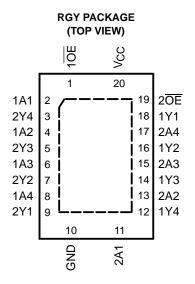


FEATURES

- Inputs Are TTL-Voltage Compatible
- 4.5-V to 5.5-V V_{CC} Operation
- Typical t_{pd} = 5.4 ns at 5 V
- Typical V_{OLP} (Output Ground Bounce) <0.8 V at V_{CC} = 5 V, T_A = 25°C
- Typical V_{OHV} (Output V_{OH} Undershoot)
 >2.3 V at V_{CC} = 5 V, T_A = 25°C
- Supports Mixed-Mode Voltage Operation on All Ports

DB, DGV, DW	I, NS, OI (TOP VII		/ PACKAGE
10E [1A1 [2Y4 [1A2 [2Y3 [2Y2 [1A4 [2Y1 [1 2 3 4 5 6 7 8 9	20 19 18 17 16 15 14 13 12	V _{CC} 2OE 1Y1 2A4 1Y2 2A3 1Y3 2A2 1Y4
GND [10	11	2A1

- I_{off} Supports Partial-Power-Down Mode Operation
- Latch-Up Performance Exceeds 250 mA Per JESD 17
- ESD Protection Exceeds JESD 22
 - 2000-V Human-Body Model (A114-A)
 - 200-V Machine Model (A115-A)
 - 1000-V Charged-Device Model (C101)



DESCRIPTION/ORDERING INFORMATION

This octal buffer/driver is designed specifically to improve both the performance and density of 3-state memory-address drivers, clock drivers, and bus-oriented receivers and transmitters.

The SN74LV244AT is organized as two 4-bit buffers/line drivers with separate output-enable (\overline{OE}) inputs. When \overline{OE} is low, the device passes data from the A inputs to the Y outputs. When \overline{OE} is high, the outputs are in the high-impedance state.

T _A	PA	CKAGE ⁽¹⁾	ORDERABLE PART NUMBER	TOP-SIDE MARKING	
	QFN – RGY	Reel of 1000	SN74LV244ATRGYR	VV244	
	SOIC – DW Tube of 25 SN	SN74LV244ATDW	1.)/2444T		
	50IC - DW	Reel of 2000	SN74LV244ATDWR	LV244AT	
SOP – NS	Reel of 2000	SN74LV244ATNSR	74LV244AT		
–40°C to 85°C	SSOP – DB	Reel of 2000	SN74LV244ATDBR	LV244AT	
		Tube of 70	SN74LV244ATPW		
	TSSOP – PW	Reel of 2000	SN74LV244ATPWR	LV244AT	
		Reel of 250	SN74LV244ATPWT		
	TVSOP – DGV	Reel of 2000	SN74LV244ATDGVR	LV244AT	

ORDERING INFORMATION

(1) Package drawings, standard packing quantities, thermal data, symbolization, and PCB design guidelines are available at www.ti.com/sc/package.



Please be aware that an important notice concerning availability, standard warranty, and use in critical applications of Texas Instruments semiconductor products and disclaimers thereto appears at the end of this data sheet.

SN74LV244AT OCTAL BUFFER/DRIVER WITH 3-STATE OUTPUTS

SCES572C-JUNE 2004-REVISED AUGUST 2005



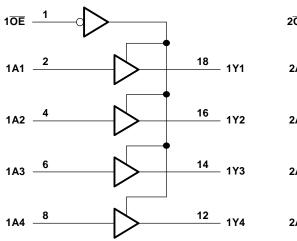
DESCRIPTION/ORDERING INFORMATION (CONTINUED)

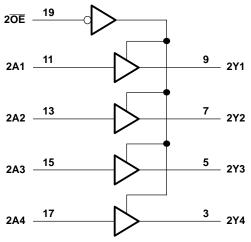
To ensure the high-impedance state during power up or power down, \overline{OE} shall be tied to V_{CC} through a pullup resistor; the minimum value of the resistor is determined by the current-sinking capability of the driver.

This device is fully specified for partial-power-down applications using I_{off} . The I_{off} circuitry disables the outputs, preventing damaging current backflow through the device when it is powered down.

FUNCTION TABLE (EACH 4-BIT BUFFER/DRIVER)

INP	UTS	OUTPUT
OE	Α	Y
L	Н	Н
L	L	L
н	Х	Z





LOGIC DIAGRAM (POSITIVE LOGIC)

Absolute Maximum Ratings⁽¹⁾

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

			MIN	MAX	UNIT		
V _{CC}	Supply voltage range		-0.5	7	V		
VI	Input voltage range ⁽²⁾		-0.5	7	V		
Vo	Voltage range applied to any output in the	high-impedance or power-off state ⁽²⁾	-0.5	7	V		
Vo	Output voltage range applied in the high o	r low state ⁽²⁾⁽³⁾	-0.5	V _{CC} + 0.5	V		
I _{IK}	Input clamp current	V ₁ < 0		-20	mA		
I _{OK}	Output clamp current	V _O < 0		-50	mA		
I _O	Continuous output current	$V_{O} = 0$ to V_{CC}		±35	mA		
	Continuous current through V_{CC} or GND			±33 ±70			
	O Output voltage range applied in the high or low K Input clamp current OK Output clamp current Continuous output current Continuous current through V _{CC} or GND	DB package ⁽⁴⁾		70			
		DGV package ⁽⁴⁾		92			
0		DW package ⁽⁴⁾		58	0000		
θ_{JA}	Package thermal impedance	NS package ⁽⁴⁾		60	°C/W		
		PW package ⁽⁴⁾		83			
		RGY package ⁽⁵⁾		37			
T _{stg}	Storage temperature range		-65	150	°C		

(1) Stresses beyond those listed under "absolute maximum ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under "recommended operating conditions" is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.

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

(3) This value is limited to 5.5 V maximum.

(4) The package thermal impedance is calculated in accordance with JESD 51-7

(5) The package thermal impedance is calculated in accordance with JESD 51-5.

Recommended Operating Conditions⁽¹⁾

			MIN	MAX	UNIT	
V _{CC}	Supply voltage		4.5	5.5	V	
V _{IH}	High-level input voltage	V_{CC} = 4.5 V to 5.5 V	2		V	
VIL	Low-level input voltage	V_{CC} = 4.5 V to 5.5 V		0.8	V	
VI	Input voltage		0	5.5	V	
V		High or low state	0	V_{CC}	V	
Vo	Output voltage	3-state	0	5.5	v	
I _{OH}	High-level output current	V_{CC} = 4.5 V to 5.5 V		-16	mA	
I _{OL}	Low-level output current	V_{CC} = 4.5 V to 5.5 V		16	mA	
$\Delta t/\Delta v$	Input transition rise or fall rate	V_{CC} = 4.5 V to 5.5 V		20	ns/V	
T _A	Operating free-air temperature		-40	85	°C	

 All unused inputs of the device must be held at V_{CC} or GND to ensure proper device operation. Refer to the TI application report, Implications of Slow or Floating CMOS Inputs, literature number SCBA004.

SN74LV244AT OCTAL BUFFER/DRIVER WITH 3-STATE OUTPUTS

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Electrical Characteristics

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

PARAMETER	PARAMETER TEST CONDITIONS	V _{cc}	т,	₄ = 25°C	;	T _A = to 85	UNIT	
			MIN	TYP	MAX	MIN	MAX	
V	I _{OH} = -50 μA	4.5 V	4.4	4.5		4.4		V
V _{OH}	I _{OH} = -16 mA	4.5 V	3.8			3.8		v
V	$I_{OL} = 50 \ \mu A$	4.5 V		0	0.1		0.1	V
V _{OL}	I _{OL} = 16 mA	4.5 V			0.55		0.55	v
l _l	$V_1 = 5.5 \text{ V or GND}$	0 to 5.5 V			±0.1		±1	μΑ
I _{OZ}	$V_{O} = V_{CC}$ or GND	5.5 V			±0.25		±2.5	μΑ
I _{CC}	$V_{I} = V_{CC} \text{ or } GND, I_{O} = 0$	5.5 V			2		20	μΑ
$\Delta I_{CC}^{(1)}$	One input at 3.4 V, Other inputs at V_{CC} or GND	5.5 V			1.35		1.5	mA
I _{off}	V_{I} or $V_{O} = 0$ to 5.5 V	0			0.5		5	μA
Ci	$V_{I} = V_{CC} \text{ or } GND$			4.5				pF

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

Switching Characteristics

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

DADAMETED	FROM	то	LOAD	Τ,	ג = 25°0	:	MAINI		
PARAMETER	(INPUT)	(OUTPUT)	CAPACITANCE	MIN	TYP	MAX	MIN	MAX	UNIT
t _{PLH}	A or B	B or A	C ₁ = 15 pF	2.6	5/4	7.4	1	8.5	ns
t _{PHL}	AUB	BUIA	$C_L = 10 \text{ pr}$	2.4	5.4	7.4	1	8.5	115
t _{PZH}	OE	A or B	С _L = 15 рF	2.2	7.7	10.4	1	12	ns
t _{PZL}	OL	AUB	$O_L = 15 \text{ pr}$	2.7	7.7	10.4	1	12	115
t _{PHZ}	OE	A or B	C _L = 15 pF	2.2	3.9	7.7	1	8	ns
t _{PLZ}	OL	AUD		2.5	3.9	7.7	1	8	113
t _{PLH}	A or B	B or A	С _L = 50 рF	4	5.9	8.9	1	9.5	ns
t _{PHL}	AUB	B OF A	$C_L = 50 \text{ pr}$	4.7	5.9	8.9	1	9.5	115
t _{PZH}	OE	A or B	C _L = 50 pF	3.9	8.2	11.4	1	13	20
t _{PZL}	UE	AUB	CL = 50 pr	4.9	8.2	11.4	1	13	ns
t _{PHZ}	OE	A or B	C _L = 50 pF	3.3	8.8	11.4	1	13	ns
t _{PLZ}	UE	AUB	$O_L = 50 \text{ pr}$	3.2	8.8	11.4	1	13	115
t _{sk(o)}			C _L = 50 pF			1		1	ns

Noise Characteristics⁽¹⁾

 $V_{CC} = 5 \text{ V}, \text{ C}_{L} = 50 \text{ pF}$

	PARAMETER	Т	UNIT		
	PARAMETER	MIN	TYP	MAX	UNIT
V _{OL(P)}	Quiet output, maximum dynamic V _{OL}		0.8	1	V
V _{OL(V)}	Quiet output, minimum dynamic V _{OL}		-0.8	-1	V
V _{OH(V)}	Quiet output, minimum dynamic V _{OH}		4		V
V _{IH(D)}	High-level dynamic input voltage	2			V
V _{IL(D)}	Low-level dynamic input voltage			0.8	V

(1) Characteristics are for surface-mount packages only.



Operating Characteristics

 $V_{CC} = 5 \text{ V}, \text{ T}_{A} = 25^{\circ}\text{C}$

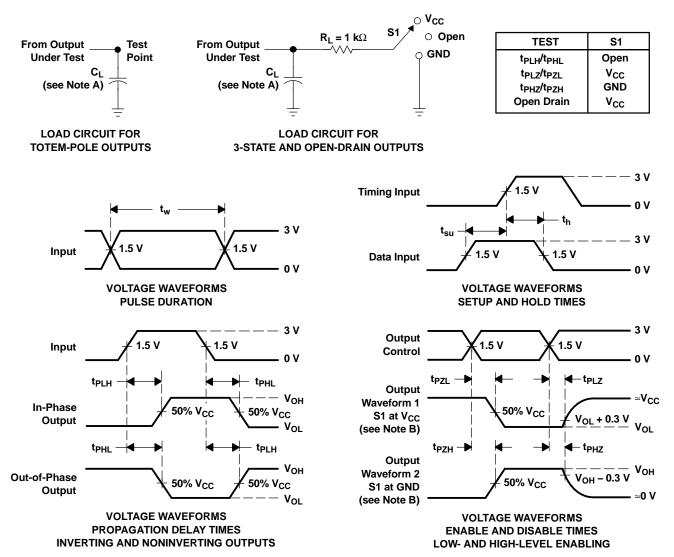
	PARAMETER	TEST C	TYP	UNIT		
C_{pd}	Power dissipation capacitance	Outputs enabled	$C_{L} = 50 \text{ pF},$	f = 10 MHz	8	pF

SN74LV244AT OCTAL BUFFER/DRIVER WITH 3-STATE OUTPUTS

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PARAMETER MEASUREMENT INFORMATION



NOTES: A. CL includes probe and jig capacitance.

- B. Waveform 1 is for an output with internal conditions such that the output is low, except when disabled by the output control.
 Waveform 2 is for an output with internal conditions such that the output is high, except when disabled by the output control.
- C. All input pulses are supplied by generators having the following characteristics: PRR \leq 1 MHz, Z_Q = 50 Ω , t_f \leq 3 ns, t_f \leq 3 ns.
- D. The outputs are measured one at a time, with one input transition per measurement.
- E. t_{PLZ} and t_{PHZ} are the same as t_{dis} .
- F. t_{PZL} and t_{PZH} are the same as t_{en} .
- G. t_{PHL} and t_{PLH} are the same as t_{pd} .
- H. All parameters and waveforms are not applicable to all devices.

Figure 1. Load Circuits and Voltage Waveforms

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8-Dec-2009

PACKAGING INFORMATION

Orderable Device	Status ⁽¹⁾	Package Type	Package Drawing	Pins	Package Qty	e Eco Plan ⁽²⁾	Lead/Ball Finish	MSL Peak Temp ⁽³⁾
SN74LV244ATDBR	ACTIVE	SSOP	DB	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATDBRE4	ACTIVE	SSOP	DB	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATDBRG4	ACTIVE	SSOP	DB	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATDGVR	ACTIVE	TVSOP	DGV	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATDGVRE4	ACTIVE	TVSOP	DGV	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATDGVRG4	ACTIVE	TVSOP	DGV	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATDW	ACTIVE	SOIC	DW	20	25	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATDWE4	ACTIVE	SOIC	DW	20	25	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATDWG4	ACTIVE	SOIC	DW	20	25	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATDWR	ACTIVE	SOIC	DW	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATDWRE4	ACTIVE	SOIC	DW	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATDWRG4	ACTIVE	SOIC	DW	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATNSR	ACTIVE	SO	NS	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATNSRE4	ACTIVE	SO	NS	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATNSRG4	ACTIVE	SO	NS	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATPW	ACTIVE	TSSOP	PW	20	70	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATPWE4	ACTIVE	TSSOP	PW	20	70	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATPWG4	ACTIVE	TSSOP	PW	20	70	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATPWR	ACTIVE	TSSOP	PW	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATPWRE4	ACTIVE	TSSOP	PW	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATPWRG4	ACTIVE	TSSOP	PW	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATPWT	ACTIVE	TSSOP	PW	20	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATPWTE4	ACTIVE	TSSOP	PW	20	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATPWTG4	ACTIVE	TSSOP	PW	20	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LV244ATRGYR	ACTIVE	VQFN	RGY	20	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR



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8-Dec-2009

Orderable Device	Status ⁽¹⁾	Package	Package	Pins P	ackade	Eco Plan ⁽²⁾	Lead/Ball Finish	MSL Peak Temp ⁽³⁾
	olulus	Туре	Drawing	1 113 1	Qty	Loo I lall	Ecdd/Built mish	MOE I cak remp
SN74LV244ATRGYRG4	ACTIVE	VQFN	RGY	20	3000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-2-260C-1 YEAR

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

ACTIVE: Product device recommended for new designs.

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

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

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

OBSOLETE: TI has discontinued the production of the device.

(2) Eco Plan - The planned eco-friendly classification: Pb-Free (RoHS), Pb-Free (RoHS Exempt), or Green (RoHS & no Sb/Br) - please check http://www.ti.com/productcontent for the latest availability information and additional product content details. TBD: The Pb-Free/Green conversion plan has not been defined.

Pb-Free (RoHS): TI's terms "Lead-Free" or "Pb-Free" mean semiconductor products that are compatible with the current RoHS requirements for all 6 substances, including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI Pb-Free products are suitable for use in specified lead-free processes.

Pb-Free (RoHS Exempt): This component has a RoHS exemption for either 1) lead-based flip-chip solder bumps used between the die and package, or 2) lead-based die adhesive used between the die and leadframe. The component is otherwise considered Pb-Free (RoHS compatible) as defined above.

Green (RoHS & no Sb/Br): TI defines "Green" to mean Pb-Free (RoHS compatible), and free of Bromine (Br) and Antimony (Sb) based flame retardants (Br or Sb do not exceed 0.1% by weight in homogeneous material)

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

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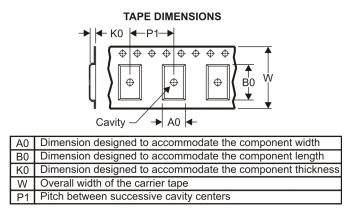
PACKAGE MATERIALS INFORMATION

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Texas Instruments

TAPE AND REEL INFORMATION





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
SN74LV244ATDBR	SSOP	DB	20	2000	330.0	16.4	8.2	7.5	2.5	12.0	16.0	Q1
SN74LV244ATDGVR	TVSOP	DGV	20	2000	330.0	12.4	6.9	5.6	1.6	8.0	12.0	Q1
SN74LV244ATDWR	SOIC	DW	20	2000	330.0	24.4	10.8	13.0	2.7	12.0	24.0	Q1
SN74LV244ATNSR	SO	NS	20	2000	330.0	24.4	8.2	13.0	2.5	12.0	24.0	Q1
SN74LV244ATPWR	TSSOP	PW	20	2000	330.0	16.4	6.95	7.1	1.6	8.0	16.0	Q1
SN74LV244ATPWT	TSSOP	PW	20	250	330.0	16.4	6.95	7.1	1.6	8.0	16.0	Q1
SN74LV244ATRGYR	VQFN	RGY	20	3000	330.0	12.4	3.8	4.8	1.6	8.0	12.0	Q1

TEXAS INSTRUMENTS

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PACKAGE MATERIALS INFORMATION

6-Aug-2010



*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
SN74LV244ATDBR	SSOP	DB	20	2000	346.0	346.0	33.0
SN74LV244ATDGVR	TVSOP	DGV	20	2000	346.0	346.0	29.0
SN74LV244ATDWR	SOIC	DW	20	2000	346.0	346.0	41.0
SN74LV244ATNSR	SO	NS	20	2000	346.0	346.0	41.0
SN74LV244ATPWR	TSSOP	PW	20	2000	346.0	346.0	33.0
SN74LV244ATPWT	TSSOP	PW	20	250	346.0	346.0	33.0
SN74LV244ATRGYR	VQFN	RGY	20	3000	346.0	346.0	29.0

DW (R-PDSO-G20)

PLASTIC SMALL-OUTLINE PACKAGE



NOTES: A. All linear dimensions are in inches (millimeters).

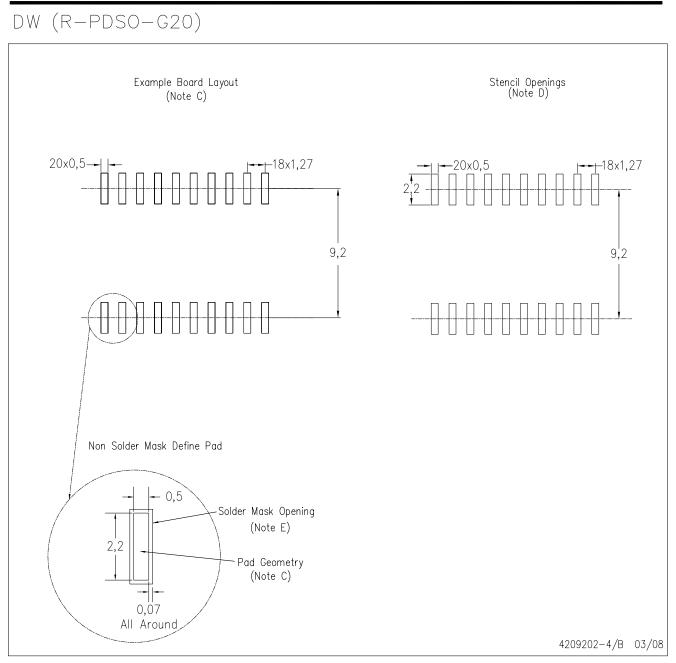
B. This drawing is subject to change without notice.

C. Body dimensions do not include mold flash or protrusion not to exceed 0.006 (0,15).

D. Falls within JEDEC MS-013 variation AC.



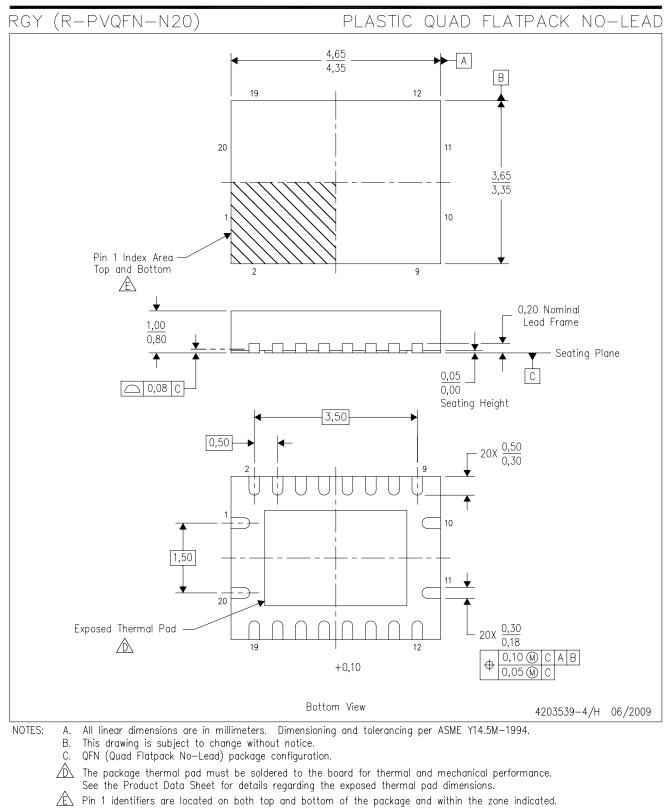
LAND PATTERN



NOTES:

- A. All linear dimensions are in millimeters.
- B. This drawing is subject to change without notice.
- C. Customers should place a note on the circuit board fabrication drawing not to alter the center solder mask defined pad.
- 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
- E. Customers should contact their board fabrication site for solder mask tolerances between and around signal pads.





- The Pin 1 identifiers are either a molded, marked, or metal feature.
- F. Package complies to JEDEC MO-241 variation BC.



THERMAL PAD MECHANICAL DATA

RGY (R-PVQFN-N20)

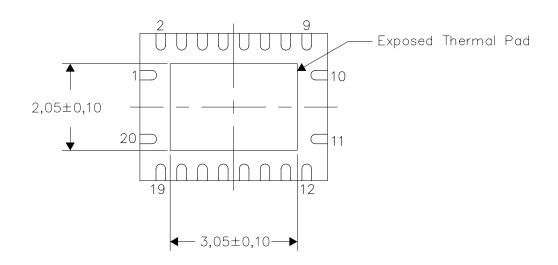
PLASTIC QUAD FLATPACK NO-LEAD

THERMAL INFORMATION

This package incorporates an exposed thermal pad that is designed to be attached directly to an external heatsink. The thermal pad must be soldered directly to the printed circuit board (PCB). After soldering, the PCB can be used as a heatsink. In addition, through the use of thermal vias, the thermal pad can be attached directly to the appropriate copper plane shown in the electrical schematic for the device, or alternatively, can be attached to a special heatsink structure designed into the PCB. This design optimizes the heat transfer from the integrated circuit (IC).

For information on the Quad Flatpack No-Lead (QFN) package and its advantages, refer to Application Report, QFN/SON PCB Attachment, Texas Instruments Literature No. SLUA271. This document is available at www.ti.com.

The exposed thermal pad dimensions for this package are shown in the following illustration.



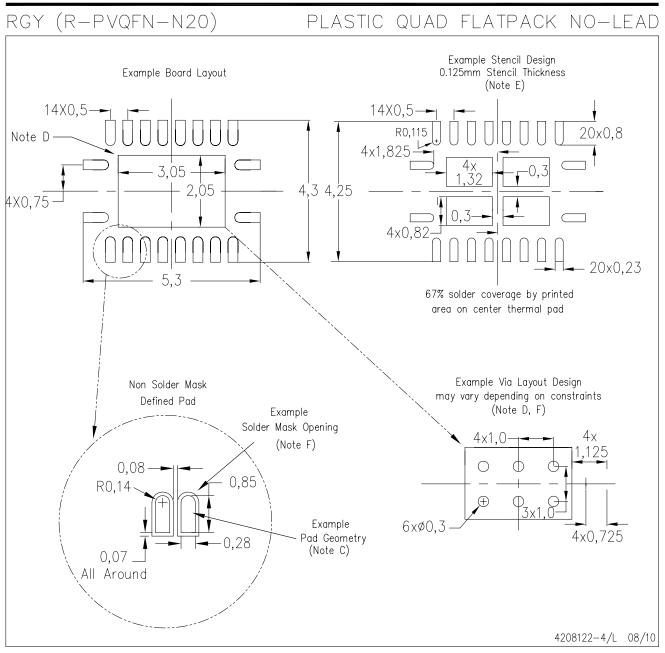


NOTE: All linear dimensions are in millimeters

Exposed Thermal Pad Dimensions

4206353-4/L 08/10





NOTES: A. All linear dimensions are in millimeters.

- B. This drawing is subject to change without notice.
- C. Publication IPC-7351 is recommended for alternate designs.
- D. This package is designed to be soldered to a thermal pad on the board. Refer to Application Note, Quad Flat-Pack QFN/SON PCB Attachment, Texas Instruments Literature No. SLUA271, and also the Product Data Sheets for specific thermal information, via requirements, and recommended board layout. These documents are available at www.ti.com http://www.ti.com.
- E. 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 stencil design considerations.
- F. Customers should contact their board fabrication site for minimum solder mask web tolerances between signal pads.



PLASTIC SMALL-OUTLINE PACKAGE

0,51 0,35 ⊕0,25⊛ 1,27 8 14 0,15 NOM 5,60 8,20 5,00 7,40 \bigcirc Gage Plane ₽ 0,25 7 1 1,05 0,55 0°-10° Δ 0,15 0,05 Seating Plane — 2,00 MAX 0,10PINS ** 14 16 20 24 DIM 10,50 10,50 12,90 15,30 A MAX A MIN 9,90 9,90 12,30 14,70 4040062/C 03/03

NOTES: A. All linear dimensions are in millimeters.

NS (R-PDSO-G**)

14-PINS SHOWN

- B. This drawing is subject to change without notice.
- C. Body dimensions do not include mold flash or protrusion, not to exceed 0,15.



MSSO002E - JANUARY 1995 - REVISED DECEMBER 2001

DB (R-PDSO-G**)

PLASTIC SMALL-OUTLINE

28 PINS SHOWN



NOTES: A. All linear dimensions are in millimeters.

- B. This drawing is subject to change without notice.
- C. Body dimensions do not include mold flash or protrusion not to exceed 0,15.
- D. Falls within JEDEC MO-150



MTSS001C - JANUARY 1995 - REVISED FEBRUARY 1999

PW (R-PDSO-G**)

PLASTIC SMALL-OUTLINE PACKAGE

14 PINS SHOWN



NOTES: A. All linear dimensions are in millimeters.

- B. This drawing is subject to change without notice.
- C. Body dimensions do not include mold flash or protrusion not to exceed 0,15.
- D. Falls within JEDEC MO-153



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