







SN54HCT573, SN74HCT573 SCLS176G - JULY 2003 - REVISED JULY 2022

SNx4HCT573 Octal Transparent D-Type Latches With 3-State Outputs

1 Features

- Operating voltage range of 4.5V to 5.5V
- High-Current 3-State Outputs Drive Bus Lines Directly or Up To 15 LSTTL Loads
- Low power consumption, 80-µA max I_{CC}
- Typical t_{pd} = 21ns
- ±6-mA output drive at 5V
- Low input current of 1µA max
- Inputs are TTL-Voltage compatible
- **Bus-structured** pinout

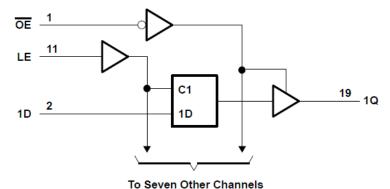
2 Description

These octal transparent D-type latches feature 3-state outputs designed specifically for driving highly capacitive or relatively low-impedance loads. The 'HCT573 devices are particularly suitable for implementing buffer registers, I/O ports, bidirectional bus drivers, and working registers.

Device Information

PART NUMBER	PACKAGE ⁽¹⁾	BODY SIZE (NOM)
SN74HCT573DW	SOIC (20)	12.80 mm × 7.50 mm
SN74HCT573DB	SSOP (20)	7.20 mm × 5.30 mm
SN74HCT573N	PDIP (20)	25.40 mm × 6.35 mm
SN74HCT573NS	SO (20)	15.00 mm × 5.30 mm
SN74HCT573PW	TSSOP (20)	6.50 mm × 4.40 mm

For all available packages, see the orderable addendum at the end of the data sheet.



Functional Block Diagram



Table of Contents

1 Features	1	7.2 Functional Block Diagram	8
2 Description		7.3 Device Functional Modes	
3 Revision History		8 Power Supply Recommendations	9
4 Pin Configuration and Functions		9 Layout	
5 Specifications	4	9.1 Layout Guidelines	
5.1 Absolute Maximum Ratings	4	10 Device and Documentation Support	10
5.2 Recommended Operating Conditions ⁽¹⁾	4	10.1 Documentation Support	
5.3 Thermal Information	4	10.2 Receiving Notification of Documentation Updates	
5.4 Electrical Characteristics	<mark>5</mark>	10.3 Support Resources	10
5.5 Timing Requirements	5	10.4 Trademarks	
5.6 Switching Characteristics	<mark>5</mark>	10.5 Electrostatic Discharge Caution	10
5.7 Operating Characteristics	6	10.6 Glossary	
6 Parameter Measurement Information	<mark>7</mark>	11 Mechanical, Packaging, and Orderable	
7 Detailed Description	8	Information	10
7.1 Overview			
3 Revision History	, differ f	rom nago numbero in the current version	
NOTE: Page numbers for previous revisions may	y amer n	rom page numbers in the current version.	
Changes from Revision F (February 2022) to	Revisio	n G (July 2022) P	age
		sed. DW was 58 is now 109.1, DB was 70 is now 122 vas 83 is now 131.8	,

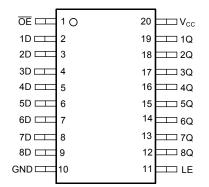
Changes from Revision E (July 2003) to Revision F (February 2022)

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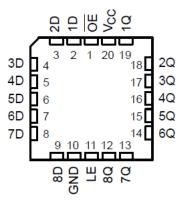
 Updated the numbering, formatting, tables, figures, and cross-references throughout the document to reflect modern data sheet standards......



4 Pin Configuration and Functions



J, W, DB, DW, N, NS, or PW package 20-Pin CDIP, CFP, SSOP, SOIC, PDIP, SO, or TSSOP Top View



FK package 20-Pin LCCC Top View



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
I _{IK}	Input clamp current ⁽²⁾	(V _I < 0 or V _I > V _{CC})		±20	mA
I _{OK}	Output clamp current ⁽²⁾	$(V_O < 0 \text{ or } V_O > V_{CC})$		±20	mA
Io	Continuous output current	(V _O = 0 to V _{CC})		±35	mA
	Continuous current through V _C	_C or GND		±70	mA
TJ	Junction temperature			150	°C
T _{stg}	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.

5.2 Recommended Operating Conditions⁽¹⁾

			SN5	4HCT57	3 ⁽²⁾	SN	74HCT57	73	UNIT
			MIN	NOM	MAX	MIN	NOM	MAX	UNII
V _{CC}	Supply voltage		4.5	5	5.5	4.5	5	5.5	V
V _{IH}	High-level input voltage	V _{CC} = 4.5 V to 5.5 V	2			2			V
V _{IL}	Low-level input voltage	V _{CC} = 4.5 V to 5.5 V			0.8			0.8	V
VI	Input voltage		0		V _{CC}	0		V _{CC}	V
Vo	Output voltage		0		V _{CC}	0		V_{CC}	V
t _t	Input transition rise/fall time				500			500	ns
T _A	Operating free-air temperature		- 55		125	- 40		85	°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 SMOS Inputs, literature number SCBA004.

5.3 Thermal Information

		DW (SOIC)	DB (SSOP)	N (PDIP)	NS (SO)	PW (TSSOP)	
THERMAL	. METRIC	20 PINS	20 PINS	20 PINS	20 PINS	20 PINS	UNIT
$R_{\theta JA}$	Junction-to-ambient thermal resistance ⁽¹⁾	109.1	122.7	84.6	113.4	131.8	°C/W
R _{θJC (top)}	Junction-to-case (top) thermal resistance	76	81.6	72.5	78.6	72.2	°C/W
$R_{\theta JB}$	Junction-to-board thermal resistance	77.6	77.5	65.3	78.4	82.8	°C/W
Ψ_{JT}	Junction-to-top characterization parameter	51.5	46.1	55.3	47.1	21.5	°C/W
Ψ_{JB}	Junction-to-board characterization parameter	77.1	77.1	65.2	78.1	82.4	°C/W
R _{θJC (bot)}	Junction-to-case (bottom) thermal resistance	N/A	N/A	N/A	N/A	N/A	°C/W

⁽¹⁾ For more information about traditional and new thermal metrics, see the Semiconductor and IC package thermal metrics application report.

⁽²⁾ The input and output voltage ratings may be exceeded if the input and output current ratings are observed.

⁽²⁾ SN54HCT573 is in product preview.



5.4 Electrical Characteristics

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

PARAMETER	TEST	V 00	T	_A = 25°C		SN54HCT	7573 ⁽³⁾	SN74HC	T573	UNIT
PARAMETER	CONDITIONS ⁽¹⁾	V _{CC} (V)	MIN	TYP	MAX	MIN	MAX	MIN	MAX	UNII
V	I _{OH} = – 20 μA	4.5	4.4	4.499		4.4		4.4		V
V_{OH}	I _{OH} = – 6 mA	4.5	3.98	4.3		3.7		3.84		V
V	I _{OL} = 20 μA	4.5		0.001	0.1		0.1		0.1	V
V_{OL}	I _{OL} = 6 mA	4.5		0.17	0.26		0.4		0.33	V
I _I	V _I = V _{CC} or 0	5.5		±0.1	±100		±1000		±1000	nA
I _{OZ}	$V_O = V_{CC}$ or 0	5.5		±0.01	±0.5		±10		±5	μΑ
I _{cc}	$V_{I} = V_{CC} \text{ or } 0. I_{O} = 0$	5.5			8		160		80	μΑ
ΔI _{CC} ⁽²⁾	One input at 0.5 V or 2.4 V, Other inputs at 0 or V _{CC}	5.5		1.4	2.4		3		2.9	mA
C _i		4.5 to 5.5		3	10		10		10	pF

- (1) $V_I = V_{IH}$ or V_{IL} , unless otherwise noted.
- (2) This is the increase in supply current for each input that is at one of the specified TTL voltage levels, rather than 0 V or V_{CC}.
- (3) SN54HCT573 is in product preview.

5.5 Timing Requirements

		V _{cc}	T _A = 2	T _A = 25°C		573 ⁽¹⁾	SN74HCT573		UNIT
			MIN	MAX	MIN	MAX	MIN	MAX	
	Pulso duration I E high	4.5	20		30		25		ns
t _W	Pulse duration, LE high	5.5	17		27		23		115
	Catua tima, data hafara I C	4.5	10		15		13		
L _{Su}	Setup time, data before LE↓	5.5	9		14		12		ns
	Hold time, data after LE⊥	4.5	5		5		5		no
t _h	⊓old tille, data alter LE↓	5.5	5		5		5		ns

⁽¹⁾ SN54HCT573 is in product preview.

5.6 Switching Characteristics

C_L = 50 pF. See Figure 6

PARAM	FROM (INPUT)	TO (OUTPUT)	V _{cc} (V)	T _A = 25°	C	SN54HCT573 ⁽¹⁾	SN74HCT573	
ETER	FROW (INFOT)	10 (001701)	VCC (V)	MIN TYP	MAX	MIN MAX	MIN MAX	
	D	Q	4.5	25	5 35	53	44	
	D	Q	5.5	2′	32	48	40	
t _{pd}	LE Ar	Any Q	4.5	28	35	53	44	ns
		Ally Q	5.5	25	5 32	48	40	
+	ŌĒ	Any Q	4.5	26	35	53	44	ns
t _{en}	OL	Ally Q	5.5	23	3 32	48	40	115
+	ŌĒ	Any O	4.5	23	35	53	44	ns
t _{dis}	OL	ŌĒ Any Q		22	2 32	48	40	115
+		Any Q	4.5	Ç) 12	18	15	ns
t _t		Ally Q	5.5	() 11	16	14	115

(1) SN54HCT573 is in product preview.



5.6 Switching Characteristics

C_I = 150 pF. See Figure 6

PARAM	FROM (INPUT)	TO (OUTPUT)	V _{cc} (V)	T _A	= 25°C		SN54HC1	573 ⁽¹⁾	SN74HC	T573			
ETER	FROW (INPOT)	10 (001701)	VCC (V)	MIN	TYP	MAX	MIN	MAX	MIN	MAX			
	D	Q	4.5		32	52		79		65			
		Q	5.5		27	47		71		59	ns		
t _{pd}	LE	15	15 ^	Any Q	4.5		38	52		79		65	115
		Ally Q	5.5		36	47		71		59			
+	ŌĒ	Any O	4.5		33	52		79		65	no		
t _{en}	OE	ŌĒ Any Q	5.5		28	47		71		59	ns		
+		Any O	4.5		18	42		63		53			
t _t		Any Q	5.5		16	38		57		48	ns		

⁽¹⁾ SN54HCT573 is in product preview.

5.7 Operating Characteristics

 $T_A = 25^{\circ}C$

		Test Conditions	TYP	UNIT	
C _{pd}	Power dissipation capacitance per latch	No load	50	pF	



6 Parameter Measurement Information

t_{pd} is the maximum between t_{PLH} and t_{PHL}

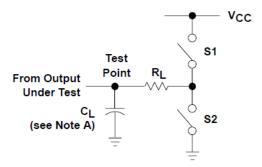


Figure 6-1. Load Circuit

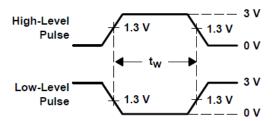


Figure 6-2. Voltage Waveforms
Pulse Durations

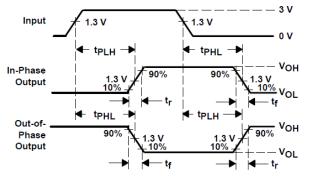
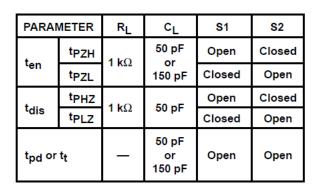


Figure 6-4. Voltage Waveforms
Propagation Delay and Output Rise and Fall Times



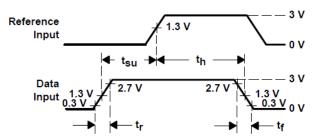


Figure 6-3. Voltage Waveforms
Setup and Hold and Input Rise and Fall Times

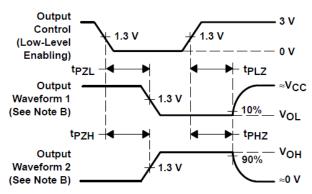


Figure 6-5. Voltage Waveforms
Enable and Diable Times for 3-State Outputs

- A. C_L includes probe and test-fixture capacitance.
- B. Waveform 1 is for an output with internal conditions such that the output is low except when diabled by the output control.
- Waveform 2 is for an output with internal conditions such that the output is high except when diabled by the output control.
- C. Phase relationships between waveforms were chosen arbitrarily. All input pulses are supplied by generators having the following charactersitics: PRR \leq 1 MHz, Z_O = 50 Ω , t_r = 6 ns, t_f = 6 ns.
- D. The outputs are measured one at a time with one input transition per measurement.
- E. $t_{Pl,7}$ and t_{PH7} are the same as t_{dis} .
- F. t_{PZI} and t_{PZH} are the same as t_{en} .



7 Detailed Description

7.1 Overview

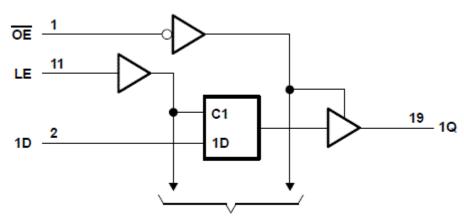
These octal transparent D-type latches feature 3-state outputs designed specifically for driving highly capacitive or relatively low-impedance loads. The 'HCT573 devices are particularly suitable for implementing buffer registers, I/O ports, bidirectional bus drivers, and working registers.

While the latch-enable (LE) input is high, the Q outputs respond to the data (D) inputs. When LE is low, the outputs are latched to retain the data that was set up at 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 logic levels) 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 pullup components.

 $\overline{\text{OE}}$ 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



To Seven Other Channels

Figure 7-1. Functional Block Diagram

7.3 Device Functional Modes

Function Table (Each Flip-Flop)

	INPUTS						
ŌĒ	LE	D	Q				
L	Н	Н	Н				
L	Н	L	L				
L	L	X	Q_0				
Н	X	X	Z				



8 Power Supply Recommendations

The power supply can be any voltage between the minimum and maximum supply voltage rating located in the *Recommended Operating Conditions*. Each V_{CC} terminal should have a good bypass capacitor to prevent power disturbance. A 0.1-µF capacitor is recommended for this device. It is acceptable to parallel multiple bypass caps to reject different frequencies of noise. The 0.1-µF and 1-µF capacitors are commonly used in parallel. The bypass capacitor should be installed as close to the power terminal as possible for best results.

9 Layout

9.1 Layout Guidelines

When using multiple-input and multiple-channel logic devices inputs must not ever be left floating. 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 unused input pins must not be left unconnected because the undefined voltages at the outside connections result in undefined operational states. All unused inputs of digital logic devices must be connected to a logic high or logic low voltage, as defined by the input voltage specifications, to prevent them from floating. The logic level that must be applied to any particular unused input depends on the function of the device. Generally, the inputs are tied to GND or V_{CC} , whichever makes more sense for the logic function or is more convenient.



10 Device and Documentation Support

TI offers an extensive line of development tools. Tools and software to evaluate the performance of the device, generate code, and develop solutions are listed below.

10.1 Documentation Support

10.1.1 Related Documentation

10.2 Receiving Notification of Documentation Updates

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

10.3 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.

10.4 Trademarks

TI E2E™ is a trademark of Texas Instruments.

All trademarks are the property of their respective owners.

10.5 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.

10.6 Glossary

TI Glossary

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

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.

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PACKAGING INFORMATION

Orderable Device	Status	Package Type	Package Drawing	Pins	Package Qty	Eco Plan	Lead finish/ Ball material	MSL Peak Temp	Op Temp (°C)	Device Marking (4/5)	Samples
SN74HCT573DBR	ACTIVE	SSOP	DB	20	2000	RoHS & Green	(6) NIPDAU	Level-1-260C-UNLIM	-40 to 85	HT573	Samples
SN74HCT573DBRG4	ACTIVE	SSOP	DB	20	2000	RoHS & Green	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HT573	Samples
SN74HCT573DWR	ACTIVE	SOIC	DW	20	2000	RoHS & Green	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HCT573	Samples
SN74HCT573DWRG4	ACTIVE	SOIC	DW	20	2000	RoHS & Green	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HCT573	Samples
SN74HCT573N	ACTIVE	PDIP	N	20	20	RoHS & Green	NIPDAU	N / A for Pkg Type	-40 to 85	SN74HCT573N	Samples
SN74HCT573NSR	ACTIVE	SO	NS	20	2000	RoHS & Green	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HCT573	Samples
SN74HCT573PWR	ACTIVE	TSSOP	PW	20	2000	RoHS & Green	NIPDAU	Level-1-260C-UNLIM	-40 to 85	HT573	Samples

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

ACTIVE: Product device recommended for new designs.

LIFEBUY: TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.

NRND: Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new design.

PREVIEW: Device has been announced but is not in production. Samples may or may not be available.

OBSOLETE: TI has discontinued the production of the device.

(2) RoHS: TI defines "RoHS" to mean semiconductor products that are compliant with the current EU RoHS requirements for all 10 RoHS substances, including the requirement that RoHS substance do not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, "RoHS" products are suitable for use in specified lead-free processes. TI may reference these types of products as "Pb-Free".

RoHS Exempt: TI defines "RoHS Exempt" to mean products that contain lead but are compliant with EU RoHS pursuant to a specific EU RoHS exemption.

Green: TI defines "Green" to mean the content of Chlorine (Cl) and Bromine (Br) based flame retardants meet JS709B low halogen requirements of <=1000ppm threshold. Antimony trioxide based flame retardants must also meet the <=1000ppm threshold requirement.

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

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

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



PACKAGE OPTION ADDENDUM

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(6) Lead finish/Ball material - Orderable Devices 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.

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TAPE AND REEL INFORMATION





A0	Dimension designed to accommodate the component width
В0	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		SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
SN74HCT573DBR	SSOP	DB	20	2000	330.0	16.4	8.2	7.5	2.5	12.0	16.0	Q1
SN74HCT573DBR	SSOP	DB	20	2000	330.0	16.4	8.2	7.5	2.5	12.0	16.0	Q1
SN74HCT573DWR	SOIC	DW	20	2000	330.0	24.4	10.9	13.3	2.7	12.0	24.0	Q1
SN74HCT573NSR	so	NS	20	2000	330.0	24.4	8.4	13.0	2.5	12.0	24.0	Q1
SN74HCT573NSR	so	NS	20	2000	330.0	24.4	8.4	13.0	2.5	12.0	24.0	Q1
SN74HCT573PWR	TSSOP	PW	20	2000	330.0	16.4	6.95	7.0	1.4	8.0	16.0	Q1
SN74HCT573PWR	TSSOP	PW	20	2000	330.0	16.4	6.95	7.1	1.6	8.0	16.0	Q1



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*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
SN74HCT573DBR	SSOP	DB	20	2000	356.0	356.0	35.0
SN74HCT573DBR	SSOP	DB	20	2000	356.0	356.0	35.0
SN74HCT573DWR	SOIC	DW	20	2000	367.0	367.0	45.0
SN74HCT573NSR	SO	NS	20	2000	367.0	367.0	45.0
SN74HCT573NSR	so	NS	20	2000	367.0	367.0	45.0
SN74HCT573PWR	TSSOP	PW	20	2000	356.0	356.0	35.0
SN74HCT573PWR	TSSOP	PW	20	2000	356.0	356.0	35.0

PACKAGE MATERIALS INFORMATION

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TUBE



*All dimensions are nominal

Device	Package Name	Package Type	Pins	SPQ	L (mm)	W (mm)	T (µm)	B (mm)
SN74HCT573N	N	PDIP	20	20	506	13.97	11230	4.32





- 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.





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.





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.



PW (R-PDSO-G20)

PLASTIC SMALL OUTLINE



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







- 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.





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.





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.



MECHANICAL DATA

NS (R-PDSO-G**)

14-PINS SHOWN

PLASTIC SMALL-OUTLINE PACKAGE



- 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.



N (R-PDIP-T**)

PLASTIC DUAL-IN-LINE PACKAGE

16 PINS SHOWN



- A. All linear dimensions are in inches (millimeters).
- B. This drawing is subject to change without notice.
- Falls within JEDEC MS-001, except 18 and 20 pin minimum body length (Dim A).
- The 20 pin end lead shoulder width is a vendor option, either half or full width.





SOIC



- 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.



SOIC



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.



SOIC



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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