (1)	2	-	2	-	ns
		5(2)	2	-	2	-	ns
Hold Time	t_H	1.5	2	-	2	-	ns
		3.3	2	-	2	-	ns
		5	2	-	2	-	ns
Removal Time, $\overline{MR}$ to CP	t_{REM}	1.5	2	-	2	-	ns
		3.3	2	-	2	-	ns
		5	2	-	2	-	ns
$\overline{MR}$ Pulse Width	t_W	1.5	55	-	63	-	ns
		3.3	6.1	-	7	-	ns
		5	4.4	-	5	-	ns
CP Pulse Width	t_W	1.5	55	-	63	-	ns
		3.3	6.1	-	7	-	ns
		5	4.4	-	5	-	ns
CP Frequency	f_{MAX}	1.5	9	-	8	-	MHz
		3.3	81	-	71	-	MHz
		5	114	-	100	-	MHz
ACT TYPES							
Data to CP Set-Up Time	t_{SU}	5(2)	2	-	2	-	ns
Hold Time	t_H	5	2	-	2	-	ns
Removal Time $\overline{MR}$ to CP	t_{REM}	5	2	-	2	-	ns
$\overline{MR}$ Pulse Width	t_W	5	4.4	-	5	-	ns
CP Pulse Width	t_W	5	5.3	-	6	-	ns
CP Frequency	f_{MAX}	5	97	-	85	-	MHz

(1) 3.3V Min is at 3.6V, Max is at 3V.
(2) 5V Min is at 5.5V, Max is at 4.5V.

4.7 Switching Characteristics

Input t_r, t_f = 3ns, C_L = 50pF (Worst Case)

PARAMETER		V_{CC} (V)	-40°C TO 85°C			-55°C TO 125°C			UNITS
			MIN	TYP	MAX	MIN	TYP	MAX	
AC TYPES									
t_{PLH}, t_{PHL}	Propagation Delay, CP to Qn	1.5	-	-	154	-	-	169	ns
		3.3 (1)	4.9	-	17.2	4.7	-	18.9	ns
		5 (2)	3.5	-	12.3	3.4	-	13.5	ns
t_{PLH}, t_{PHL}	Propagation Delay, $\overline{MR}$ to Qn	1.5	-	-	154	-	-	169	ns
		3.3	4.9	-	17.2	4.7	-	18.9	ns
		5	3.5	-	12.3	3.4	-	13.5	ns
C_I	Input Capacitance	-	-	-	10	-	-	10	pF
C_{PD} (3)	Power Dissipation Capacitance	-	-	45	-	-	45	-	pF
	ACT TYPES								
t_{PLH}, t_{PHL}	Propagation Delay, CP to Qn	5(2)	3.5	-	12.3	3.4	-	13.5	ns
t_{PLH}, t_{PHL}	Propagation Delay, $\overline{MR}$ to Qn	5	3.5	-	12.3	3.4	-	13.5	ns
C_I	Input Capacitance	-	-	-	10	-	-	10	pF
C_{PD} q(3)	Power Dissipation Capacitance	-	-	45	-	-	45	-	pF

(1) 3.3V Min is at 3.6V, Max is at 3V.
(2) 5V Min is at 5.5V, Max is at 4.5V.
(3) C_{PD} is used to determine the dynamic power consumption per flip-flop.

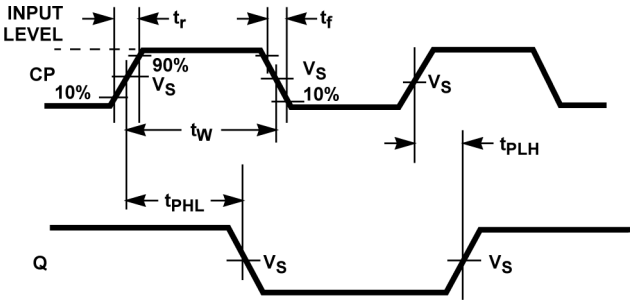
备注

AC: $P_D = C_{PD} V_{CC}^2 f_i = \Sigma (C_L V_{CC}^2 f_o)$

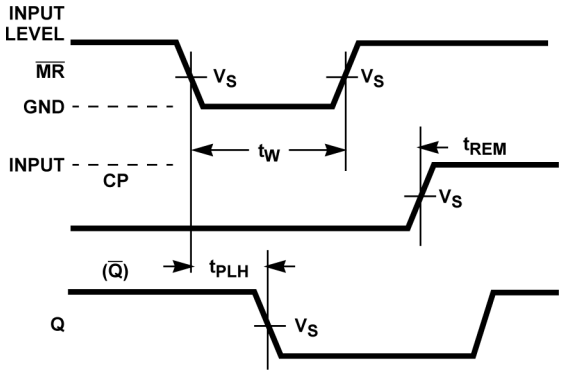
ACT: $P_D = C_{PD} V_{CC}^2 f_i + \Sigma (C_L V_{CC}^2 f_o) + V_{CC} \Delta I_{CC}$ where f_i = input frequency, f_o = output frequency, C_L = output load capacitance, V_{CC} = supply voltage.

5 Parameter Measurement Information

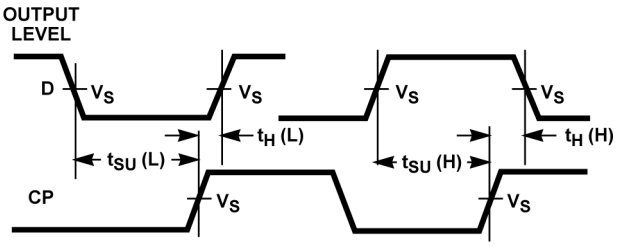
Load Circuit and Voltage Waveforms



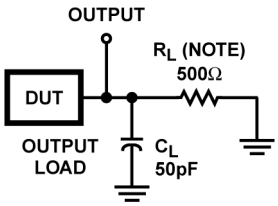
Propagation Delay Times and Clock Pulse Width



Prerequisite and Propagation Delay Times for Master Reset



Prerequisite for Clock



A. For AC Series Only: When V_{CC} = 1.5V, R_L = 1kΩ.

Propagation Delay Times

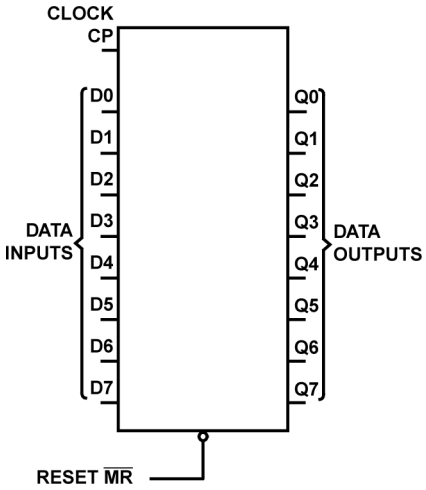
	AC	ACT
Input Level	V_{CC}	3V
Input Switching Voltage, V_S	0.5 V_{CC}	1.5V
Output Switching Voltage, V_S	0.5 V_{CC}	0.5 V_{CC}

6 Detailed Description

6.1 Overview

The ’AC273 and ’ACT273 devices are octal D-type flip-flops with reset that utilize advanced CMOS logic technology. Information at the D input is transferred to the Q output on the positive-going edge of the clock pulse. All eight flip-flops are controlled by a common clock (CP) and a common reset ($\overline{MR}$). Resetting is accomplished by a low voltage level independent of the clock.

6.2 Functional Block Diagram



6.3 Device Functional Modes

表 6-1. Truth Table

INPUTS			OUTPUTS
RESET ($\overline{MR}$)	CLOCK CP	DATA Dn	Qn
L	X	X	L
H	↑	H	H
H	↑	L	L
H	L	X	Q0

7 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。

7.1 Power Supply Recommendations

The power supply can be any voltage between the min and max supply voltage rating located in *节 4.3*.

Each V_{CC} terminal should have a good bypass capacitor to prevent power disturbance. For devices with a single supply, TI recommends 0.1 µF and if there are multiple V_{CC} terminals, then TI recommends .01 µF or .022 µF for each power terminal. It is okay to parallel multiple bypass capacitors to reject different frequencies of noise. A 0.1 µF and 1 µF are commonly used in parallel. The bypass capacitor should be installed as close to the power terminal as possible for best results.

7.2 Layout

7.2.1 Layout Guidelines

When using multiple bit logic devices inputs should not ever 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 three of the four 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. Specified below are 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 make more sense or is more convenient. Floating outputs is generally acceptable, unless the part is a transceiver. If the transceiver has an output enable pin it will disable the outputs section of the part when asserted. This will not disable the input section of the I.O’s so they also cannot float when disabled.

8 Device and Documentation Support

8.1 Documentation Support (Analog)

8.1.1 Related Documentation

The table below lists quick access links. Categories include technical documents, support and community resources, tools and software, and quick access to sample or buy.

表 8-1. Related Links

PARTS	PRODUCT FOLDER	SAMPLE & BUY	TECHNICAL DOCUMENTS	TOOLS & SOFTWARE	SUPPORT & COMMUNITY
CD54AC273	Click here	Click here	Click here	Click here	Click here
CD74AC273	Click here	Click here	Click here	Click here	Click here
CD54ACT273	Click here	Click here	Click here	Click here	Click here
CD74ACT273	Click here	Click here	Click here	Click here	Click here

8.2 接收文档更新通知

要接收文档更新通知，请导航至 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。

8.3 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。

8.4 Trademarks

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

8.5 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。

8.6 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。

9 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 B (November 1998) to Revision C (May 2024)	Page
• 添加了*器件信息* 表、*引脚功能* 表、*ESD 等级* 表、*热信息* 表、*器件功能模式*、*器件和文档支持* 部分以及*机械、封装和可订购信息* 部分	1
• Updated R θ JA values: DW = 58 to 101.2; added PW = 126.2, all values in °C/W	4

10 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)
CD54AC273F3A	Active	Production	CDIP (J) | 20	20 | TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	CD54AC273F3A
CD54AC273F3A.A	Active	Production	CDIP (J) | 20	20 | TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	CD54AC273F3A
CD54ACT273F3A	Active	Production	CDIP (J) | 20	20 | TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	CD54ACT273F3A
CD54ACT273F3A.A	Active	Production	CDIP (J) | 20	20 | TUBE	No	SNPB	N/A for Pkg Type	-55 to 125	CD54ACT273F3A
CD74AC273E	Active	Production	PDIP (N) | 20	20 | TUBE	Yes	NIPDAU	N/A for Pkg Type	-55 to 125	CD74AC273E
CD74AC273E.A	Active	Production	PDIP (N) | 20	20 | TUBE	Yes	NIPDAU	N/A for Pkg Type	-55 to 125	CD74AC273E
CD74AC273M96	Active	Production	SOIC (DW) | 20	2000 | LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-55 to 125	AC273M
CD74AC273M96.A	Active	Production	SOIC (DW) | 20	2000 | LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-55 to 125	AC273M
CD74ACT273E	Active	Production	PDIP (N) | 20	20 | TUBE	Yes	NIPDAU	N/A for Pkg Type	-55 to 125	CD74ACT273E
CD74ACT273E.A	Active	Production	PDIP (N) | 20	20 | TUBE	Yes	NIPDAU	N/A for Pkg Type	-55 to 125	CD74ACT273E
CD74ACT273EE4	Active	Production	PDIP (N) | 20	20 | TUBE	Yes	NIPDAU	N/A for Pkg Type	-55 to 125	CD74ACT273E
CD74ACT273M	Obsolete	Production	SOIC (DW) | 20	-	-	Call TI	Call TI	-55 to 125	ACT273M
CD74ACT273M96	Active	Production	SOIC (DW) | 20	2000 | LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-55 to 125	ACT273M
CD74ACT273M96.A	Active	Production	SOIC (DW) | 20	2000 | LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-55 to 125	ACT273M
CD74ACT273M96E4	Active	Production	SOIC (DW) | 20	2000 | LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-55 to 125	ACT273M
CD74ACT273PW	Obsolete	Production	TSSOP (PW) | 20	-	-	Call TI	Call TI	-55 to 125	HM273
CD74ACT273PWR	Active	Production	TSSOP (PW) | 20	2000 | LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-55 to 125	HM273
CD74ACT273PWR.A	Active	Production	TSSOP (PW) | 20	2000 | LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-55 to 125	HM273
CD74ACT273SM96	Active	Production	SSOP (DB) | 20	2000 | LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-55 to 125	ACT273SM
CD74ACT273SM96.A	Active	Production	SSOP (DB) | 20	2000 | LARGE T&R	Yes	NIPDAU	Level-1-260C-UNLIM	-55 to 125	ACT273SM

(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 CD54AC273, CD54ACT273, CD74AC273, CD74ACT273 :

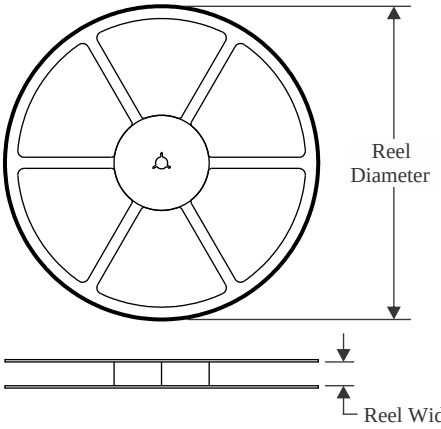
- Catalog : CD74AC273, CD74ACT273
- Military : CD54AC273, CD54ACT273

NOTE: Qualified Version Definitions:

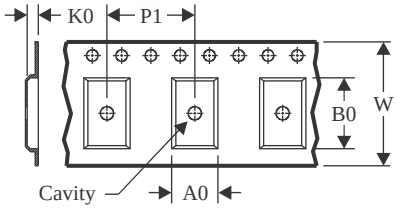
- Catalog - TI's standard catalog product
- Military - QML certified for Military and Defense Applications

TAPE AND REEL INFORMATION

REEL DIMENSIONS

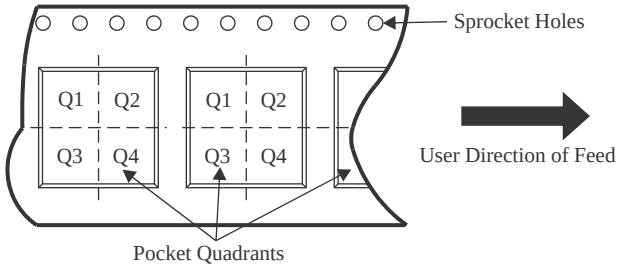


TAPE DIMENSIONS



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

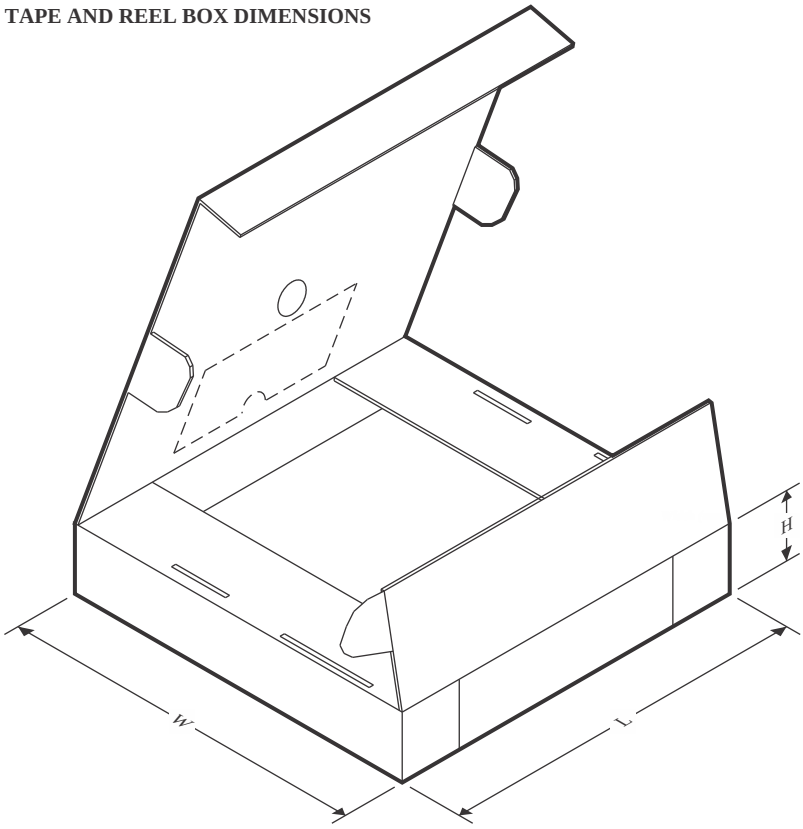
QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE



*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
CD74AC273M96	SOIC	DW	20	2000	330.0	24.4	10.8	13.3	2.7	12.0	24.0	Q1
CD74AC273M96	SOIC	DW	20	2000	330.0	24.4	10.9	13.3	2.7	12.0	24.0	Q1
CD74ACT273M96	SOIC	DW	20	2000	330.0	24.4	10.8	13.3	2.7	12.0	24.0	Q1
CD74ACT273M96	SOIC	DW	20	2000	330.0	24.4	10.9	13.3	2.7	12.0	24.0	Q1
CD74ACT273PWR	TSSOP	PW	20	2000	330.0	16.4	6.95	7.0	1.4	8.0	16.0	Q1
CD74ACT273SM96	SSOP	DB	20	2000	330.0	16.4	8.2	7.5	2.5	12.0	16.0	Q1

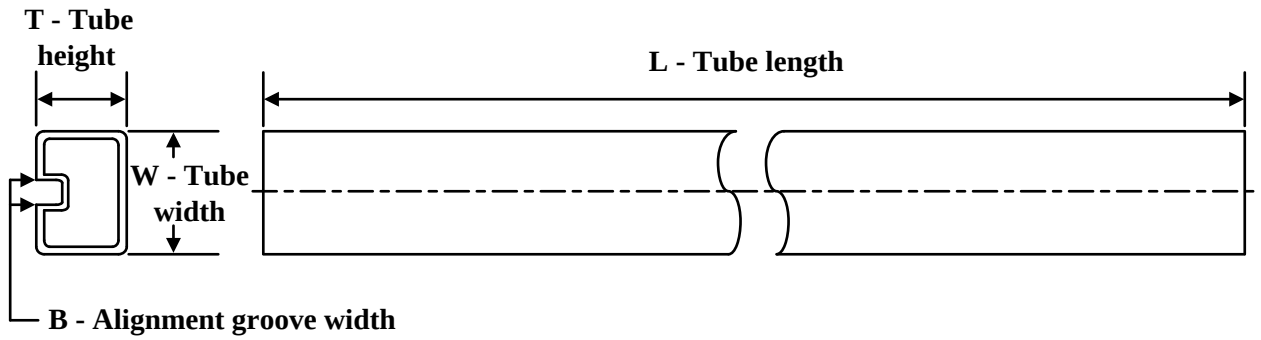
TAPE AND REEL BOX DIMENSIONS



*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
CD74AC273M96	SOIC	DW	20	2000	356.0	356.0	45.0
CD74AC273M96	SOIC	DW	20	2000	356.0	356.0	45.0
CD74ACT273M96	SOIC	DW	20	2000	356.0	356.0	45.0
CD74ACT273M96	SOIC	DW	20	2000	356.0	356.0	45.0
CD74ACT273PWR	TSSOP	PW	20	2000	353.0	353.0	32.0
CD74ACT273SM96	SSOP	DB	20	2000	353.0	353.0	32.0

TUBE



*All dimensions are nominal

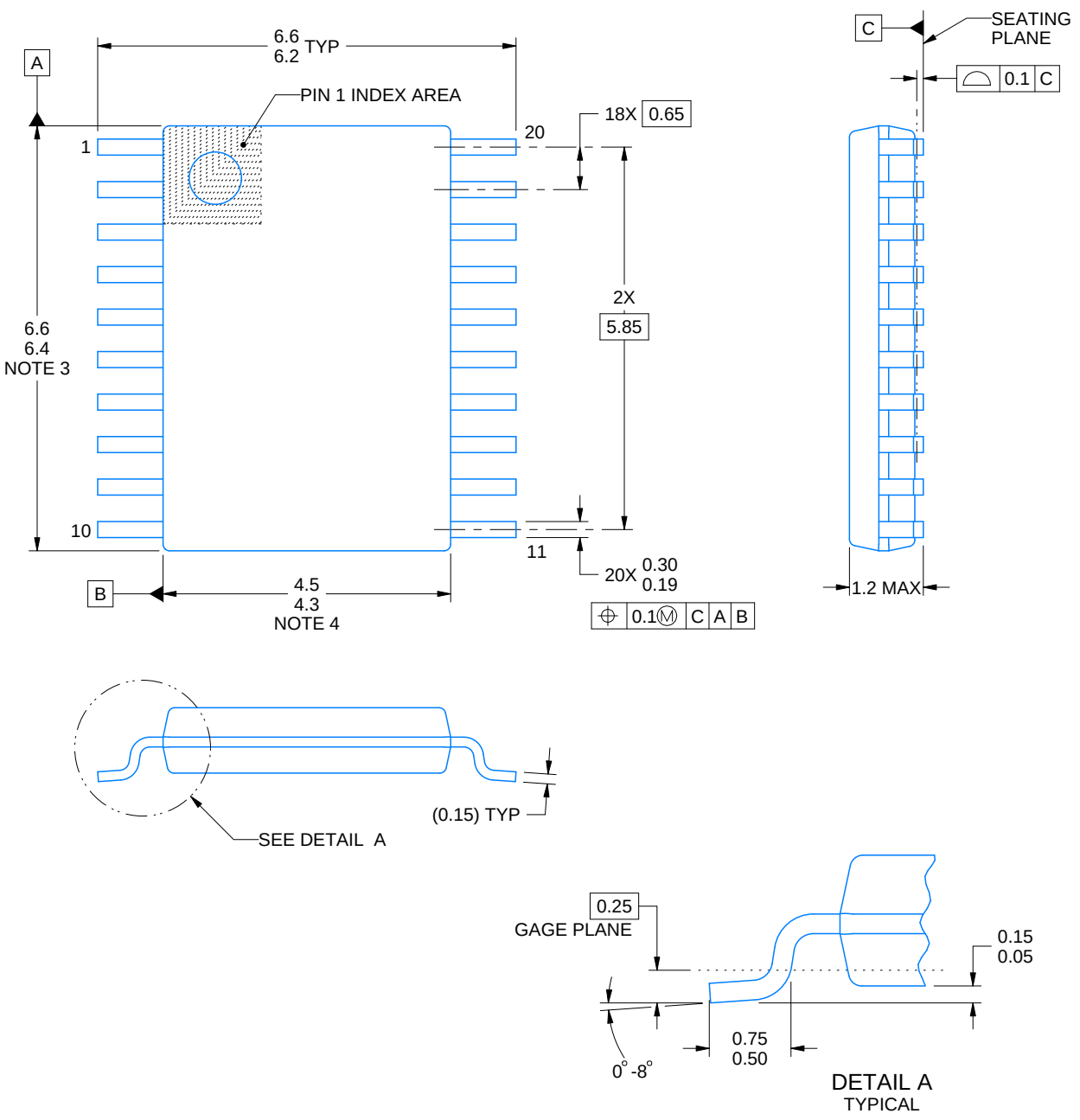
Device	Package Name	Package Type	Pins	SPQ	L (mm)	W (mm)	T (µm)	B (mm)
CD74AC273E	N	PDIP	20	20	506	13.97	11230	4.32
CD74AC273E.A	N	PDIP	20	20	506	13.97	11230	4.32
CD74ACT273E	N	PDIP	20	20	506	13.97	11230	4.32
CD74ACT273E.A	N	PDIP	20	20	506	13.97	11230	4.32
CD74ACT273EE4	N	PDIP	20	20	506	13.97	11230	4.32

PACKAGE OUTLINE

PW0020A

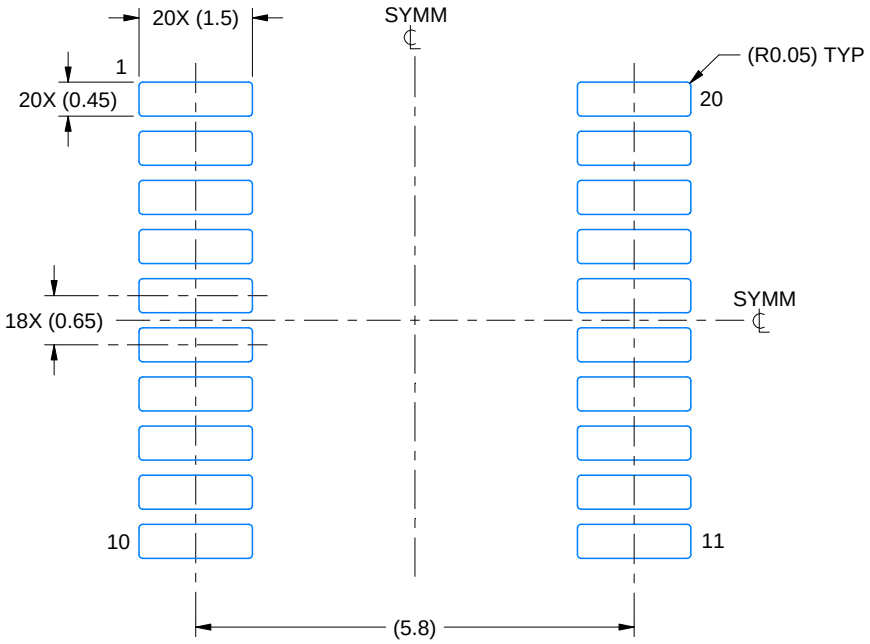
TSSOP - 1.2 mm max height

SMALL OUTLINE PACKAGE



NOTES:

1. All linear dimensions are in millimeters. Any dimensions in parenthesis are for reference only. Dimensioning and tolerancing per ASME Y14.5M.
2. This drawing is subject to change without notice.
3. This dimension does not include mold flash, protrusions, or gate burrs. Mold flash, protrusions, or gate burrs shall not exceed 0.15 mm per side.
4. This dimension does not include interlead flash. Interlead flash shall not exceed 0.25 mm per side.
5. Reference JEDEC registration MO-153.



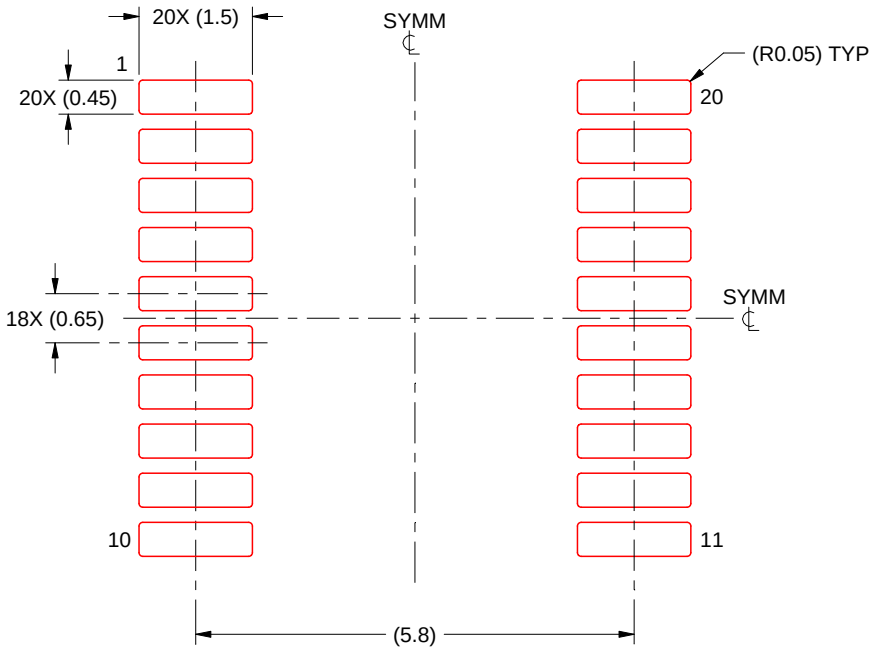
LAND PATTERN EXAMPLE
EXPOSED METAL SHOWN
SCALE: 10X

SOLDER MASK DETAILS

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.



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

4220206/A 02/2017

NOTES: (continued)

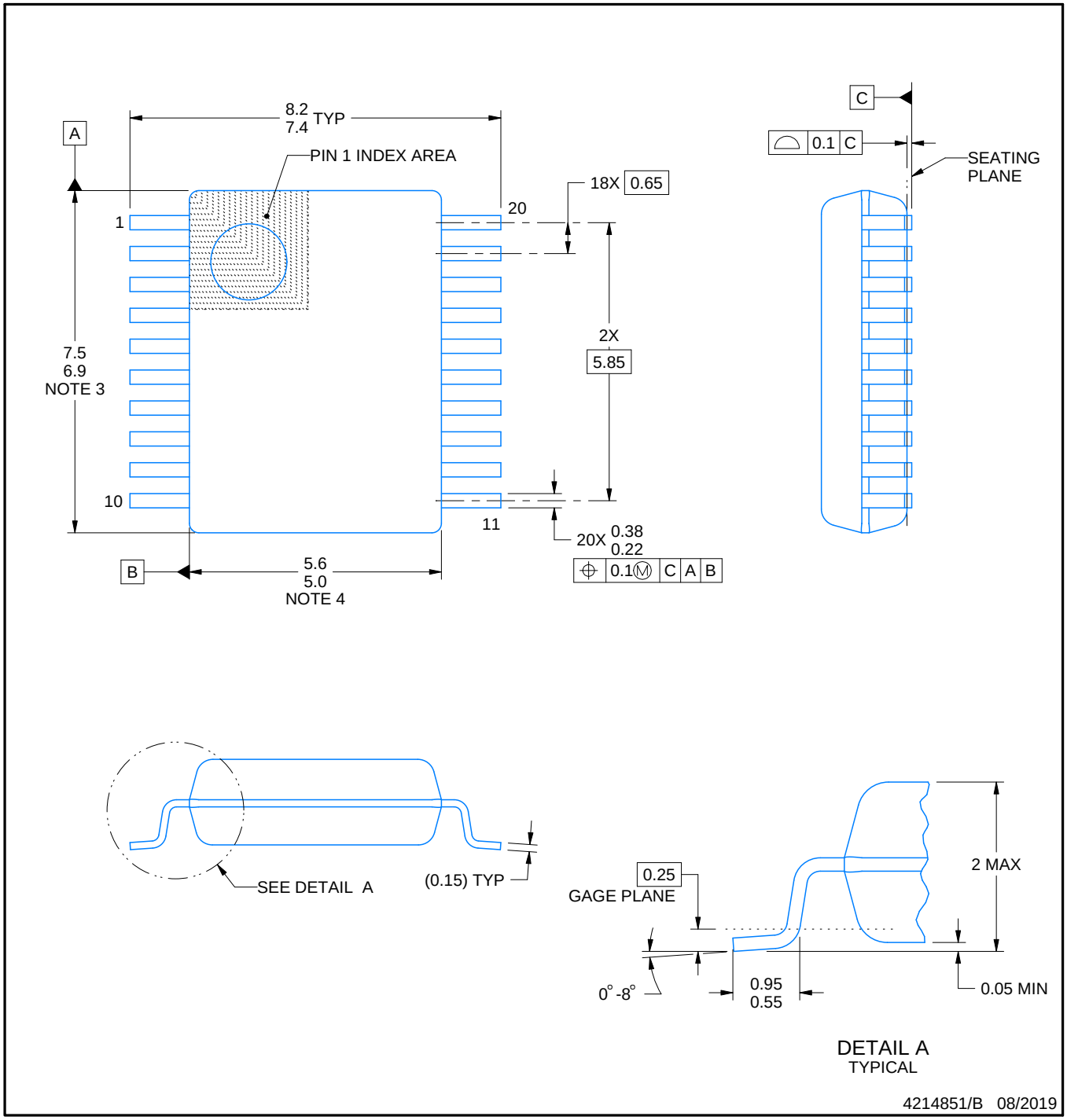
8. Laser cutting apertures with trapezoidal walls and rounded corners may offer better paste release. IPC-7525 may have alternate design recommendations.
9. Board assembly site may have different recommendations for stencil design.

PACKAGE OUTLINE

DB0020A

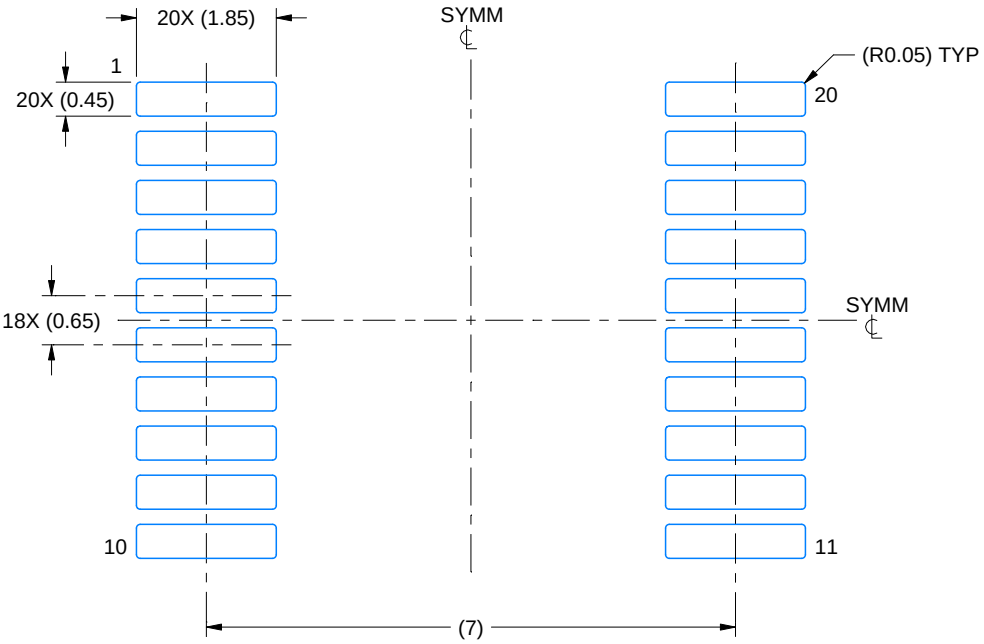
SSOP - 2 mm max height

SMALL OUTLINE PACKAGE

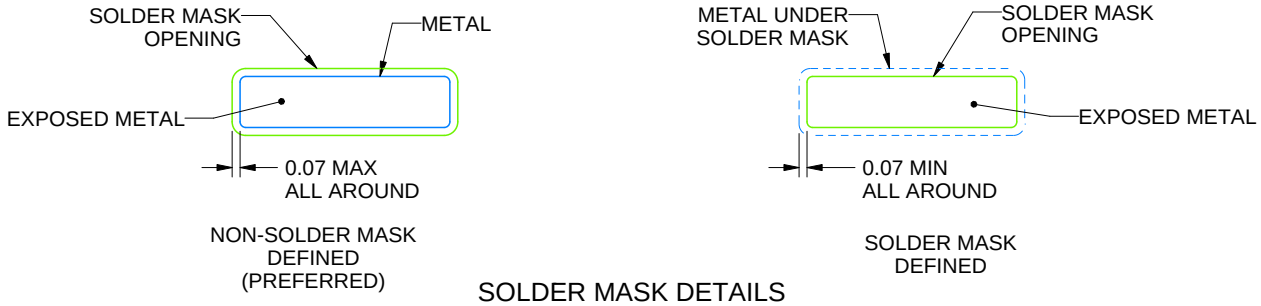


NOTES:

1. All linear dimensions are in millimeters. Any dimensions in parenthesis are for reference only. Dimensioning and tolerancing per ASME Y14.5M.
2. This drawing is subject to change without notice.
3. This dimension does not include mold flash, protrusions, or gate burrs. Mold flash, protrusions, or gate burrs shall not exceed 0.15 mm per side.
4. This dimension does not include interlead flash. Interlead flash shall not exceed 0.25 mm per side.
5. Reference JEDEC registration MO-150.



LAND PATTERN EXAMPLE
EXPOSED METAL SHOWN
SCALE: 10X



SOLDER MASK DETAILS

4214851/B 08/2019

NOTES: (continued)

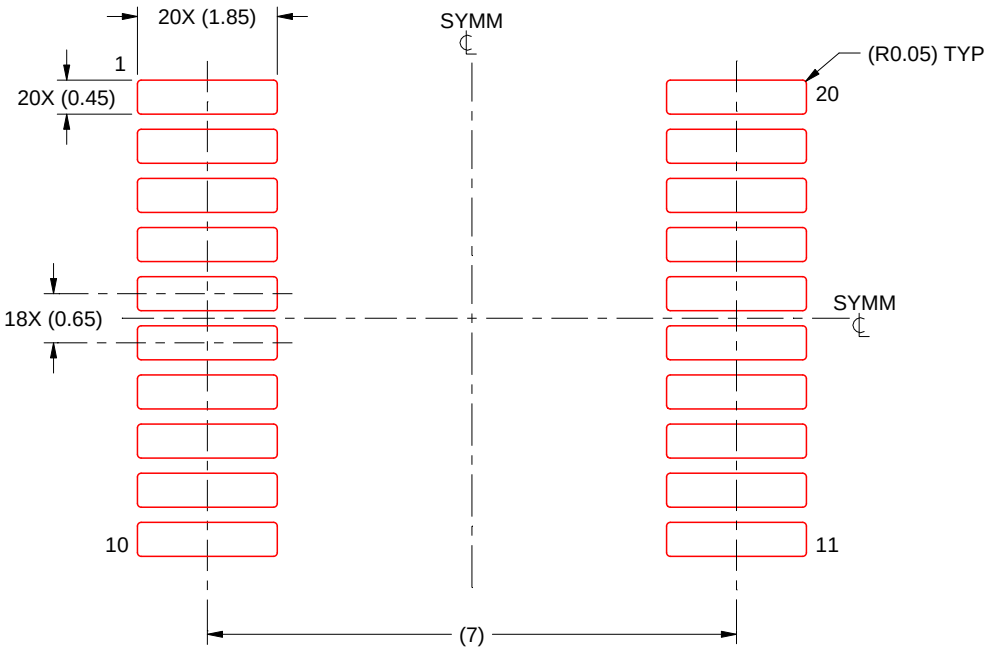
6. Publication IPC-7351 may have alternate designs.
7. Solder mask tolerances between and around signal pads can vary based on board fabrication site.

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

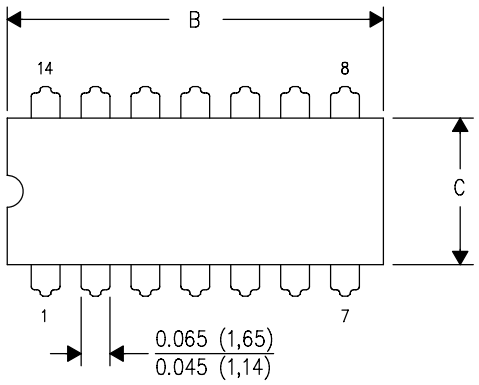
NOTES: (continued)

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.

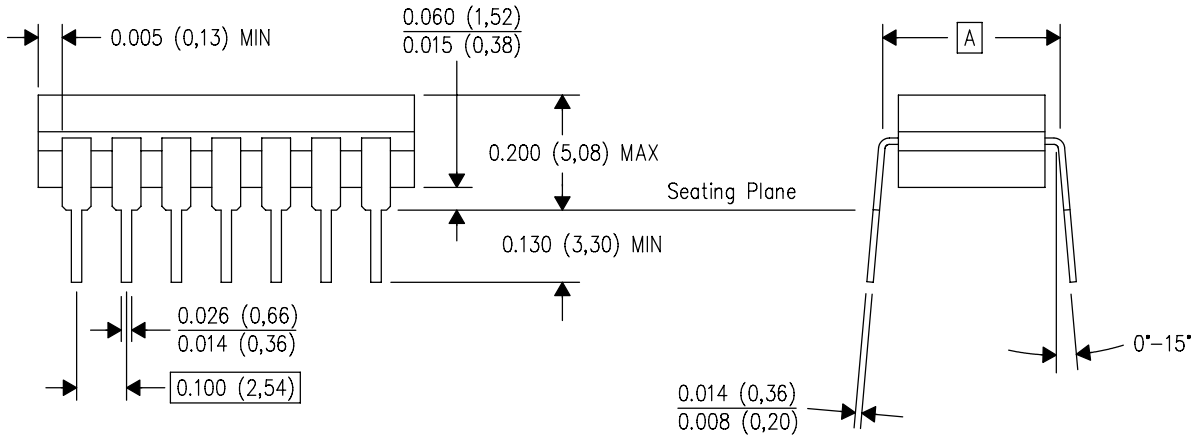
J (R–GDIP–T**)

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)



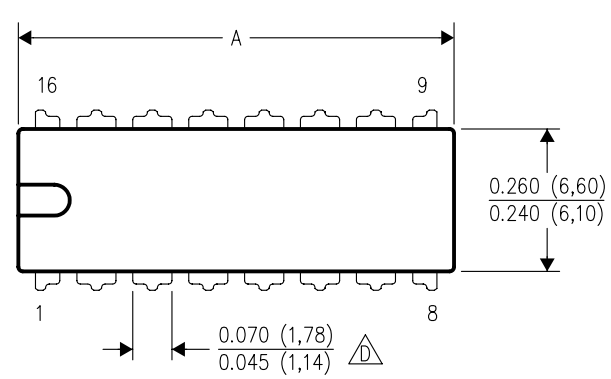
4040083/F 03/03

NOTES:
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.

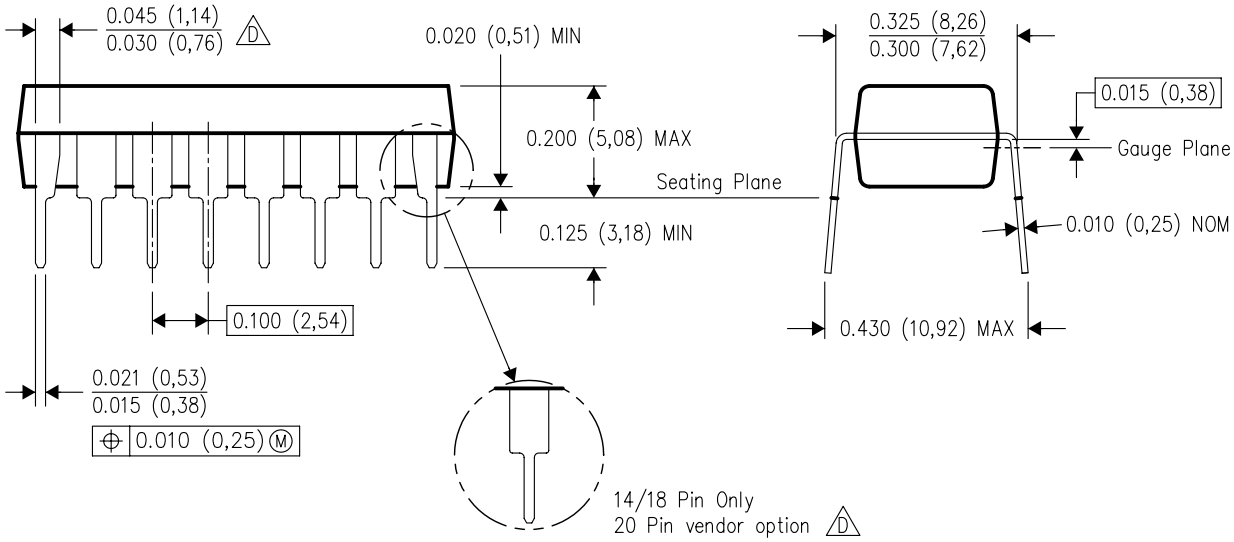
N (R–PDIP–T**)

PLASTIC DUAL–IN–LINE PACKAGE

16 PINS SHOWN

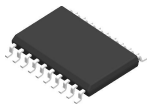


DIM \ PINS **	14	16	18	20
A MAX	0.775 (19,69)	0.775 (19,69)	0.920 (23,37)	1.060 (26,92)
A MIN	0.745 (18,92)	0.745 (18,92)	0.850 (21,59)	0.940 (23,88)
MS–001 VARIATION (C)	AA	BB	AC	AD



4040049/E 12/2002

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.

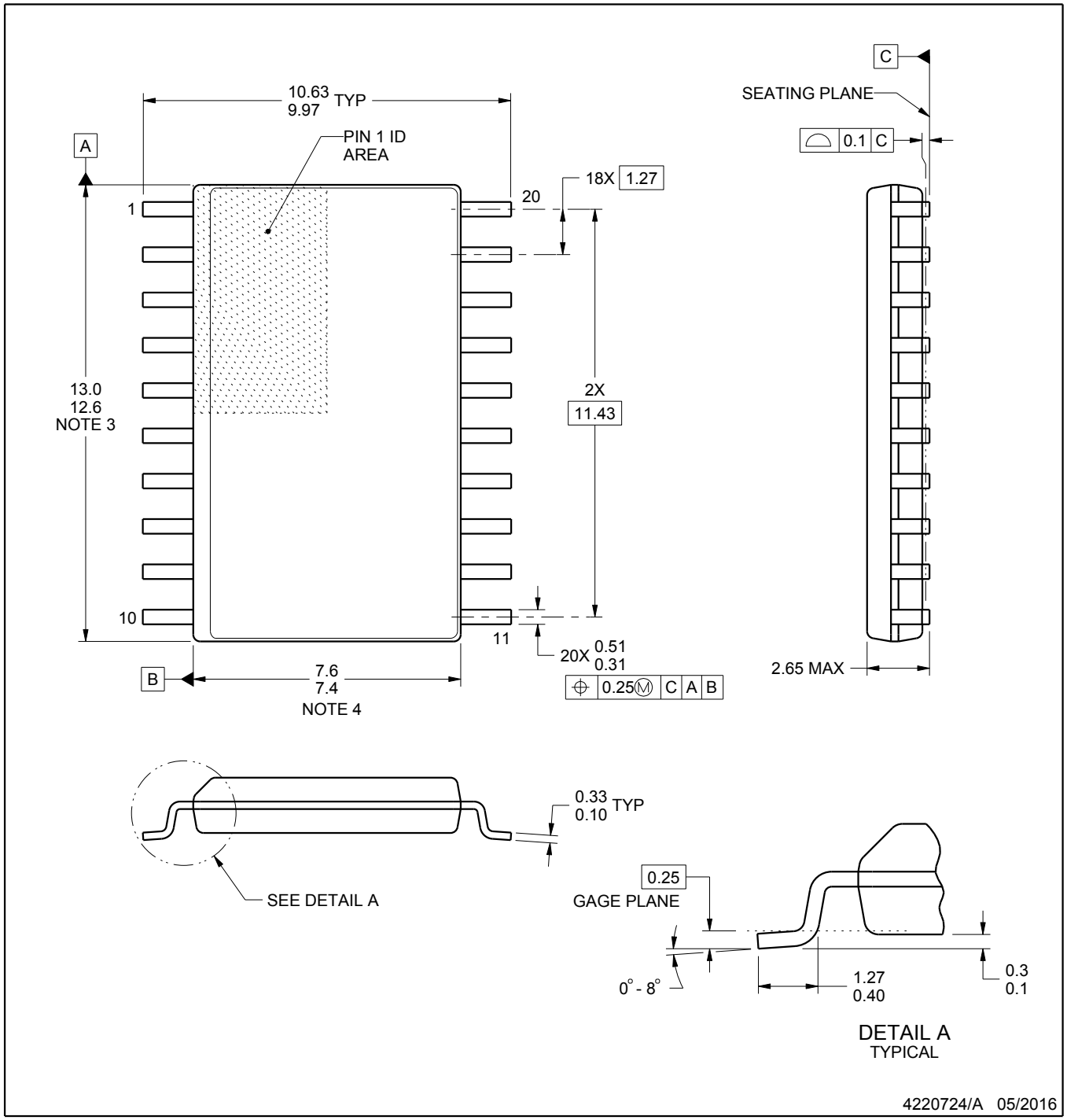


PACKAGE OUTLINE

DW0020A

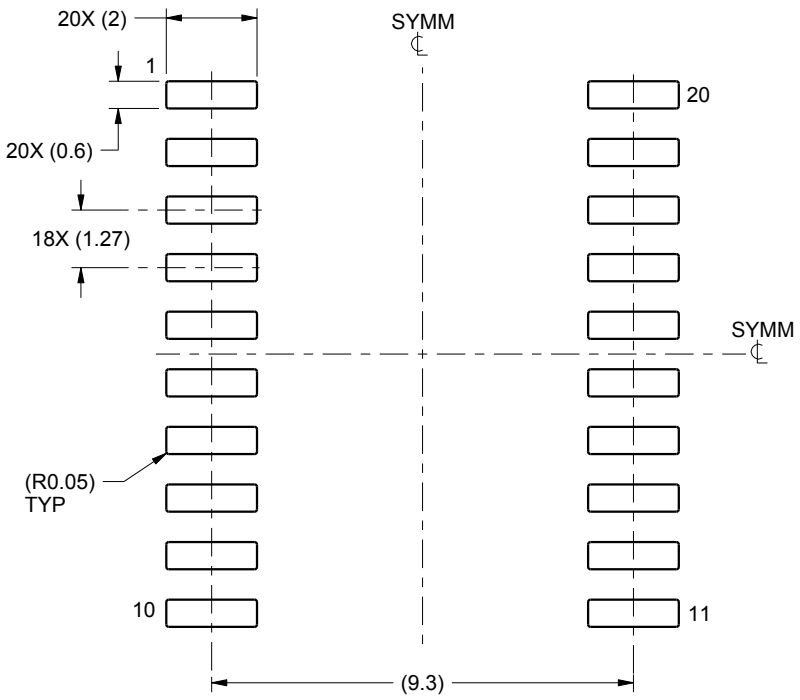
SOIC - 2.65 mm max height

SOIC

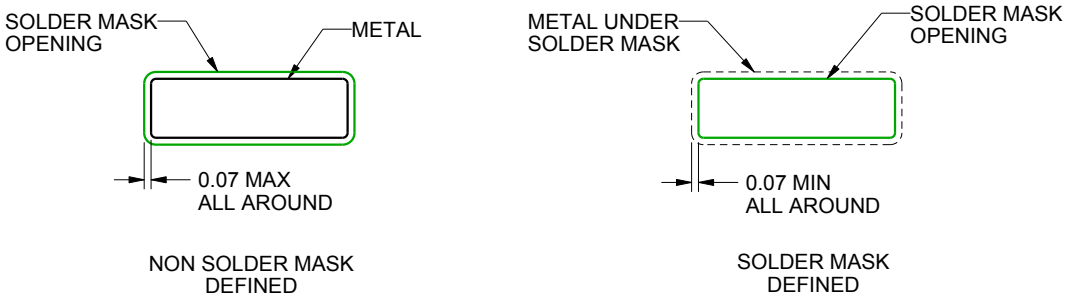


NOTES:

1. All linear dimensions are in millimeters. Dimensions in parenthesis are for reference only. Dimensioning and tolerancing per ASME Y14.5M.
2. This drawing is subject to change without notice.
3. This dimension does not include mold flash, protrusions, or gate burrs. Mold flash, protrusions, or gate burrs shall not exceed 0.15 mm per side.
4. This dimension does not include interlead flash. Interlead flash shall not exceed 0.43 mm per side.
5. Reference JEDEC registration MS-013.



LAND PATTERN EXAMPLE
SCALE:6X

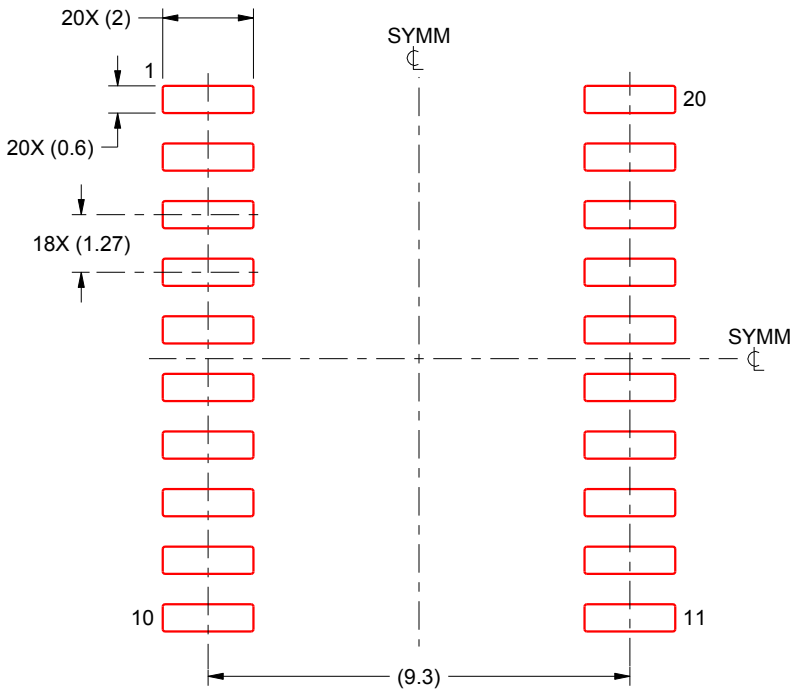


SOLDER MASK DETAILS

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.



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.

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最后更新日期：2025 年 10 月