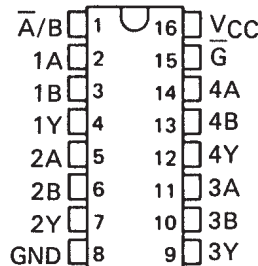


# SN54LS257B, SN54LS258B, SN54S257, SN54S258 SN74LS257B, SN74LS258B, SN74S257, SN74S258 QUADRUPLE 2-LINE TO 1-LINE DATA SELECTORS/MULTIPLEXERS

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- 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

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



	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

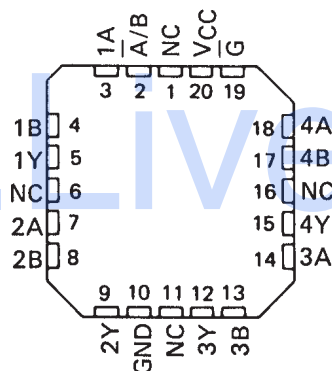
† Off state (worst case)

## 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 ( $\bar{G}$ ) is at a high-logic level.

Series 54LS and 54S are characterized for operation over the full military temperature range of  $-55^{\circ}\text{C}$  to  $125^{\circ}\text{C}$ ; Series 74LS and 74S are characterized for operation from  $0^{\circ}\text{C}$  to  $70^{\circ}\text{C}$ .

SN54LS257B, SN54S257,  
SN54LS258B, SN54S258 . . . FK PACKAGE  
(TOP VIEW)



NC-No internal connection.

FUNCTION TABLE

OUTPUT CONTROL	INPUTS		OUTPUT Y		
	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

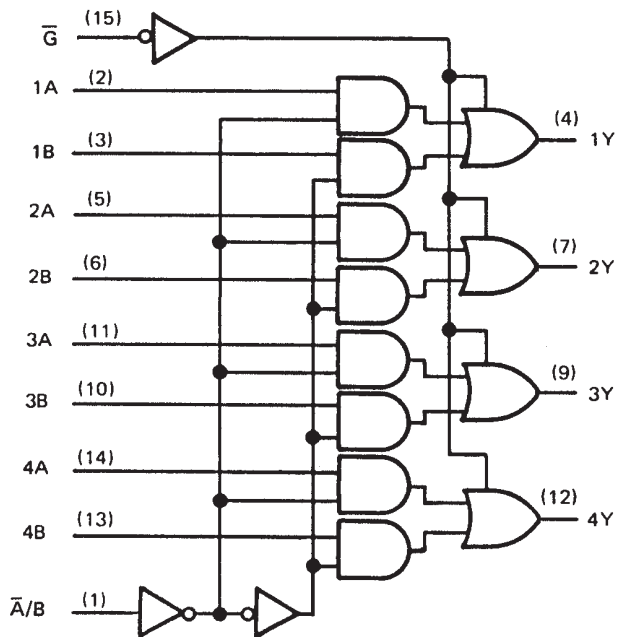
H = high level, L = low level, X = irrelevant,  
Z = high impedance (off)

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

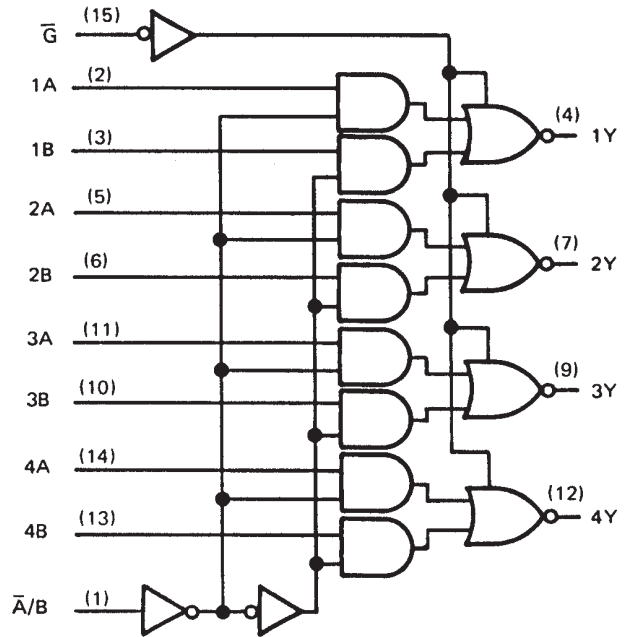
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logic diagrams (positive logic)

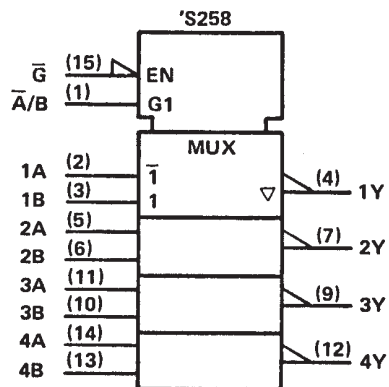
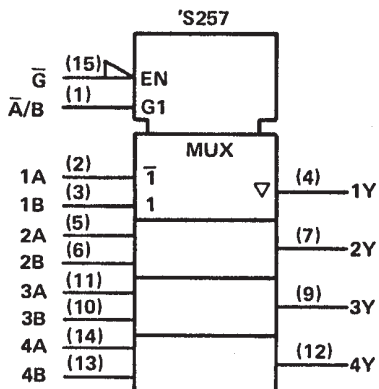
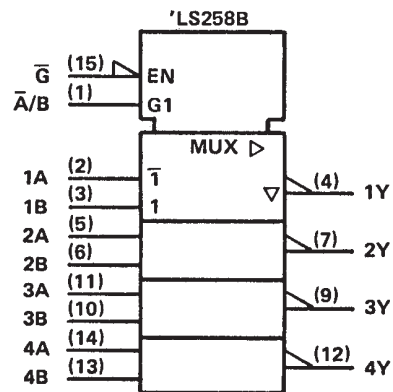
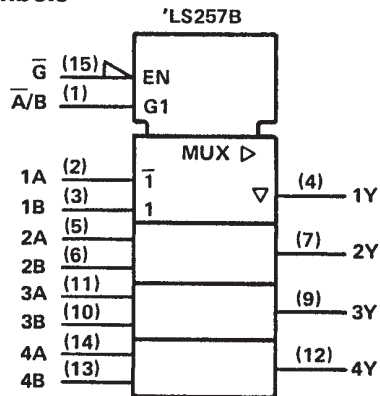
'LS257B, 'S257



'LS258B, 'S258



logic symbols†

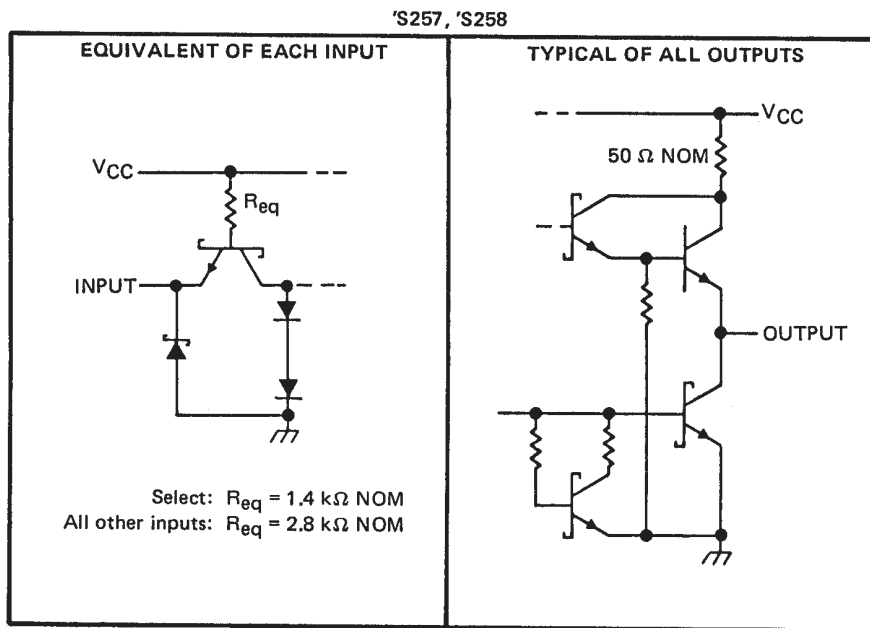
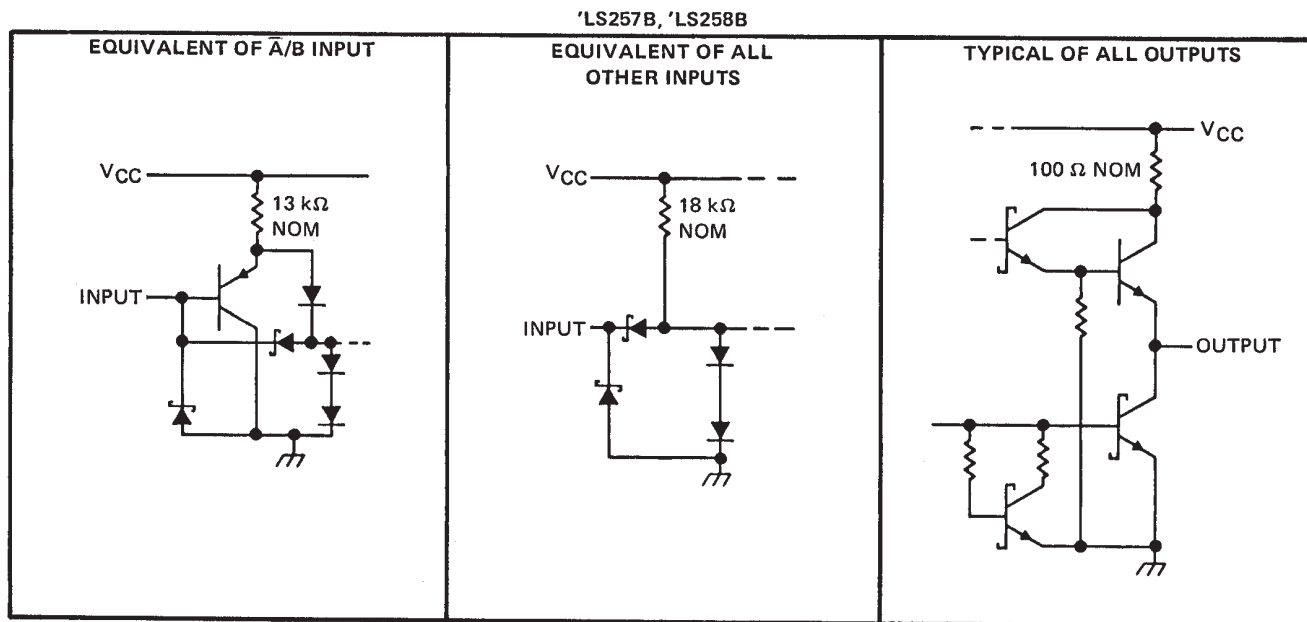


†These symbols are in accordance with ANSI/IEEE Std 91-1984 and IEC Publication 617-12. Pin numbers shown are for D, J, N, and W packages.

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

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## schematics of inputs and outputs



### 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.



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

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**recommended operating conditions**

	SN54LS'			SN74LS'			UNIT
	MIN	NOM	MAX	MIN	NOM	MAX	
V <sub>CC</sub> Supply voltage	4.5	5	5.5	4.75	5	5.25	V
V <sub>IH</sub> High-level input voltage	2			2			V
V <sub>IL</sub> Low-level input voltage			0.7			0.8	V
I <sub>OH</sub> High-level output current			-1			-2.6	mA
I <sub>OL</sub> Low-level output current			12			24	mA
T <sub>A</sub> 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'			SN74LS'			UNIT
		MIN	TYP‡	MAX	MIN	TYP‡	MAX	
V <sub>IK</sub>	V <sub>CC</sub> = MIN, I <sub>I</sub> = -18 mA			-1.5			-1.5	V
V <sub>OH</sub>	V <sub>CC</sub> = MIN, V <sub>IH</sub> = 2 V, V <sub>IL</sub> = MAX, I <sub>OH</sub> = MAX	2.4	3.4		2.4	3.1		V
V <sub>OL</sub>	V <sub>CC</sub> = MIN, V <sub>IH</sub> = 2 V, V <sub>IL</sub> = MAX, I <sub>OL</sub> = 12 mA	0.25 0.4		0.25 0.4		V		
				0.35 0.5				
I <sub>OZH</sub>	V <sub>CC</sub> = MAX, V <sub>IH</sub> = 2 V, V <sub>O</sub> = 2.7 V	20			20			μA
I <sub>OZL</sub>	V <sub>CC</sub> = MAX, V <sub>IH</sub> = 2 V, V <sub>O</sub> = 0.4 V	-20			-20			μA
I <sub>I</sub>	V <sub>CC</sub> = MAX, V <sub>I</sub> = 7 V	0.1			0.1			mA
I <sub>IH</sub>	V <sub>CC</sub> = MAX, V <sub>I</sub> = 2.7 V	20			20			μA
I <sub>IL</sub>	V <sub>CC</sub> = MAX, V <sub>I</sub> = 0.4 V	-0.4			-0.4			mA
I <sub>OS</sub> §	V <sub>CC</sub> = MAX,	-30		-130	-30		-130	mA
I <sub>CC</sub>	All outputs high	V <sub>CC</sub> = 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<sub>CC</sub> = 5 V, T<sub>A</sub> = 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<sub>CC</sub> is measured with all outputs open and all possible inputs grounded while achieving the stated output conditions.

**switching characteristics, V<sub>CC</sub> = 5 V, T<sub>A</sub> = 25°C, R<sub>L</sub> = 667 Ω**

PARAMETER¶	FROM (INPUT)	TO (OUTPUT)	TEST CONDITIONS	'LS257B			'LS258B			UNIT
				MIN	TYP	MAX	MIN	TYP	MAX	
t <sub>PLH</sub>	Data	Any	C <sub>L</sub> = 45 pF, See Note 3	8	13	7	12	ns		
t <sub>PHL</sub>				10	15	11	17			
t <sub>PLH</sub>	Select	Any		16	21	14	21			
t <sub>PHL</sub>				17	24	19	24			
t <sub>pZH</sub>	Output Control	Any		15	30	15	30		ns	
t <sub>pZL</sub>				19	30	20	30			
t <sub>PHZ</sub>	Output Control	Any	18	30	18	30	ns			
t <sub>PLZ</sub>			16	25	16	25				

¶ t<sub>PLH</sub> = propagation delay time, low-to-high-level output

t<sub>PHL</sub> = propagation delay time, high-to-low-level output

t<sub>pZH</sub> = output enable time to high level

t<sub>pZL</sub> = output enable time to low level

t<sub>PHZ</sub> = output disable time from high level

t<sub>PLZ</sub> = 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

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## recommended operating conditions

	SN54S'			SN74S'			UNIT
	MIN	NOM	MAX	MIN	NOM	MAX	
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			'S258			UNIT	
			MIN	TYP‡	MAX	MIN	TYP‡	MAX		
$V_{IH}$	High-level input voltage		2			2			V	
$V_{IL}$	Low-level input voltage		0.8			0.8			V	
$V_{IK}$	Input clamp voltage	$V_{CC} = \text{MIN}, I_I = -18 \text{ mA}$	-1.2			-1.2			V	
$V_{OH}$	High-level output voltage	$V_{CC} = \text{MIN}, V_{IH} = 2 \text{ V}, V_{IL} = 0.8 \text{ V}, I_{OH} = -1 \text{ mA}$	SN74S'	2.7		2.7		V		
		$V_{CC} = \text{MIN}, V_{IH} = 2 \text{ V}, V_{IL} = 0.8 \text{ V}, I_{OH} = \text{MAX}$	SN54S'	2.4	3.4	2.4	3.4			
			SN74S'	2.4	3.2	2.4	3.2			
$V_{OL}$	Low-level output voltage	$V_{CC} = \text{MIN}, V_{IH} = 2 \text{ V}, V_{IL} = 0.8 \text{ V}, I_{OL} = 20 \text{ mA}$	0.5			0.5			V	
$I_{OZH}$	Off-state output current, high-level voltage applied	$V_{CC} = \text{MAX}, V_{IH} = 2 \text{ V}, V_O = 2.4 \text{ V}$	50			50			μA	
$I_{OZL}$	Off-state output current, low-level voltage applied	$V_{CC} = \text{MAX}, V_{IH} = 2 \text{ V}, V_O = 0.5 \text{ V}$	-50			-50			μA	
$I_I$	Input current at maximum input voltage	$V_{CC} = \text{MAX}, V_I = 5.5 \text{ V}$	1			1			mA	
$I_{IH}$	High-level input current	S input	100			100			μA	
		Any other	50			50				
$I_{IL}$	Low-level input current	S input	-4			-4			mA	
		Any other	-2			-2				
$I_{OS}$	Short-circuit output current§	$V_{CC} = \text{MAX}$	-40	-100	-40	-100	mA			
$I_{CC}$	Supply current	All outputs high	44		68		36		56	
		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  $V_{CC} = 5 \text{ V}, T_A = 25^\circ\text{C}$ .

§ 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, $V_{CC} = 5 \text{ V}, T_A = 25^\circ\text{C}, R_L = 280 \Omega$

PARAMETER¶	FROM (INPUT)	TO (OUTPUT)	TEST CONDITIONS	'S257			'S258			UNIT
				MIN	TYP	MAX	MIN	TYP	MAX	
$t_{PLH}$	Data	Any	$C_L = 15 \text{ pF},$ 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	Any		13	19.5		13	19.5	ns	
$t_{PZL}$	Control			14	21		14	21		
$t_{PHZ}$	Output	Any	5.5	8.5		5.5	8.5	ns		
$t_{PLZ}$	Control		9	14		9	14			

¶  $f_{\text{max}}$  = 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.



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Power Mgmt	<a href="http://power.ti.com">power.ti.com</a>	Optical Networking	<a href="http://www.ti.com/opticalnetwork">www.ti.com/opticalnetwork</a>
Microcontrollers	<a href="http://microcontroller.ti.com">microcontroller.ti.com</a>	Security	<a href="http://www.ti.com/security">www.ti.com/security</a>
Low Power Wireless	<a href="http://www.ti.com/lpw">www.ti.com/lpw</a>	Telephony	<a href="http://www.ti.com/telephony">www.ti.com/telephony</a>
		Video & Imaging	<a href="http://www.ti.com/video">www.ti.com/video</a>
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Military	<a href="http://www.ti.com/military">www.ti.com/military</a>
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Security	<a href="http://www.ti.com/security">www.ti.com/security</a>
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Military	<a href="http://www.ti.com/military">www.ti.com/military</a>
Optical Networking	<a href="http://www.ti.com/opticalnetwork">www.ti.com/opticalnetwork</a>
Security	<a href="http://www.ti.com/security">www.ti.com/security</a>
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Orderable Device	Status <sup>(1)</sup>	Package Type	Package Drawing	Pins	Package Qty	Eco Plan <sup>(2)</sup>	Lead/Ball Finish	MSL Peak Temp <sup>(3)</sup>
5962-7603701VEA	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
5962-7603701VFA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type
5962-7603701VFA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type
7603701EA	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
7603701EA	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
7603701FA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type
7603701FA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type
76038012A	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
76038012A	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
7603801EA	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
7603801EA	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
7603801FA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type
7603801FA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type
8002301EA	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
8002301EA	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
8002301FA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type
8002301FA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type
JM38510/07906BEA	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
JM38510/07906BEA	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
JM38510/07906BFA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type
JM38510/07906BFA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type
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JM38510/30906BFA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type
SN54LS257BJ	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
SN54LS257BJ	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
SN54LS258BJ	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
SN54LS258BJ	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
SN54S257J	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
SN54S257J	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
SN54S258J	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
SN54S258J	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
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 <sup>(1)</sup>	Package Type	Package Drawing	Pins	Package Qty	Eco Plan <sup>(2)</sup>	Lead/Ball Finish	MSL Peak Temp <sup>(3)</sup>
SN74LS257BDG4	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS257BDG4	ACTIVE	SOIC	D	16	40	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
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
SN74LS257BDRG4	ACTIVE	SOIC	D	16	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS257BDRG4	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	N / A for Pkg Type
SN74LS257BN	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
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	N / A for Pkg Type
SN74LS257BNE4	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
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
SN74LS257BNSRG4	ACTIVE	SO	NS	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS257BNSRG4	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
SN74LS258BDG4	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS258BDG4	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

Orderable Device	Status <sup>(1)</sup>	Package Type	Package Drawing	Pins	Package Qty	Eco Plan <sup>(2)</sup>	Lead/Ball Finish	MSL Peak Temp <sup>(3)</sup>
						no Sb/Br)		
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
SN74LS258BDRG4	ACTIVE	SOIC	D	16	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS258BDRG4	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	N / A for Pkg Type
SN74LS258BN	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
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	N / A for Pkg Type
SN74LS258BNE4	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
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
SN74LS258BNSRG4	ACTIVE	SO	NS	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74LS258BNSRG4	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
SN74S257DG4	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN74S257DG4	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	N / A for Pkg Type
SN74S257N	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
SN74S257N3	OBSOLETE	PDIP	N	16		TBD	Call TI	Call TI
SN74S257N3	OBSOLETE	PDIP	N	16		TBD	Call TI	Call TI

Orderable Device	Status <sup>(1)</sup>	Package Type	Package Drawing	Pins	Package Qty	Eco Plan <sup>(2)</sup>	Lead/Ball Finish	MSL Peak Temp <sup>(3)</sup>
SN74S257NE4	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
SN74S257NE4	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
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	POST-PLATE	N / A for Pkg Type
SNJ54LS257BFK	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
SNJ54LS257BJ	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
SNJ54LS257BJ	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
SNJ54LS257BW	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type
SNJ54LS257BW	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type
SNJ54LS258BFK	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
SNJ54LS258BFK	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
SNJ54LS258BJ	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
SNJ54LS258BJ	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
SNJ54LS258BW	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type
SNJ54LS258BW	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type
SNJ54S257FK	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
SNJ54S257FK	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
SNJ54S257J	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
SNJ54S257J	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
SNJ54S257W	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type
SNJ54S257W	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type
SNJ54S258FK	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
SNJ54S258FK	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
SNJ54S258J	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
SNJ54S258J	ACTIVE	CDIP	J	16	1	TBD	A42 SNPB	N / A for Pkg Type
SNJ54S258W	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type
SNJ54S258W	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type

<sup>(1)</sup> 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.

<sup>(2)</sup> 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.

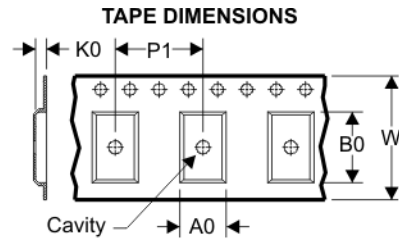
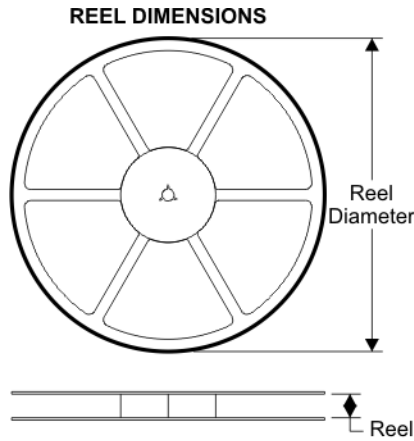
**Green (RoHS & no Sb/Br):** TI defines "Green" to mean Pb-Free (RoHS compatible), and free of Bromine (Br) and Antimony (Sb) based flame retardants (Br or Sb do not exceed 0.1% by weight in homogeneous material)

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

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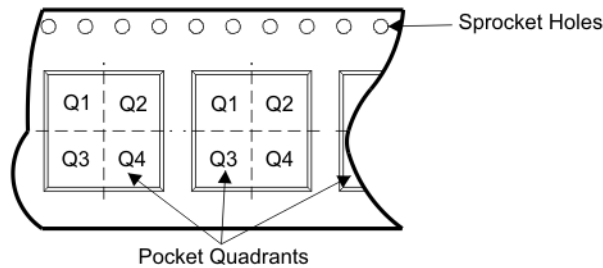
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**TAPE AND REEL BOX INFORMATION**



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**



Device	Package	Pins	Site	Reel Diameter (mm)	Reel Width (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
SN74LS257BDR	D	16	SITE 27	330	16	7.0	10.0	2.0	8	16	Q1
SN74LS257BNSR	NS	16	SITE 41	330	16	8.0	11.0	3.0	12	16	Q1
SN74LS258BDR	D	16	SITE 27	330	16	7.0	10.0	2.0	8	16	Q1
SN74LS258BNSR	NS	16	SITE 41	330	16	8.0	11.0	3.0	12	16	Q1

**TAPE AND REEL BOX DIMENSIONS**



Device	Package	Pins	Site	Length (mm)	Width (mm)	Height (mm)
SN74LS257BDR	D	16	SITE 27	343.0	346.0	29.0
SN74LS257BNSR	NS	16	SITE 41	346.0	346.0	33.0
SN74LS258BDR	D	16	SITE 27	343.0	346.0	29.0
SN74LS258BNSR	NS	16	SITE 41	346.0	346.0	33.0

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)

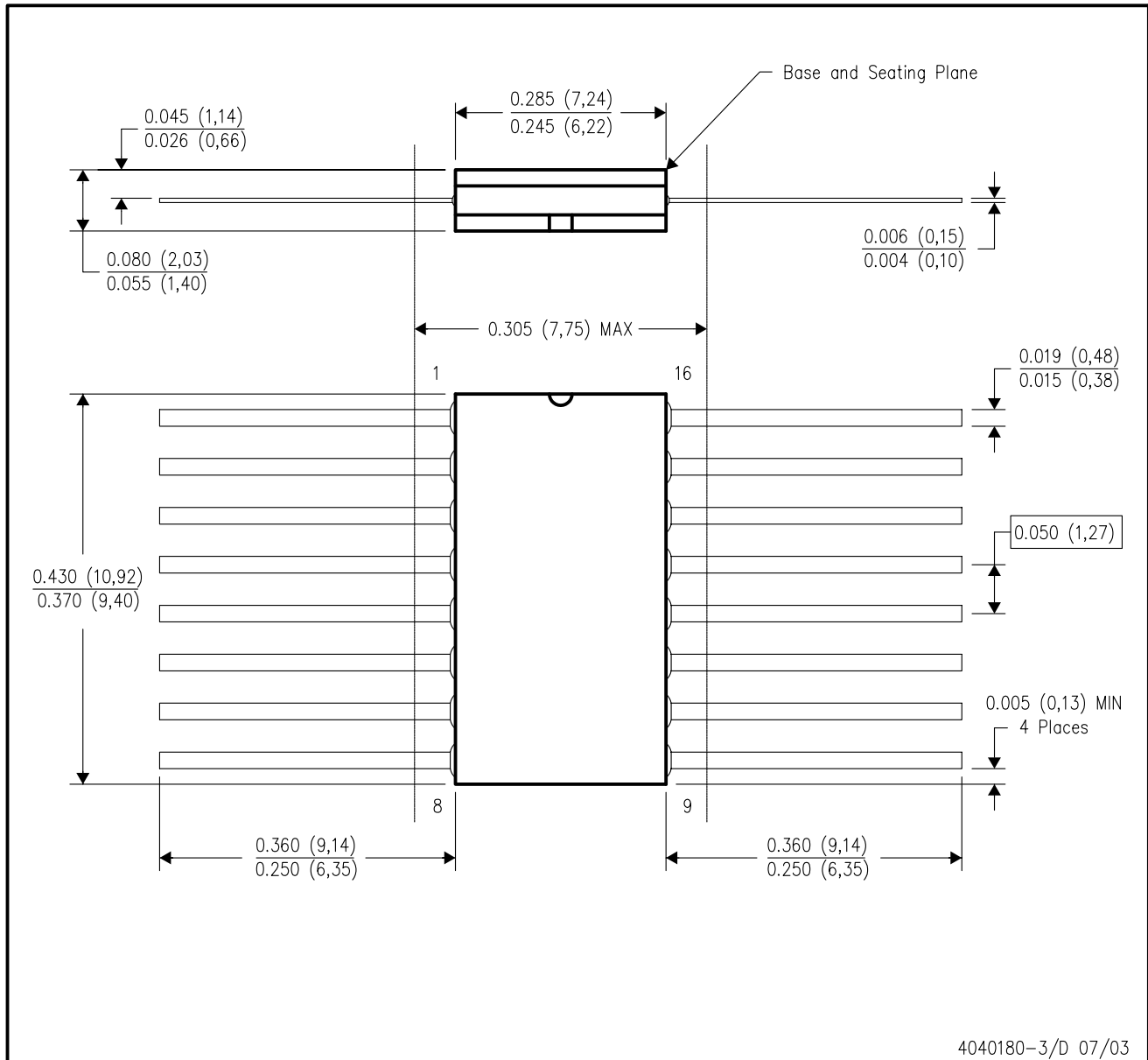


4040083/F 03/03

- NOTES:
- All linear dimensions are in inches (millimeters).
  - This drawing is subject to change without notice.
  - This package is hermetically sealed with a ceramic lid using glass frit.
  - Index point is provided on cap for terminal identification only on press ceramic glass frit seal only.
  - Falls within MIL STD 1835 GDIP1-T14, GDIP1-T16, GDIP1-T18 and GDIP1-T20.

W (R-GDFP-F16)

CERAMIC DUAL FLATPACK

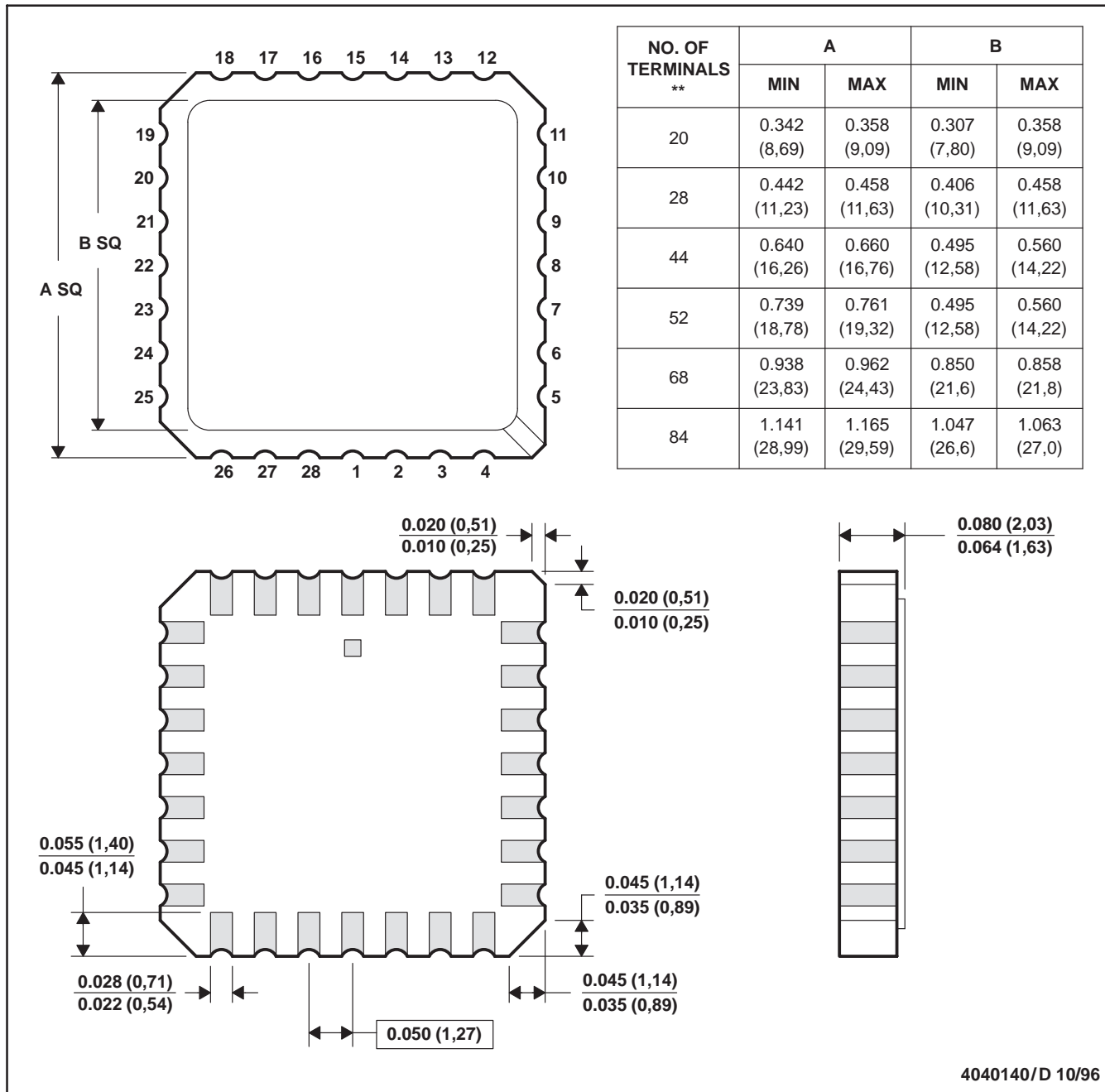


- NOTES:
- A. All linear dimensions are in inches (millimeters).
  - B. This drawing is subject to change without notice.
  - C. This package can be hermetically sealed with a ceramic lid using glass frit.
  - D. Index point is provided on cap for terminal identification only.
  - E. Falls within MIL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

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

LEADLESS CERAMIC CHIP CARRIER

28 TERMINAL SHOWN



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

N (R-PDIP-T\*\*)

PLASTIC DUAL-IN-LINE PACKAGE

16 PINS SHOWN

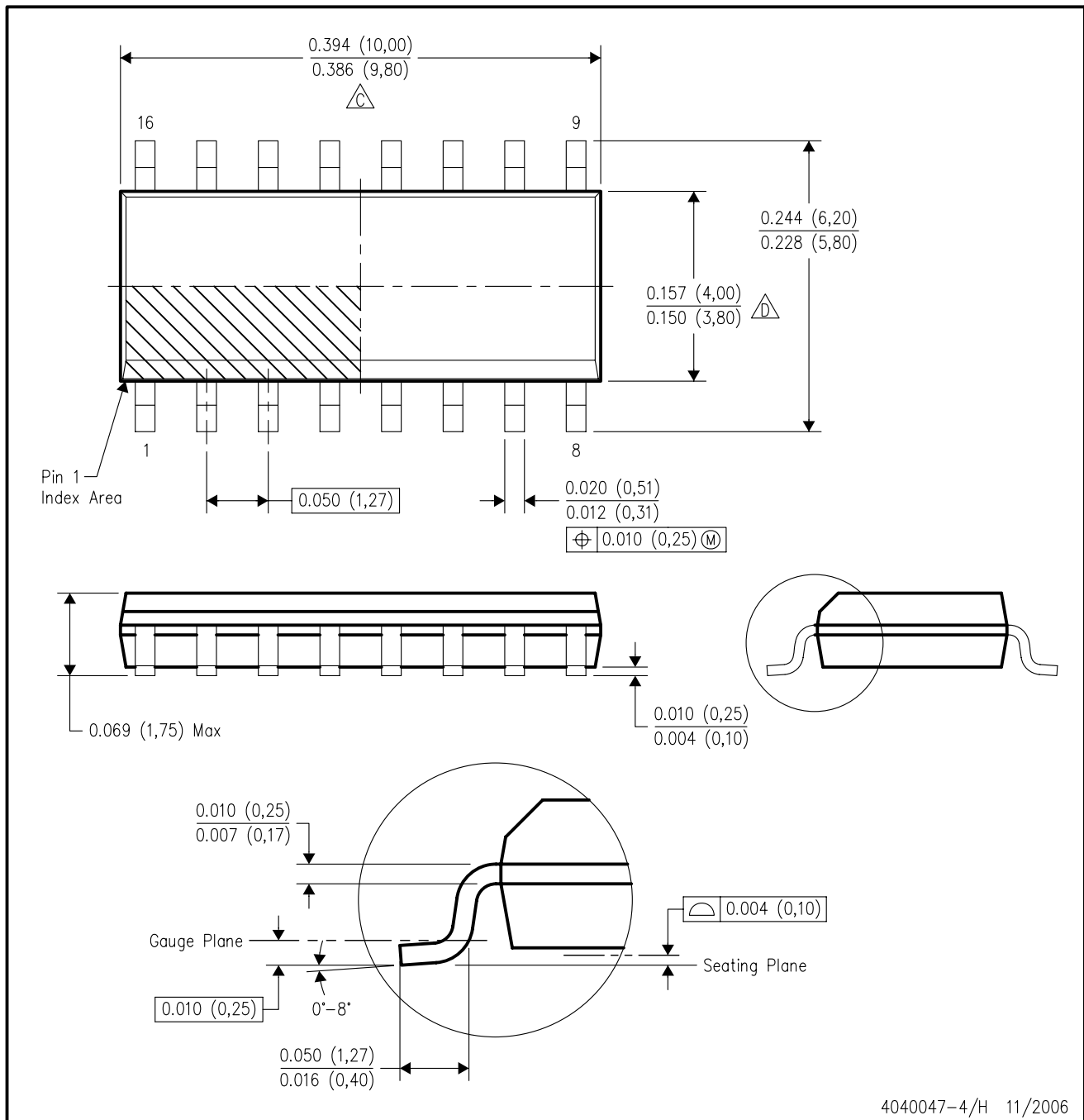


- NOTES:
- A. All linear dimensions are in inches (millimeters).
  - B. This drawing is subject to change without notice.
  - $\triangle C$  Falls within JEDEC MS-001, except 18 and 20 pin minimum body length (Dim A).
  - $\triangle D$  The 20 pin end lead shoulder width is a vendor option, either half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



4040049/E 12/2002

D (R-PDSO-G16)

PLASTIC SMALL-OUTLINE PACKAGE



4040047-4/H 11/2006

- NOTES:
- A. All linear dimensions are in inches (millimeters).
  - B. This drawing is subject to change without notice.
  -  C. Body length does not include mold flash, protrusions, or gate burrs. Mold flash, protrusions, or gate burrs shall not exceed .006 (0,15) per end.
  -  D. Body width does not include interlead flash. Interlead flash shall not exceed .017 (0,43) per side.
  - E. Reference JEDEC MS-012 variation AC.



# MECHANICAL DATA

NS (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.

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