#### 询"84145012A"供应商

SDAS017C - DECEMBER 1982 - REVISED JANUARY 1995

- High Capacitive-Drive Capability
- 'ALS832A Has Typical Delay Time of 4.8 ns (C<sub>L</sub> = 50 pF) and Typical Power Dissipation of 4.5 mW Per Gate
- 'AS832B Has Typical Delay Time of 3.2 ns (C<sub>L</sub> = 50 pF) and Typical Power Dissipation of Less Than 13 mW Per Gate
- Package Options Include Plastic Small-Outline (DW) Packages, Ceramic Chip Carriers (FK), and Standard Plastic (N) and Ceramic (J) 300-mil DIPs

#### description

These devices contain six independent 2-input OR drivers. They perform the Boolean functions Y = A + B or  $Y = \overline{A} \bullet \overline{B}$  in positive logic.

The SN54ALS832A and SN54AS832B are characterized for operation over the full military temperature range of -55°C to 125°C. The SN74ALS832A and SN74AS832B are characterized for operation from 0°C to 70°C.

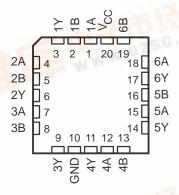
FUNCTION TABLE (each driver)

INP	JTS	OUTPUT
Α	В	Y
Н	Χ	Н
X	Н	Н
L	L	L

#### SN54ALS832A, SN54AS832B . . . J PACKAGE SN74ALS832A, SN74AS832B . . . DW OR N PACKAGE (TOP VIEW)



## SN54ALS832A, SN54AS832B . . . FK PACKAGE (TOP VIEW)

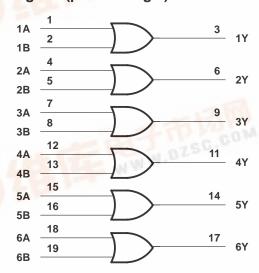


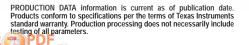
#### logic symbol†

	1			
1A		≥1 ▷	3	
	2	111		1Y
1B	4			
2A		- W tax.	6	
2B	5	W. T.		2Y
20	7			
3A			9	
3A 3B	8			3Y
30	12			
4A		1	11	437
4B	13			4Y
5A	15			
5A	16		14	EV
5B				5Y
	18		E 173 E	
6A	19		17	6Y
6B	19	- HE / .		01

<sup>†</sup> This symbol is in accordance with ANSI/IEEE Std 91-1984 and IEC Publication 617-12.

#### logic diagram (positive logic)







#### SN54ALS832A, SN54AS832B, SN74ALS832A, SN74AS832B HEX 2-INPUT OR DRIVERS

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#### absolute maximum ratings over operating free-air temperature range (unless otherwise noted)†

Supply voltage, V <sub>CC</sub>	7 V
Input voltage, V <sub>I</sub>	7 V
Operating free-air temperature range, T <sub>A</sub> : SN54ALS832A	-55°C to 125°C
SN74ALS832A	0°C to 70°C
Storage temperature range	-65°C to 150°C

#### recommended operating conditions

			SN54ALS832A			SN74ALS832A			
		MIN	NOM	MAX	MIN	NOM	MAX	UNIT	
Vcc	Supply voltage	4.5	5	5.5	4.5	5	5.5	V	
VIH	High-level input voltage	2			2			V	
VIL	Low-level input voltage			0.7			0.8	V	
IOH	High-level output current			-12			-15	mA	
loL	Low-level output current			12			24	mA	
TA	Operating free-air temperature	-55		125	0		70	°C	

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

DADAMETED	TEST OF	TEST CONDITIONS		54ALS83	32A	SN7	4ALS83	2A	UNIT
PARAMETER	lESI C	TEST CONDITIONS			MAX	MIN	TYP‡	MAX	UNII
VIK	V <sub>CC</sub> = 4.5 V,	I <sub>I</sub> = -18 mA			-1.5			-1.5	V
	$V_{CC} = 4.5 \text{ V to } 5.5 \text{ V},$	$I_{OH} = -0.4 \text{ mA}$	V <sub>CC</sub> -2	2		V <sub>CC</sub> -2	!		
Vo.,		$I_{OH} = -3 \text{ mA}$	2.4	3.2		2.4	3.2		V
VOH	V <sub>CC</sub> = 4.5 V	$I_{OH} = -12 \text{ mA}$	2						V
		$I_{OH} = -15 \text{ mA}$				2			
Vo	V <sub>CC</sub> = 4.5 V	I <sub>OL</sub> = 12 mA		0.25	0.4		0.25	0.4	V
VOL	VCC = 4.5 V	$I_{OL} = 24 \text{ mA}$					0.35	0.5	٧
lį	V <sub>CC</sub> = 5.5 V,	V <sub>I</sub> = 7 V			0.1			0.1	mA
lіН	$V_{CC} = 5.5 \text{ V},$	V <sub>I</sub> = 2.7 V			20			20	μΑ
I <sub>ΙL</sub>	V <sub>CC</sub> = 5.5 V,	V <sub>I</sub> = 0.4 V			-0.1			-0.1	mA
ΙΟ <sup>§</sup>	V <sub>CC</sub> = 5.5 V,	V <sub>O</sub> = 2.25 V	-20		-112	-30		-112	mA
ICCH	V <sub>CC</sub> = 5.5 V,	V <sub>I</sub> = 4.5 V		6	9		6	9	mA
ICCL	V <sub>CC</sub> = 5.5 V,	V <sub>I</sub> = 0		9.5	16		9.5	16	mA

<sup>‡</sup> All typical values are at  $V_{CC} = 5 \text{ V}$ ,  $T_A = 25^{\circ}\text{C}$ .



<sup>†</sup> 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.

<sup>§</sup> The output conditions have been chosen to produce a current that closely approximates one half of the true short-circuit output current, IOS.

#### switching characteristics (see Figure 1)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	C <sub>L</sub> R <sub>L</sub>	= 50 pF = 500 £		,	UNIT
			SN54AL	S832A	SN74AL	S832A	
			MIN	MAX	MIN	MAX	
<sup>t</sup> PLH	A or B	V	1	13	2	9	ns
<sup>t</sup> PHL	AOID	1	1	11	1	8	115

<sup>†</sup> For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.

### absolute maximum ratings over operating free-air temperature range (unless otherwise noted)‡

Supply voltage, V <sub>CC</sub>	7 V
Input voltage, V <sub>I</sub>	7 V
Operating free-air temperature range, T <sub>A</sub> : SN54AS832B	
SN74AS832B	0°C to 70°C
Storage temperature range	65°C to 150°C

<sup>‡</sup> 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.

#### recommended operating conditions§

		SN54AS832B			SN	UNIT		
			NOM	MAX	MIN	NOM	MAX	UNII
Vcc	Supply voltage	4.5	5	5.5	4.5	5	5.5	V
VIH	High-level input voltage	2			2			V
V <sub>IL</sub>	Low-level input voltage			0.8			0.8	V
ІОН	High-level output current			-40			-48	mA
loL	Low-level output current			40			48	mA
TA	Operating free-air temperature	-55		125	0		70	°C

<sup>§</sup> These high sink- or source-current devices are not recommended for use above 40 MHz.



### SN54ALS832A, SN54AS832B, SN74ALS832A, SN74AS832B HEX 2-INPUT OR DRIVERS

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

DADAMETED	TEST OF	NIDITIONS	SN	54AS83	2B	SN	74AS83	2B	UNIT
PARAMETER	1591 C	TEST CONDITIONS			MAX	MIN	TYP†	MAX	UNII
VIK	V <sub>CC</sub> = 4.5 V,	I <sub>I</sub> = -18 mA			-1.2			-1.2	V
	$V_{CC} = 4.5 \text{ V to } 5.5 \text{ V},$	$I_{OH} = -2 \text{ mA}$	V <sub>CC</sub> -2	2		V <sub>CC</sub> -2			
Vari		$I_{OH} = -3 \text{ mA}$	2.4	3.2		2.4	3.2		V
VOH	V <sub>CC</sub> = 4.5 V	$I_{OH} = -40 \text{ mA}$	2						V
		$I_{OH} = -48 \text{ mA}$				2			
Vai	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	$I_{OL} = 40 \text{ mA}$		0.25	0.5				V
VOL	V <sub>CC</sub> = 4.5 V	I <sub>OL</sub> = 48 mA					0.35	0.5	V
lį	V <sub>CC</sub> = 5.5 V,	V <sub>I</sub> = 7 V			0.1			0.1	mA
lіН	V <sub>CC</sub> = 5.5 V,	V <sub>I</sub> = 2.7 V			20			20	μΑ
I <sub>IL</sub>	V <sub>CC</sub> = 5.5 V,	V <sub>I</sub> = 0.4 V			-0.5			-0.5	mA
I <sub>O</sub> ‡	$V_{CC} = 5.5 \text{ V},$	V <sub>O</sub> = 2.25 V	-50		-200	-50		-200	mA
ICCH	V <sub>CC</sub> = 5.5 V,	V <sub>I</sub> = 4.5 V		11	17		11	17	mA
ICCL	V <sub>CC</sub> = 5.5 V,	V <sub>I</sub> = 0		22	36		22	36	mA

<sup>&</sup>lt;sup>†</sup> All typical values are at  $V_{CC} = 5 \text{ V}$ ,  $T_A = 25^{\circ}\text{C}$ .

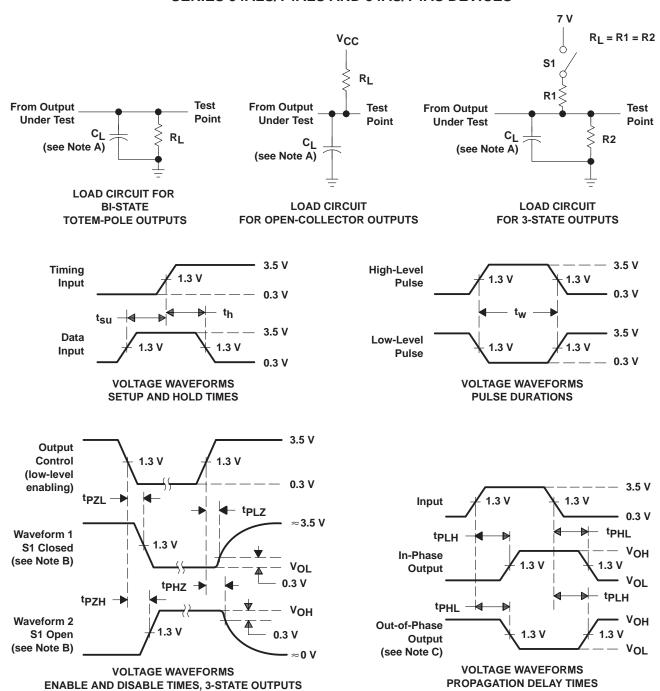
#### switching characteristics (see Figure 1)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	C <sub>L</sub> R <sub>L</sub> T <sub>A</sub>	= 50 pF = 500 £ = MIN t	o MAX§		UNIT
			SN54A	S832B	SN74A	S832B	
			MIN	MAX	MIN	MAX	
tPLH	A or B	V	1	7.5	1	6.3	ns
<sup>t</sup> PHL	AOIB	ı	1	7	1	6.3	115

<sup>§</sup> For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.

<sup>&</sup>lt;sup>‡</sup> The output conditions have been chosen to produce a current that closely approximates one half of the true short-circuit output current, IOS.

## PARAMETER MEASUREMENT INFORMATION SERIES 54ALS/74ALS AND 54AS/74AS DEVICES



NOTES: A. C<sub>L</sub> 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. When measuring propagation delay items of 3-state outputs, switch S1 is open.
- D. All input pulses have the following characteristics: PRR  $\leq$  1 MHz,  $t_{\Gamma}$  =  $t_{f}$  = 2 ns, duty cycle = 50%.
- E. The outputs are measured one at a time with one transition per measurement.

Figure 1. Load Circuits and Voltage Waveforms







23-Apr-2008

#### **PACKAGING INFORMATION**

Orderable Device	Status <sup>(1)</sup>	Package Type	Package Drawing	Pins	Package Qty	e Eco Plan <sup>(2)</sup>	Lead/Ball Finish	n MSL Peak Temp <sup>(3)</sup>
5962-88523012A	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
5962-8852301RA	ACTIVE	CDIP	J	20	1	TBD	A42 SNPB	N / A for Pkg Type
5962-8852301SA	ACTIVE	CFP	W	20	1	TBD	Call TI	N / A for Pkg Type
84145012A	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
8414501RA	ACTIVE	CDIP	J	20	1	TBD	A42 SNPB	N / A for Pkg Type
SN54ALS832AJ	ACTIVE	CDIP	J	20	1	TBD	A42 SNPB	N / A for Pkg Type
SN54AS832BJ	ACTIVE	CDIP	J	20	1	TBD	A42 SNPB	N / A for Pkg Type
SN74ALS832ADW	ACTIVE	SOIC	DW	20	25	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74ALS832ADWE4	ACTIVE	SOIC	DW	20	25	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74ALS832ADWG4	ACTIVE	SOIC	DW	20	25	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74ALS832ADWR	ACTIVE	SOIC	DW	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74ALS832ADWRE4	ACTIVE	SOIC	DW	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74ALS832ADWRG4	ACTIVE	SOIC	DW	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74ALS832AN	ACTIVE	PDIP	N	20	20	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
SN74ALS832ANE4	ACTIVE	PDIP	N	20	20	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
SN74AS832BDW	ACTIVE	SOIC	DW	20	25	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AS832BDWE4	ACTIVE	SOIC	DW	20	25	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AS832BDWG4	ACTIVE	SOIC	DW	20	25	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AS832BDWR	ACTIVE	SOIC	DW	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AS832BDWRE4	ACTIVE	SOIC	DW	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AS832BDWRG4	ACTIVE	SOIC	DW	20	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74AS832BN	ACTIVE	PDIP	N	20	20	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
SN74AS832BNE4	ACTIVE	PDIP	N	20	20	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
SNJ54ALS832AFK	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
SNJ54ALS832AJ	ACTIVE	CDIP	J	20	1	TBD	A42 SNPB	N / A for Pkg Type
SNJ54AS832BFK	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
SNJ54AS832BJ	ACTIVE	CDIP	J	20	1	TBD	A42 SNPB	N / A for Pkg Type
SNJ54AS832BW	ACTIVE	CFP	W	20	1	TBD	Call TI	N / A for Pkg Type

(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.



#### PACKAGE OPTION ADDENDUM

23-Apr-2008

**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 <a href="http://www.ti.com/productcontent">http://www.ti.com/productcontent</a> 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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#### TAPE AND REEL INFORMATION





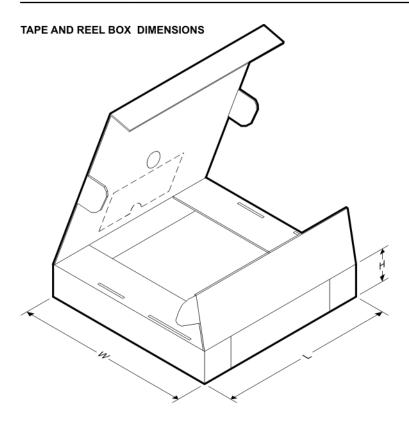
	Dimension designed to accommodate the component width
B0	Dimension designed to accommodate the component length
K0	Dimension designed to accommodate the component thickness
W	Overall width of the carrier tape
P1	Pitch between successive cavity centers

QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE



#### \*All dimensions are nominal

Device		Package Drawing			Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
SN74ALS832ADWR	SOIC	DW	20	2000	330.0	24.4	10.8	13.0	2.7	12.0	24.0	Q1
SN74AS832BDWR	SOIC	DW	20	2000	330.0	24.4	10.8	13.0	2.7	12.0	24.0	Q1



#### \*All dimensions are nominal

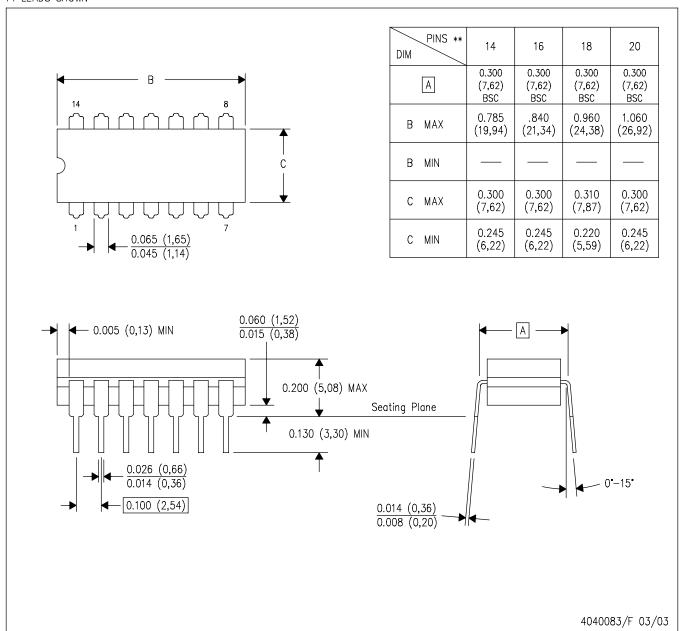
Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
SN74ALS832ADWR	SOIC	DW	20	2000	346.0	346.0	41.0
SN74AS832BDWR	SOIC	DW	20	2000	346.0	346.0	41.0

### 查询"84145012A"供应商

## J (R-GDIP-T\*\*)

#### CERAMIC DUAL IN-LINE PACKAGE

14 LEADS SHOWN



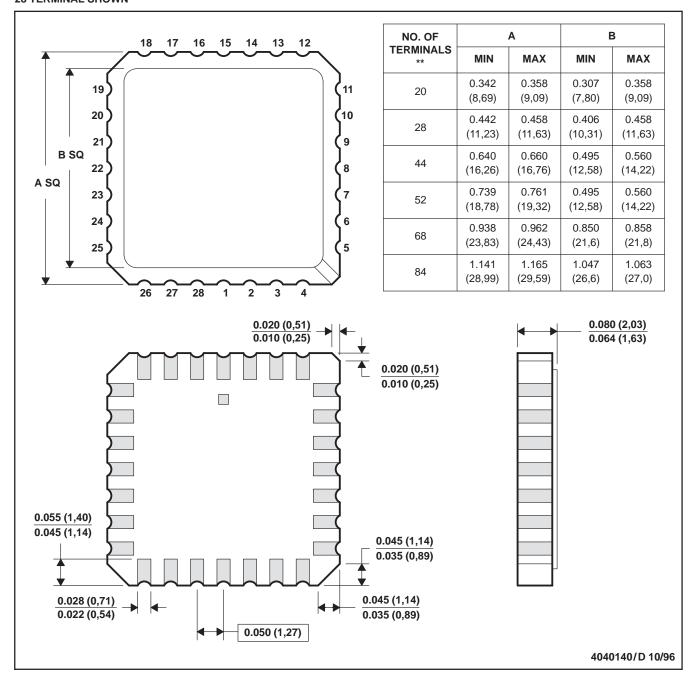
NOTES:

- 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.

#### FK (S-CQCC-N\*\*)

#### **28 TERMINAL SHOWN**

#### **LEADLESS CERAMIC CHIP CARRIER**



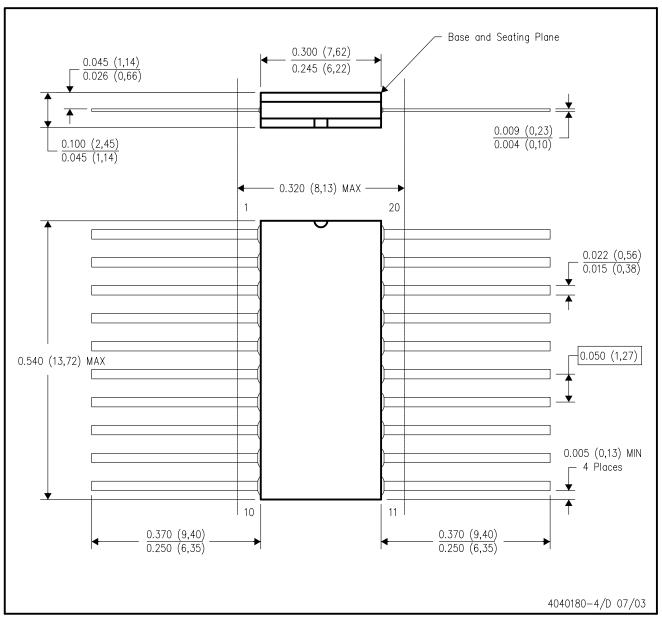
NOTES: A. All linear dimensions are in inches (millimeters).

- B. This drawing is subject to change without notice.
- C. This package can be hermetically sealed with a metal lid.
- D. The terminals are gold plated.
- E. Falls within JEDEC MS-004



## W (R-GDFP-F20)

### CERAMIC DUAL FLATPACK



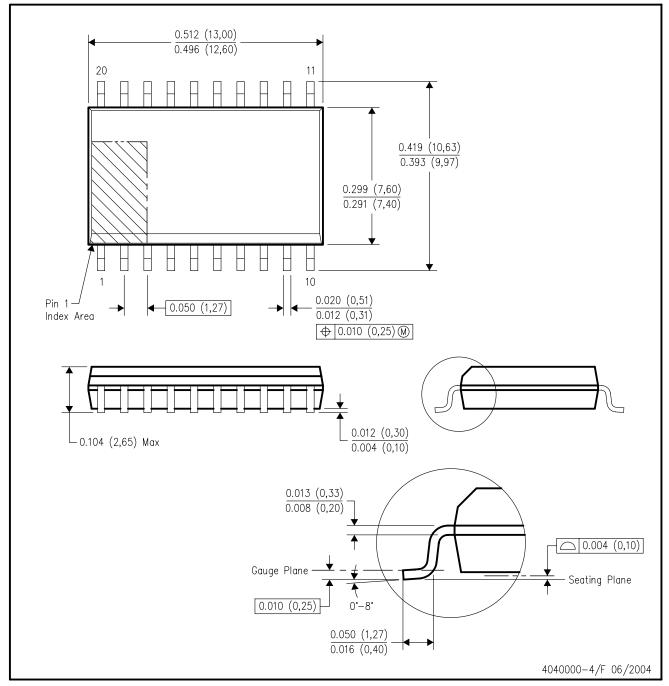
NOTES: A

- 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



## DW (R-PDSO-G20)

### PLASTIC SMALL-OUTLINE PACKAGE



NOTES:

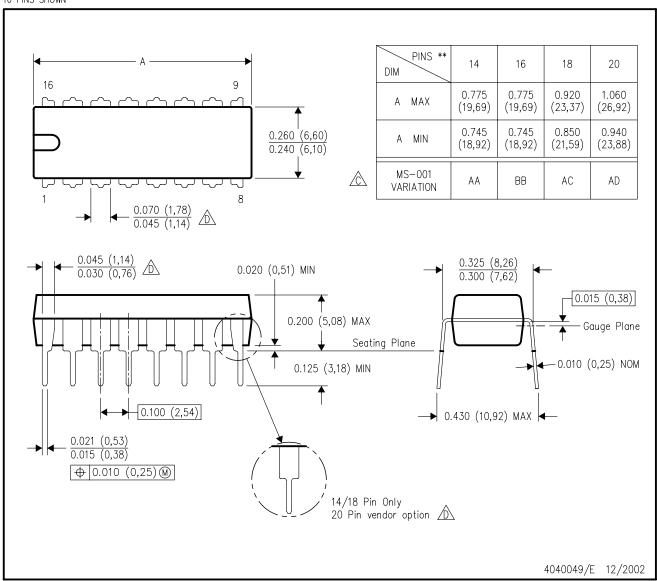
- A. All linear dimensions are in inches (millimeters).
- B. This drawing is subject to change without notice.
- C. Body dimensions do not include mold flash or protrusion not to exceed 0.006 (0,15).
- D. Falls within JEDEC MS-013 variation AC.



### 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.
- 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.



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