SN54LS257B, SN54LS258B, SN54S257, SN54S258
SN74LS257B, SN74LS258B, SN74S257, SN74S258
QUADRUPLE 2-LINE TO 1-LINE DATA SELECTORS/MULTIPLEXERS

SDLS148 – OCTOBER 1976 – REVISED MARCH 1988

- **Three-State Outputs Interface Directly with System Bus**

- **'LS257B and 'LS258B Offer Three Times the Sink-Current Capability of the Original 'LS257 and 'LS258**

- **Same Pin Assignments as SN54LS157, SN74LS157, SN54S157, SN74S157, and SN54LS158, SN74LS158, SN54S158, SN74S158**

- **Provides Bus Interface from Multiple Sources in High-Performance Systems**

|	AVERAGE PROPAGATION DELAY FROM DATA INPUT	TYPICAL POWER DISSIPATION[†]
'LS257B	9 ns	55 mW
'LS258B	9 ns	55 mW
'S257	4.8 ns	320 mW
'S258	4 ns	280 mW

[†]Off state (worst case)

description

These devices are designed to multiplex signals from four-bit data sources to four-output data lines in bus-organized systems. The 3-state outputs will not load the data lines when the output control pin ($\overline{G}$) is at a high-logic level.

Series 54LS and 54S are characterized for operation over the full military temperature range of −55°C to 125°C; Series 74LS and 74S are characterized for operation from 0°C to 70°C.

SN54LS257B, SN54S257,
SN54LS258B, SN54S258 . . . J OR W PACKAGE
SN74LS257B, SN74S257,
SN74LS258B, SN74S258 . . . D OR N PACKAGE
(TOP VIEW)

```
        ___
 A/B [ 1 U 16 ] VCC
  1A [ 2    15 ] G
  1B [ 3    14 ] 4A
  1Y [ 4    13 ] 4B
  2A [ 5    12 ] 4Y
  2B [ 6    11 ] 3A
  2Y [ 7    10 ] 3B
 GND [ 8     9 ] 3Y
```
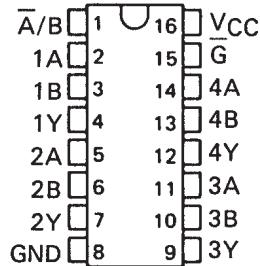
SN54LS257B, SN54S257,
SN54LS258B, SN54S258 . . . FK PACKAGE
(TOP VIEW)

```
         1A  A/B NC VCC G
          3   2  1  20 19
    1B [ 4            18 ] 4A
    1Y [ 5            17 ] 4B
    NC [ 6            16 ] NC
    2A [ 7            15 ] 4Y
    2B [ 8            14 ] 3A
          9  10 11 12 13
         2Y GND NC 3Y 3B
```
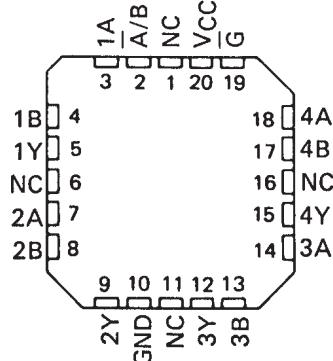
NC–No internal connection.

FUNCTION TABLE

INPUTS				OUTPUT Y	
OUTPUT CONTROL	SELECT	A	B	'LS257B 'S257	'LS258B 'S258
H	X	X	X	Z	Z
L	L	L	X	L	H
L	L	H	X	H	L
L	H	X	L	L	H
L	H	X	H	H	L

H = high level, L = low level, X = irrelevant,
Z = high impedance (off)

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TEXAS INSTRUMENTS

SN54LS257B, SN54LS258B, SN54S257, SN54S258
SN74LS257B, SN74LS258B, SN74S257, SN74S258
QUADRUPLE 2-LINE TO 1-LINE DATA SELECTORS/MULTIPLEXERS

logic diagrams (positive logic)

'LS257B, 'S257
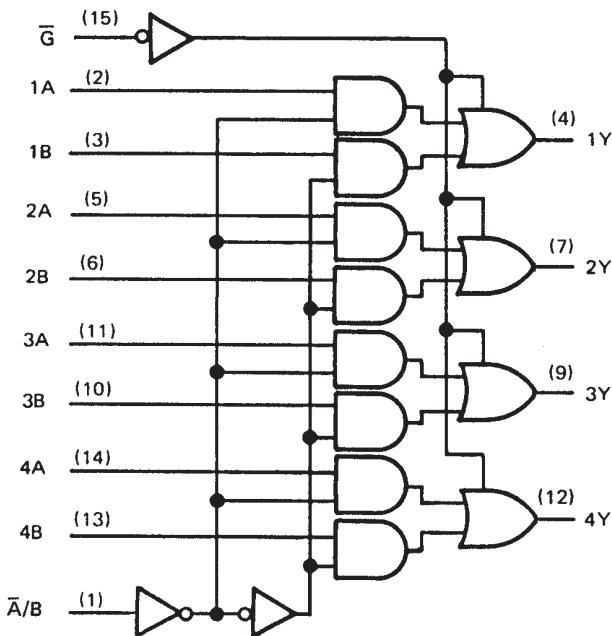
'LS258B, 'S258
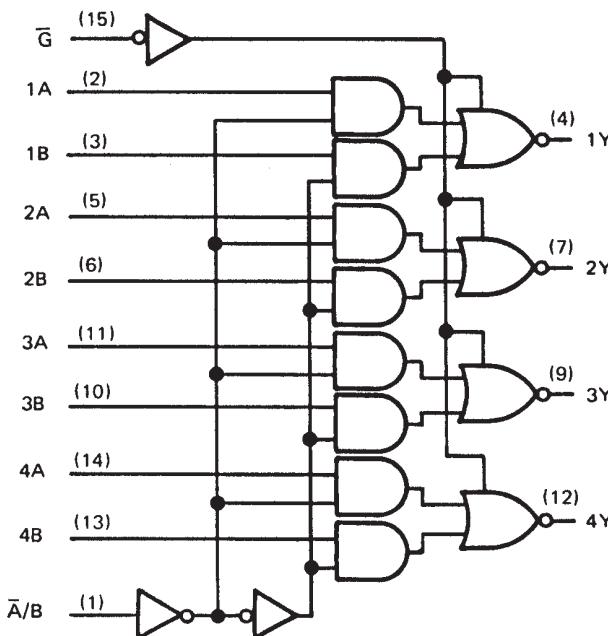
logic symbols†

'LS257B
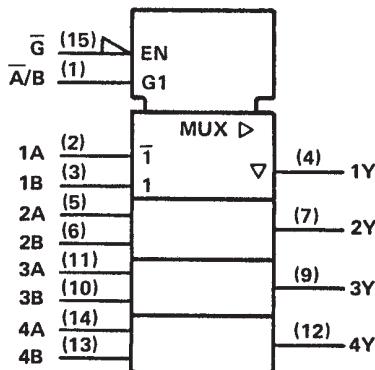
'LS258B
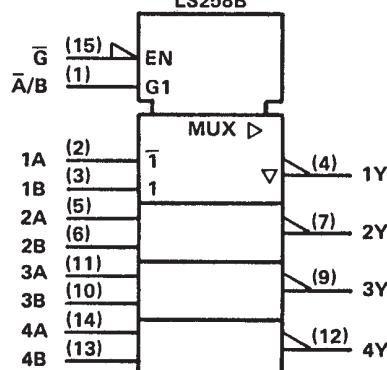
'S257
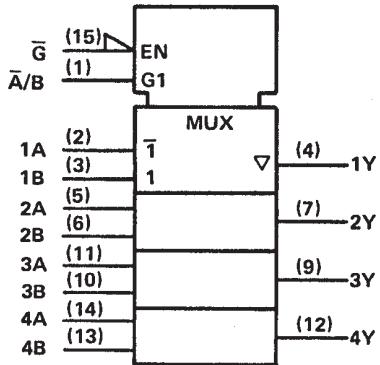
'S258
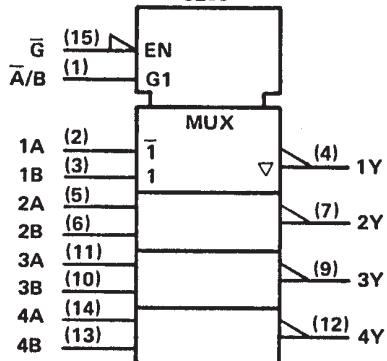
†These symbols are in accordance with ANSI/IEEE Std 91-1984 and IEC Publication 617-12.
Pin numbers shown are for D, J, N, and W packages.

TEXAS INSTRUMENTS

schematics of inputs and outputs

'LS257B, 'LS258B

| EQUIVALENT OF Ā/B INPUT | EQUIVALENT OF ALL OTHER INPUTS | TYPICAL OF ALL OUTPUTS |

'S257, 'S258

| EQUIVALENT OF EACH INPUT | TYPICAL OF ALL OUTPUTS |

Select: R_{eq} = 1.4 kΩ NOM
All other inputs: R_{eq} = 2.8 kΩ NOM
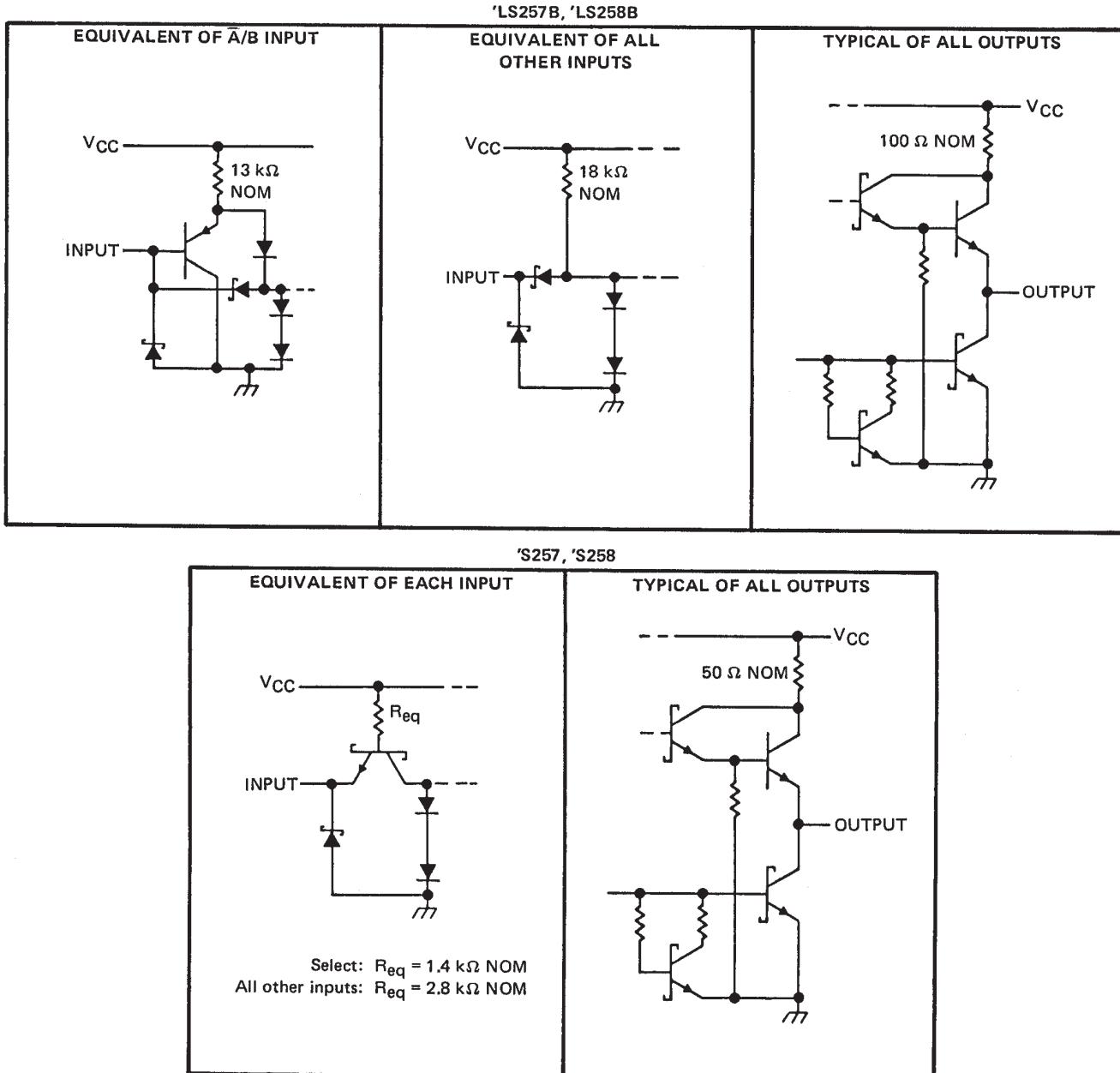
absolute maximum ratings over operating free-air temperature range (unless otherwise noted)

Supply voltage, V_{CC} (see Note 1) .... 7 V
Input voltage: 'LS257B, 'LS258B Circuits .... 7 V
               'S257, 'S258 Circuits .... 5.5 V
Off-state output voltage .... 5.5 V
Operating free-air temperature range: SN54LS', SN54S' Circuits .... −55°C to 125°C
                                 SN74LS', SN74S' Circuits .... 0°C to 70°C
Storage temperature range .... −65°C to 150°C

NOTE 1: Voltage values are with respect to network ground terminal.

TEXAS
INSTRUMENTS
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3

recommended operating conditions

		SN54LS' MIN	NOM	MAX	SN74LS' MIN	NOM	MAX	UNIT
V_{CC}	Supply voltage	4.5	5	5.5	4.75	5	5.25	V
V_{IH}	High-level input voltage	2			2			V
V_{IL}	Low-level input voltage			0.7			0.8	V
I_{OH}	High-level output current			− 1			− 2.6	mA
I_{OL}	Low-level output current			12			24	mA
T_A	Operating free-air temperature	− 55		125	0		70	°C

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

PARAMETER		TEST CONDITIONS[†]			SN54LS' MIN	TYP[‡]	MAX	SN74LS' MIN	TYP[‡]	MAX	UNIT
V_{IK}		V_{CC} = MIN,	I_I = − 18 mA				− 1.5			− 1.5	V
V_{OH}		V_{CC} = MIN, I_{OH} = MAX	V_{IH} = 2 V,	V_{IL} = MAX,	2.4	3.4		2.4	3.1		V
V_{OL}		V_{CC} = MIN, V_{IL} = MAX,	V_{IH} = 2 V,	I_{OL} = 12 mA		0.25	0.4		0.25	0.4	V
				I_{OL} = 24 mA					0.35	0.5	
I_{OZH}		V_{CC} = MAX,	V_{IH} = 2 V,	V_O = 2.7 V			20			20	µA
I_{OZL}		V_{CC} - MAX,	V_{IH} = 2 V,	V_O = 0.4 V			− 20			− 20	µA
I_I		V_{CC} = MAX,	V_I = 7 V				0.1			0.1	mA
I_{IH}		V_{CC} = MAX,	V_I = 2.7 V				20			20	µA
I_{IL}		V_{CC} = MAX,	V_I = 0.4 V				− 0.4			− 0.4	mA
I_{OS} [§]		V_{CC} = MAX,			− 30		− 130	− 30		− 130	mA
I_{CC}	All outputs high	V_{CC} = MAX, See Note 2	'LS257B			8	12		8	12	mA
	All outputs low					12	18		12	18	
	All outputs off					13	19		13	19	
	All outputs high		'LS258B			6	9		6	9	
	All outputs low					10	15		10	15	
	All outputs off					11	16		11	16	

[†]For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.
[‡]All typical values are at V_{CC} = 5 V, T_A = 25°C.
[§]Not more than one output should be shorted at a time and duration of the short-circuit should not exceed one second.
NOTE 2: I_{CC} is measured with all outputs open and all possible inputs grounded while achieving the stated output conditions.

switching characteristics, V_{CC} = 5 V, T_A = 25°C, R_L = 667 Ω

PARAMETER[¶]	FROM (INPUT)	TO (OUTPUT)	TEST CONDITIONS	'LS257B MIN	TYP	MAX	'LS258B MIN	TYP	MAX	UNIT
t_{PLH}	Data	Any			8	13		7	12	ns
t_{PHL}					10	15		11	17	
t_{PLH}	Select	Any	C_L = 45 pF, See Note 3		16	21		14	21	ns
t_{PHL}					17	24		19	24	
t_{PZH}	Output Control	Any			15	30		15	30	ns
t_{PZL}					19	30		20	30	
t_{PHZ}	Output Control	Any	C_L = 5 pF, See Note 3		18	30		18	30	ns
t_{PLZ}					16	25		16	25	

[¶]t_{PLH} = propagation delay time, low-to-high-level output
t_{PHL} = propagation delay time, high-to-low-level output
t_{PZH} = output enable time to high level
t_{PZL} = output enable time to low level
t_{PHZ} = output disable time from high level
t_{PLZ} = output disable time from low level
NOTE 3: Load circuits and voltage waveforms are shown in Section 1.

SN54LS257B, SN54LS258B, SN54S257, SN54S258
SN74LS257B, SN74LS258B, SN74S257, SN74S258
QUADRUPLE 2-LINE TO 1-LINE DATA SELECTORS/MULTIPLEXERS

recommended operating conditions

	SN54S' MIN	SN54S' NOM	SN54S' MAX	SN74S' MIN	SN74S' NOM	SN74S' MAX	UNIT
Supply voltage, V_{CC}	4.5	5	5.5	4.75	5	5.25	V
High-level output current, I_{OH}			−2			−6.5	mA
Low-level output current, I_{OL}			20			20	mA
Operating free-air temperature, T_A	−55		125	0		70	°C

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

PARAMETER		TEST CONDITIONS[†]		'S257 MIN	'S257 TYP[‡]	'S257 MAX	'S258 MIN	'S258 TYP[‡]	'S258 MAX	UNIT
V_{IH}	High-level input voltage			2			2			V
V_{IL}	Low-level input voltage					0.8			0.8	V
V_{IK}	Input clamp voltage	V_{CC} = MIN, I_I = −18 mA				−1.2			−1.2	V
V_{OH}	High-level output voltage	V_{CC} = MIN, V_{IH} = 2 V, V_{IL} = 0.8 V, I_{OH} = −1 mA	SN74S'	2.7			2.7			V
		V_{CC} = MIN, V_{IH} = 2 V, V_{IL} = 0.8 V, I_{OH} = MAX	SN54S'	2.4	3.4		2.4	3.4		
			SN74S'	2.4	3.2		2.4	3.2		
V_{OL}	Low-level output voltage	V_{CC} = MIN, V_{IH} = 2 V, V_{IL} = 0.8 V, I_{OL} = 20 mA				0.5			0.5	V
I_{OZH}	Off-state output current, high-level voltage applied	V_{CC} = MAX, V_{IH} = 2 V, V_O = 2.4 V				50			50	µA
I_{OZL}	Off-state output current, low-level voltage applied	V_{CC} = MAX, V_{IH} = 2 V, V_O = 0.5 V				−50			−50	µA
I_I	Input current at maximum input voltage	V_{CC} = MAX, V_I = 5.5 V				1			1	mA
I_{IH}	High-level input current	S input	V_{CC} = MAX, V_I = 2.7 V			100			100	µA
		Any other				50			50	
I_{IL}	Low-level input current	S input	V_{CC} = MAX V_I = 0.5 V			−4			−4	mA
		Any other				−2			−2	
I_{OS}	Short-circuit output current[§]	V_{CC} = MAX		−40		−100	−40		−100	mA
I_{CC}	Supply current	All outputs high	V_{CC} = MAX, See Note 2		44	68		36	56	mA
		All outputs low			60	93		52	81	
		All outputs off			64	99		56	87	

[†]For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.
[‡]All typical values are at V_{CC} = 5 V, T_A = 25°C.
[§]Not more than one output should be shorted at a time and duration of the short-circuit should not exceed one second.
NOTE 2: I_{CC} is measured with all outputs open and all possible inputs grounded while achieving the stated output conditions.

switching characteristics, V_{CC} = 5 V, T_A = 25°C, R_L = 280 Ω

PARAMETER[¶]	FROM (INPUT)	TO (OUTPUT)	TEST CONDITIONS	'S257 MIN	'S257 TYP	'S257 MAX	'S258 MIN	'S258 TYP	'S258 MAX	UNIT
t_{PLH}	Data	Any	C_L = 15 pF, See Note 3		5	7.5		4	6	ns
t_{PHL}					4.5	6.5		4	6	
t_{PLH}	Select	Any			8.5	15		8	12	ns
t_{PHL}					8.5	15		7.5	12	
t_{PZH}	Output Control	Any			13	19.5		13	19.5	ns
t_{PZL}					14	21		14	21	
t_{PHZ}	Output Control	Any	C_L = 5 pF, See Note 3		5.5	8.5		5.5	8.5	ns
t_{PLZ}					9	14		9	14	

[¶]f_{max} = Maximum clock frequency
t_{PLH} = propagation delay time, low-to-high-level output
t_{PHL} = propagation delay time, high-to-low-level output
t_{PZH} = output enable time to high level

t_{PZL} ≡ output enable time to low level
t_{PHZ} ≡ output disable time from high level
t_{PLZ} ≡ output disable time from low level

NOTE 3: Load circuits and voltage waveforms are shown in Section 1.

TEXAS
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PACKAGING INFORMATION

Orderable Device	Status [1]	Package Type	Package Drawing	Pins	Package Qty	Eco Plan [2]	Lead/Ball Finish	MSL Peak Temp [3]
5962-7603701VEA	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
5962-7603701VFA	ACTIVE	CFP	W	16	1	TBD	Call TI	Level-NC-NC-NC
5962-7603701VFA	ACTIVE	CFP	W	16	1	TBD	Call TI	Level-NC-NC-NC
7603701EA	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
7603701EA	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
7603701FA	ACTIVE	CFP	W	16	1	TBD	Call TI	Level-NC-NC-NC
7603701FA	ACTIVE	CFP	W	16	1	TBD	Call TI	Level-NC-NC-NC
76038012A	ACTIVE	LCCC	FK	20	1	TBD	Call TI	Level-NC-NC-NC
76038012A	ACTIVE	LCCC	FK	20	1	TBD	Call TI	Level-NC-NC-NC
7603801EA	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
7603801EA	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
7603801FA	ACTIVE	CFP	W	16	1	TBD	Call TI	Level-NC-NC-NC
7603801FA	ACTIVE	CFP	W	16	1	TBD	Call TI	Level-NC-NC-NC
8002301EA	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
8002301EA	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
8002301FA	ACTIVE	CFP	W	16	1	TBD	Call TI	Level-NC-NC-NC
8002301FA	ACTIVE	CFP	W	16	1	TBD	Call TI	Level-NC-NC-NC
JM38510/07906BEA	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
JM38510/07906BEA	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
JM38510/07906BFA	ACTIVE	CFP	W	16	1	TBD	Call TI	Level-NC-NC-NC
JM38510/07906BFA	ACTIVE	CFP	W	16	1	TBD	Call TI	Level-NC-NC-NC
JM38510/30906B2A	ACTIVE	LCCC	FK	20	1	TBD	Call TI	Level-NC-NC-NC
JM38510/30906B2A	ACTIVE	LCCC	FK	20	1	TBD	Call TI	Level-NC-NC-NC
JM38510/30906BEA	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
JM38510/30906BEA	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
JM38510/30906BFA	ACTIVE	CFP	W	16	1	TBD	Call TI	Level-NC-NC-NC
JM38510/30906BFA	ACTIVE	CFP	W	16	1	TBD	Call TI	Level-NC-NC-NC
SN54LS257BJ	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
SN54LS257BJ	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
SN54LS258BJ	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
SN54LS258BJ	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
SN54S257J	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
SN54S257J	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
SN54S258J	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
SN54S258J	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
SN74LS257BD	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS257BD	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS257BDE4	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS257BDE4	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM

Orderable Device	Status [1]	Package Type	Package Drawing	Pins	Package Qty	Eco Plan [2]	Lead/Ball Finish	MSL Peak Temp [3]
SN74LS257BDR	ACTIVE	SOIC	D	16	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS257BDR	ACTIVE	SOIC	D	16	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS257BDRE4	ACTIVE	SOIC	D	16	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS257BDRE4	ACTIVE	SOIC	D	16	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS257BN	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	Level-NC-NC-NC
SN74LS257BN	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	Level-NC-NC-NC
SN74LS257BN3	OBSOLETE	PDIP	N	16		TBD	Call TI	Call TI
SN74LS257BN3	OBSOLETE	PDIP	N	16		TBD	Call TI	Call TI
SN74LS257BNE4	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	Level-NC-NC-NC
SN74LS257BNE4	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	Level-NC-NC-NC
SN74LS257BNSR	ACTIVE	SO	NS	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS257BNSR	ACTIVE	SO	NS	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS257BNSRE4	ACTIVE	SO	NS	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS257BNSRE4	ACTIVE	SO	NS	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS258BD	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS258BD	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS258BDE4	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS258BDE4	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS258BDR	ACTIVE	SOIC	D	16	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS258BDR	ACTIVE	SOIC	D	16	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS258BDRE4	ACTIVE	SOIC	D	16	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS258BDRE4	ACTIVE	SOIC	D	16	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS258BN	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	Level-NC-NC-NC
SN74LS258BN	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	Level-NC-NC-NC
SN74LS258BN3	OBSOLETE	PDIP	N	16		TBD	Call TI	Call TI
SN74LS258BN3	OBSOLETE	PDIP	N	16		TBD	Call TI	Call TI
SN74LS258BNE4	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	Level-NC-NC-NC
SN74LS258BNE4	ACTIVE	PDIP	N	16	25	Pb-Free	CU NIPDAU	Level-NC-NC-NC

Orderable Device	Status [1]	Package Type	Package Drawing	Pins	Package Qty	Eco Plan [2]	Lead/Ball Finish	MSL Peak Temp [3]
						(RoHS)		
SN74LS258BNSR	ACTIVE	SO	NS	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS258BNSR	ACTIVE	SO	NS	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS258BNSRE4	ACTIVE	SO	NS	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS258BNSRE4	ACTIVE	SO	NS	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74S257D	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74S257D	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74S257DE4	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74S257DE4	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74S257N	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	Level-NC-NC-NC
SN74S257N	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	Level-NC-NC-NC
SN74S257N3	OBSOLETE	PDIP	N	16		TBD	Call TI	Call TI
SN74S257N3	OBSOLETE	PDIP	N	16		TBD	Call TI	Call TI
SN74S257NE4	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	Level-NC-NC-NC
SN74S257NE4	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	Level-NC-NC-NC
SN74S258DR	OBSOLETE	SOIC	D	16		TBD	Call TI	Call TI
SN74S258DR	OBSOLETE	SOIC	D	16		TBD	Call TI	Call TI
SN74S258N	OBSOLETE	PDIP	N	16		TBD	Call TI	Call TI
SN74S258N	OBSOLETE	PDIP	N	16		TBD	Call TI	Call TI
SN74S258N3	OBSOLETE	PDIP	N	16		TBD	Call TI	Call TI
SN74S258N3	OBSOLETE	PDIP	N	16		TBD	Call TI	Call TI
SNJ54LS257BFK	ACTIVE	LCCC	FK	20	1	TBD	Call TI	Level-NC-NC-NC
SNJ54LS257BFK	ACTIVE	LCCC	FK	20	1	TBD	Call TI	Level-NC-NC-NC
SNJ54LS257BJ	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
SNJ54LS257BJ	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
SNJ54LS257BW	ACTIVE	CFP	W	16	1	TBD	Call TI	Level-NC-NC-NC
SNJ54LS257BW	ACTIVE	CFP	W	16	1	TBD	Call TI	Level-NC-NC-NC
SNJ54LS258BFK	ACTIVE	LCCC	FK	20	1	TBD	Call TI	Level-NC-NC-NC
SNJ54LS258BFK	ACTIVE	LCCC	FK	20	1	TBD	Call TI	Level-NC-NC-NC
SNJ54LS258BJ	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
SNJ54LS258BJ	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
SNJ54LS258BW	ACTIVE	CFP	W	16	1	TBD	Call TI	Level-NC-NC-NC
SNJ54LS258BW	ACTIVE	CFP	W	16	1	TBD	Call TI	Level-NC-NC-NC
SNJ54S257FK	ACTIVE	LCCC	FK	20	1	TBD	Call TI	Level-NC-NC-NC
SNJ54S257FK	ACTIVE	LCCC	FK	20	1	TBD	Call TI	Level-NC-NC-NC

Orderable Device	Status [1]	Package Type	Package Drawing	Pins	Package Qty	Eco Plan [2]	Lead/Ball Finish	MSL Peak Temp [3]
SNJ54S257J	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
SNJ54S257J	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
SNJ54S257W	ACTIVE	CFP	W	16	1	TBD	Call TI	Level-NC-NC-NC
SNJ54S257W	ACTIVE	CFP	W	16	1	TBD	Call TI	Level-NC-NC-NC
SNJ54S258FK	ACTIVE	LCCC	FK	20	1	TBD	Call TI	Level-NC-NC-NC
SNJ54S258FK	ACTIVE	LCCC	FK	20	1	TBD	Call TI	Level-NC-NC-NC
SNJ54S258J	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
SNJ54S258J	ACTIVE	CDIP	J	16	1	TBD	Call TI	Level-NC-NC-NC
SNJ54S258W	ACTIVE	CFP	W	16	1	TBD	Call TI	Level-NC-NC-NC
SNJ54S258W	ACTIVE	CFP	W	16	1	TBD	Call TI	Level-NC-NC-NC

[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) 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.

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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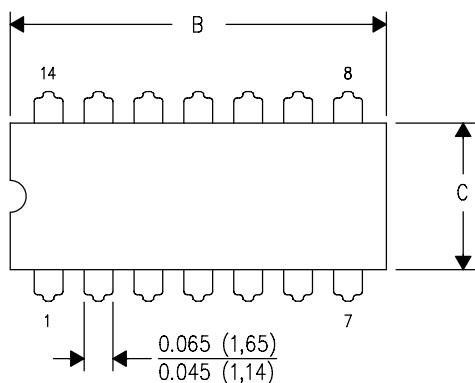
DIM \ PINS **	14	16	18	20
A	0.300 (7,62) BSC	0.300 (7,62) BSC	0.300 (7,62) BSC	0.300 (7,62) BSC
B MAX	0.785 (19,94)	.840 (21,34)	0.960 (24,38)	1.060 (26,92)
B MIN	—	—	—	—
C MAX	0.300 (7,62)	0.300 (7,62)	0.310 (7,87)	0.300 (7,62)
C MIN	0.245 (6,22)	0.245 (6,22)	0.220 (5,59)	0.245 (6,22)

B

14   8

1   7

0.065 (1,65)
0.045 (1,14)

C

0.005 (0,13) MIN

0.060 (1,52)
0.015 (0,38)

0.200 (5,08) MAX

Seating Plane

0.130 (3,30) MIN

0.026 (0,66)
0.014 (0,36)

0.100 (2,54)

A

0°–15°

0.014 (0,36)
0.008 (0,20)
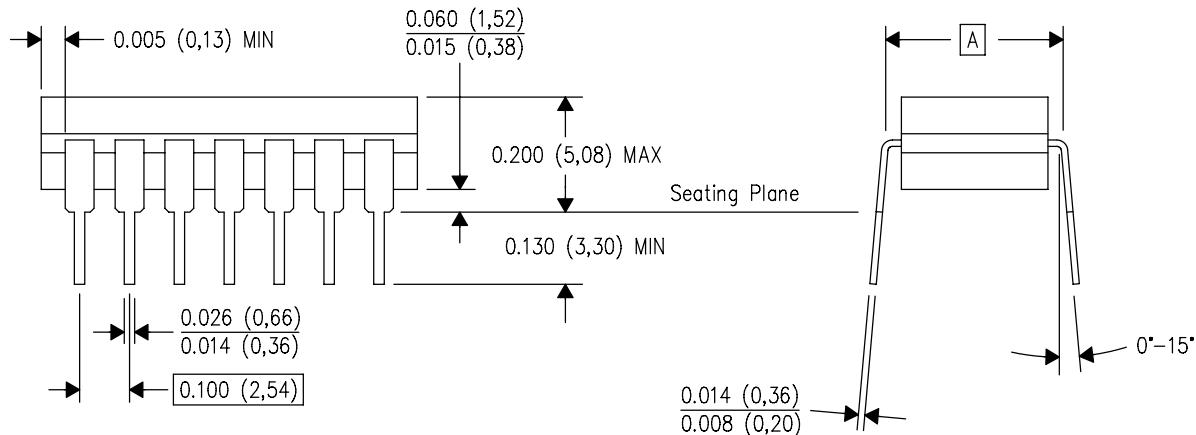
4040083/F 03/03

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.

W (R−GDFP−F16)   CERAMIC DUAL FLATPACK

0.045 (1,14)
0.026 (0,66)

0.285 (7,24)
0.245 (6,22)

Base and Seating Plane

0.080 (2,03)
0.055 (1,40)

0.006 (0,15)
0.004 (0,10)

0.305 (7,75) MAX

1   16

0.019 (0,48)
0.015 (0,38)

0.430 (10,92)
0.370 (9,40)

0.050 (1,27)

0.005 (0,13) MIN
4 Places

8   9

0.360 (9,14)
0.250 (6,35)

0.360 (9,14)
0.250 (6,35)
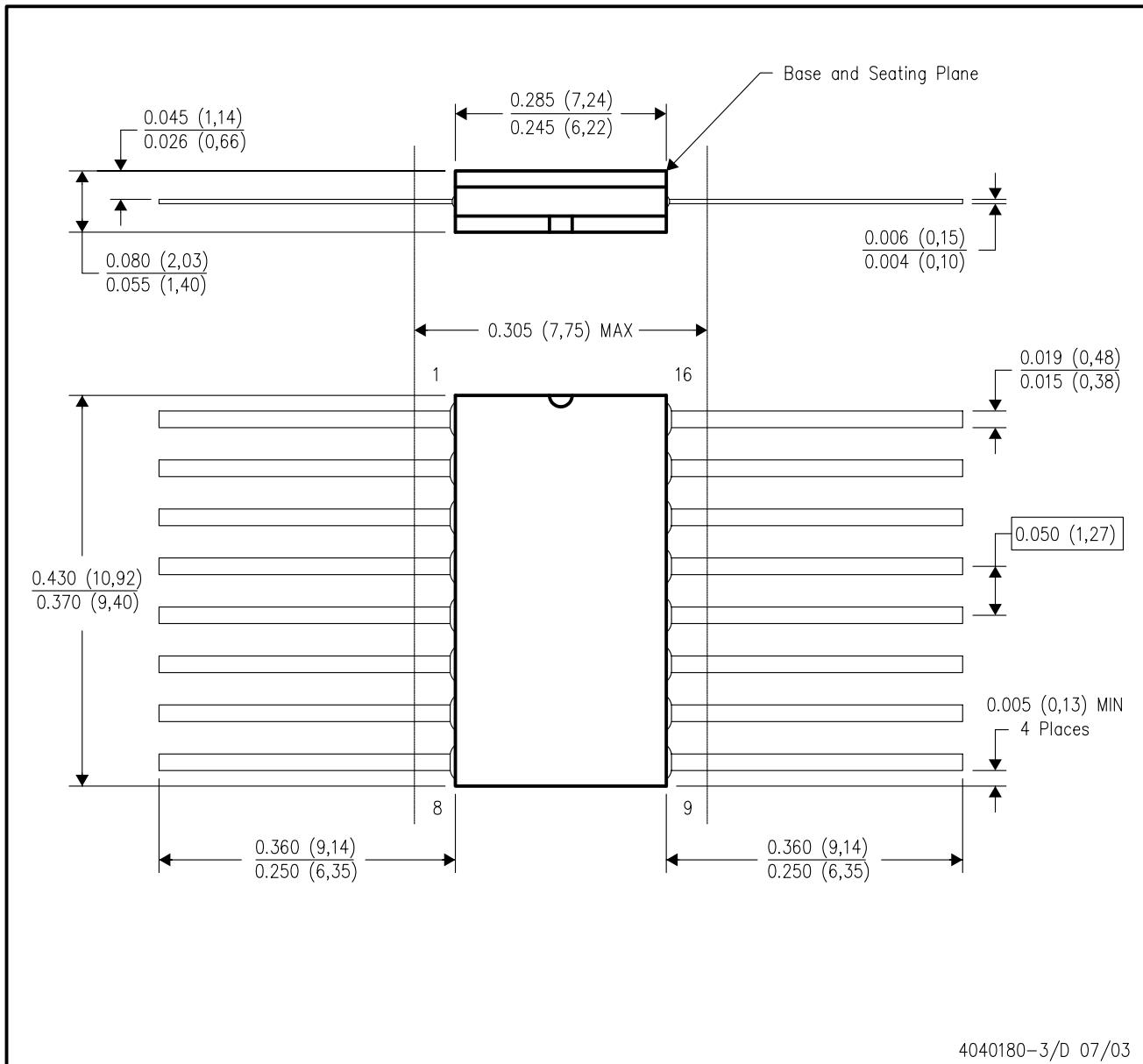
4040180−3/D 07/03

NOTES: A. All linear dimensions are in inches (millimeters).
         B. This drawing is subject to change without notice.
         C. This package can be hermetically sealed with a ceramic lid using glass frit.
         D. Index point is provided on cap for terminal identification only.
         E. Falls within MIL STD 1835 GDFP1−F16 and JEDEC MO−092AC

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FK (S-CQCC-N**)
LEADLESS CERAMIC CHIP CARRIER

28 TERMINAL SHOWN
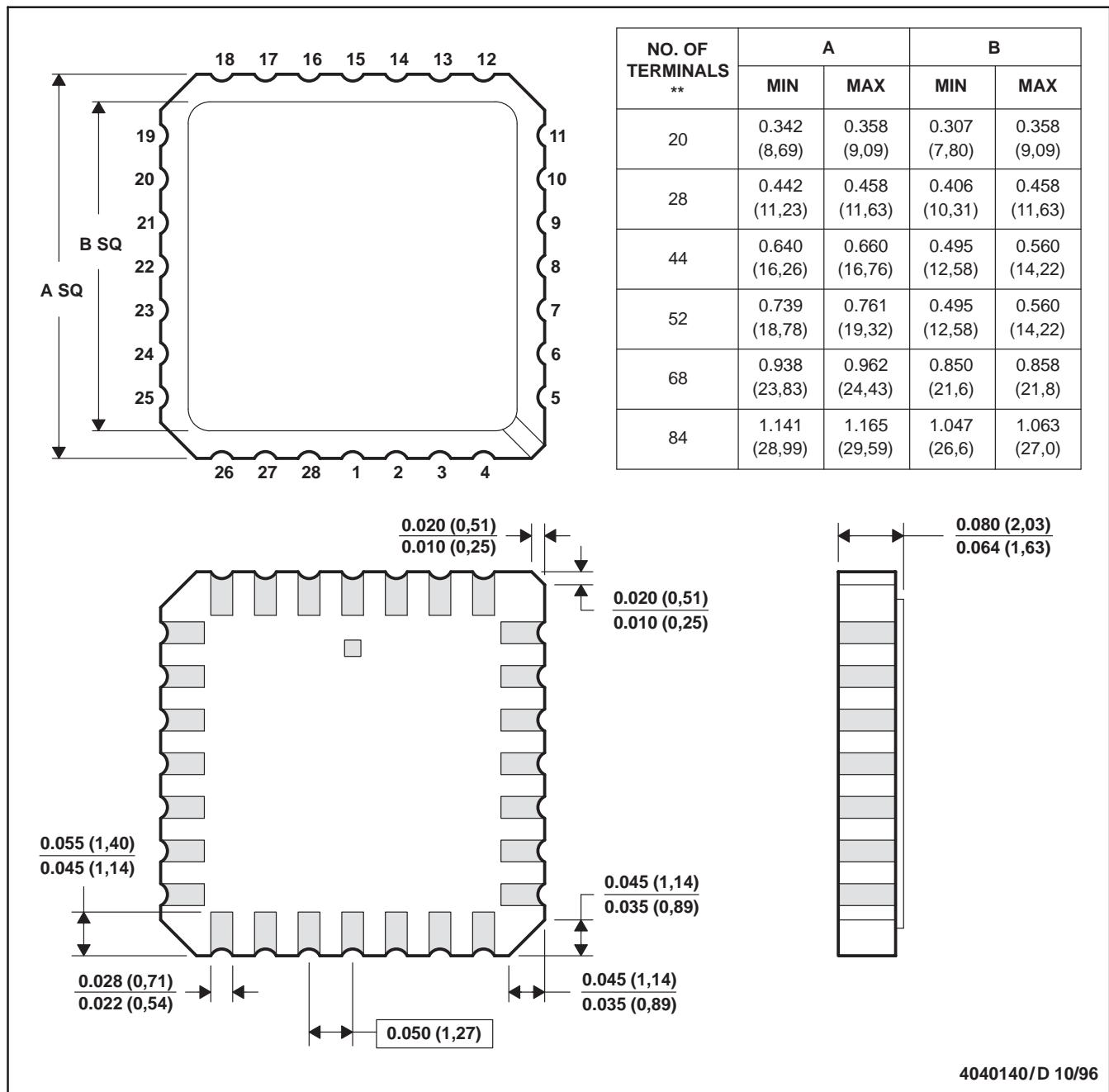
NO. OF TERMINALS **	A		B	
	MIN	MAX	MIN	MAX
20	0.342 (8,69)	0.358 (9,09)	0.307 (7,80)	0.358 (9,09)
28	0.442 (11,23)	0.458 (11,63)	0.406 (10,31)	0.458 (11,63)
44	0.640 (16,26)	0.660 (16,76)	0.495 (12,58)	0.560 (14,22)
52	0.739 (18,78)	0.761 (19,32)	0.495 (12,58)	0.560 (14,22)
68	0.938 (23,83)	0.962 (24,43)	0.850 (21,6)	0.858 (21,8)
84	1.141 (28,99)	1.165 (29,59)	1.047 (26,6)	1.063 (27,0)

4040140 / D 10/96

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

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N (R−PDIP−T**)

16 PINS SHOWN

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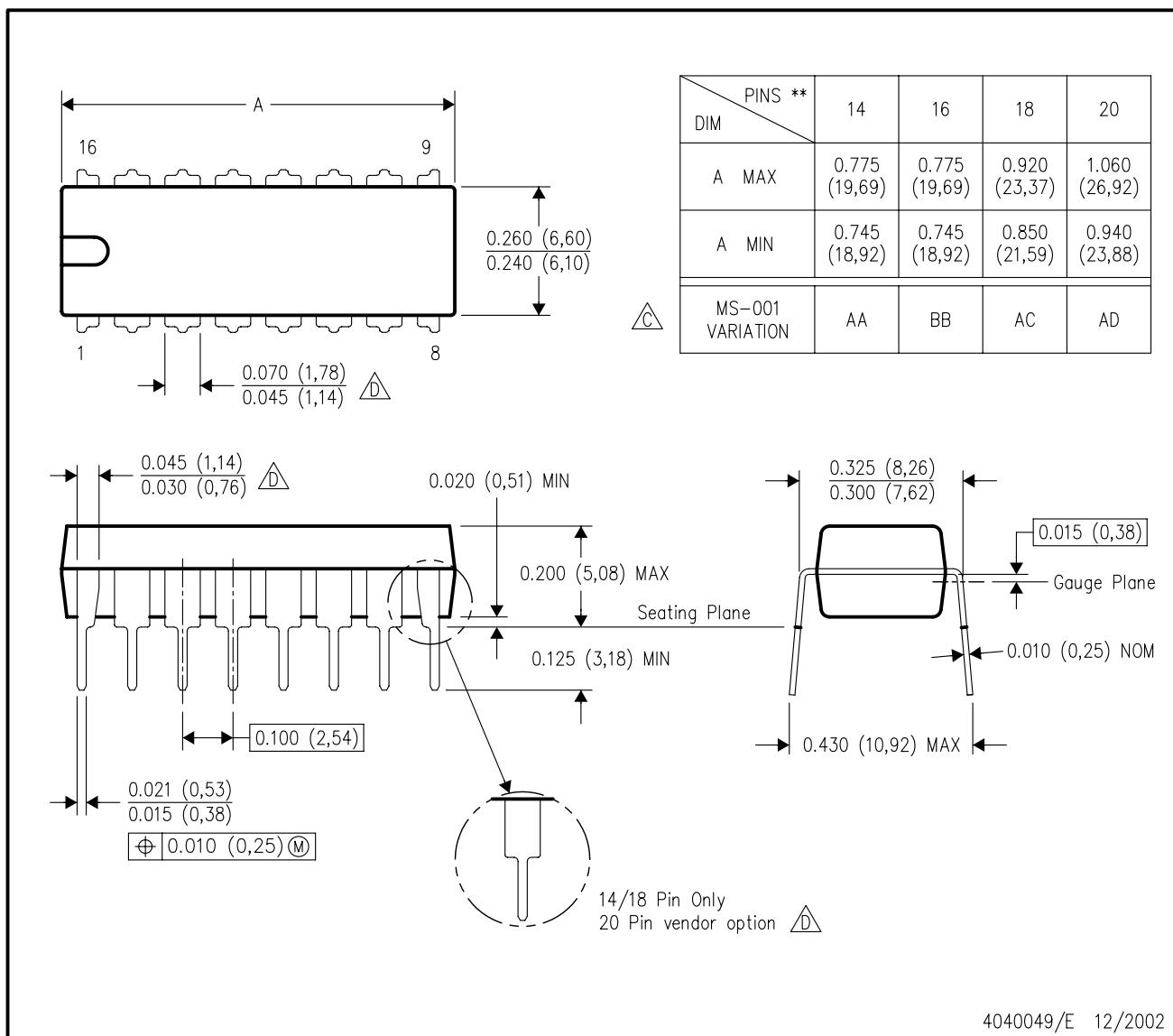
DIM \ PINS **	14	16	18	20
A MAX	0.775 (19,69)	0.775 (19,69)	0.920 (23,37)	1.060 (26,92)
A MIN	0.745 (18,92)	0.745 (18,92)	0.850 (21,59)	0.940 (23,88)
MS−001 VARIATION	AA	BB	AC	AD

A

16   9

$\dfrac{0.260\ (6,60)}{0.240\ (6,10)}$

1   8

$\dfrac{0.070\ (1,78)}{0.045\ (1,14)}$ ⚠D

$\dfrac{0.045\ (1,14)}{0.030\ (0,76)}$ ⚠D

0.020 (0,51) MIN

0.200 (5,08) MAX

Seating Plane

0.125 (3,18) MIN

0.100 (2,54)

$\dfrac{0.021\ (0,53)}{0.015\ (0,38)}$

⊕ 0.010 (0,25) Ⓜ

14/18 Pin Only
20 Pin vendor option ⚠D

$\dfrac{0.325\ (8,26)}{0.300\ (7,62)}$

0.015 (0,38)

Gauge Plane

0.010 (0,25) NOM

0.430 (10,92) MAX

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.

D (R−PDSO−G16)   PLASTIC SMALL−OUTLINE PACKAGE

0.394 (10,00)
0.386 (9,80)

16

9

0.244 (6,20)
0.228 (5,80)

0.157 (4,00)
0.150 (3,80)

1

8

Pin 1
Index Area

0.050 (1,27)

0.020 (0,51)
0.012 (0,31)

⊕ 0.010 (0,25) Ⓜ

0.069 (1,75) Max

0.010 (0,25)
0.004 (0,10)

0.010 (0,25)
0.007 (0,17)

0.004 (0,10)

Gauge Plane

Seating Plane

0.010 (0,25)

0°−8°

0.050 (1,27)
0.016 (0,40)
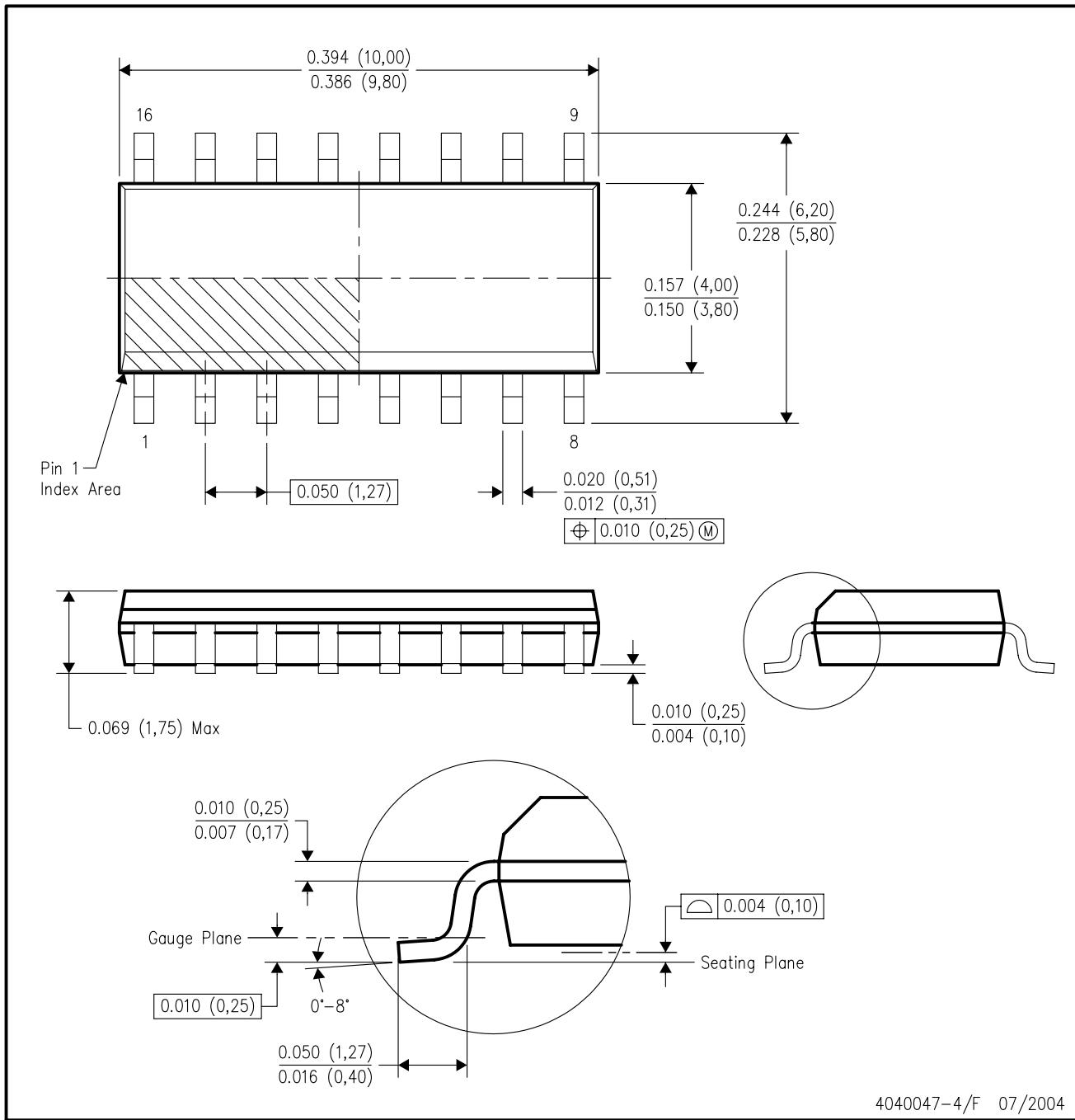
4040047−4/F   07/2004

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−012 variation AC.

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MECHANICAL DATA

DIM \ PINS **	14	16	20	24
A MAX	10,50	10,50	12,90	15,30
A MIN	9,90	9,90	12,30	14,70

4040062/C 03/03

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.

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