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**

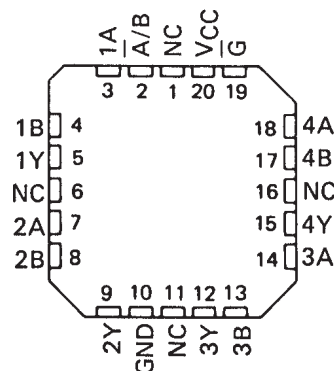|	AVERAGE PROPAGATION DELAY FROM DATA INPUT	TYPICAL POWER DISSIPATION[†]
'LS257B	9 ns	55 mW
'LS258B	9 ns	55 mW
'S257	4.8 ns	320 mW
'S258	4 ns	280 mW

[†]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    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)

PRODUCTION DATA information is current as of publication date. Products conform to specifications per the terms of Texas Instruments standard warranty. Production processing does not necessarily include testing of all parameters.

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

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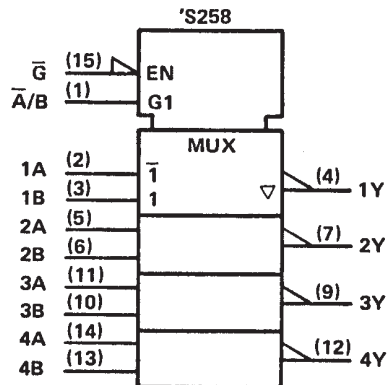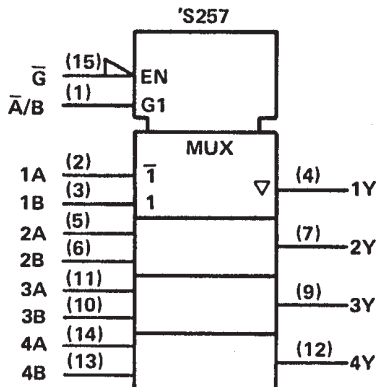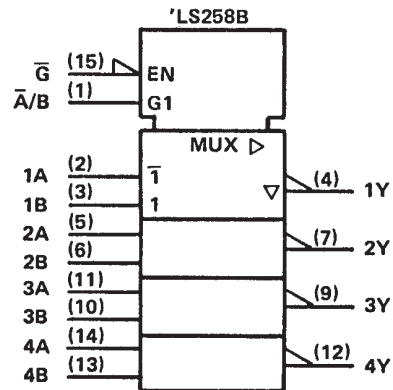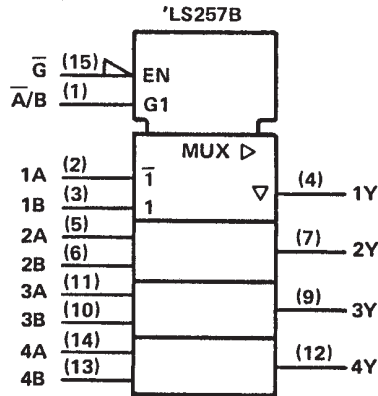
logic diagrams (positive logic)

'LS257B, 'S257

'LS258B, 'S258

logic symbols†

'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.

schematics of inputs and outputs

'LS257B, 'LS258B

EQUIVALENT OF $\overline{A}$/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.

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, V_{IH} = 2 V, I_{OH} = MAX	V_{IL} = MAX,	2.4	3.4		2.4	3.1		V
V_{OL}		V_{CC} = MIN, V_{IH} = 2 V, V_{IL} = MAX,	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.

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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
	High-level input current — Any other					50			50	
I_{IL}	Low-level input current — S input	V_{CC} = MAX V_I = 0.5 V				−4			−4	mA
	Low-level input current — 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
	Supply current — All outputs low				60	93		52	81	
	Supply current — 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			5	7.5		4	6	ns
t_{PHL}					4.5	6.5		4	6	
t_{PLH}	Select	Any	C_L = 15 pF, See Note 3		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
INSTRUMENTS

PACKAGING INFORMATION

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/Ball Finish (6)	MSL Peak Temp (3)	Op Temp (°C)	Device Marking (4/5)	Samples
7603701EA	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	7603701EA SNJ54LS257BJ	Samples
7603701FA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	7603701FA SNJ54LS257BW	Samples
7603701FA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	7603701FA SNJ54LS257BW	Samples
7603801EA	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	7603801EA SNJ54LS258BJ	Samples
7603801EA	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	7603801EA SNJ54LS258BJ	Samples
8002301EA	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	8002301EA SNJ54S258J	Samples
8002301EA	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	8002301EA SNJ54S258J	Samples
8002301FA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	8002301FA SNJ54S258W	Samples
8002301FA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	8002301FA SNJ54S258W	Samples
JM38510/07906BEA	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 07906BEA	Samples
JM38510/07906BEA	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 07906BEA	Samples
JM38510/07906BFA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 07906BFA	Samples
JM38510/07906BFA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 07906BFA	Samples
JM38510/30906B2A	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type	-55 to 125	JM38510/ 30906B2A	Samples
JM38510/30906B2A	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type	-55 to 125	JM38510/ 30906B2A	Samples
JM38510/30906BEA	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 30906BEA	Samples
JM38510/30906BEA	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 30906BEA	Samples

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/Ball Finish (6)	MSL Peak Temp (3)	Op Temp (°C)	Device Marking (4/5)	Samples
JM38510/30906BFA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/30906BFA	Samples
JM38510/30906BFA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/30906BFA	Samples
M38510/07906BEA	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/07906BEA	Samples
M38510/07906BEA	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/07906BEA	Samples
M38510/07906BFA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/07906BFA	Samples
M38510/07906BFA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/07906BFA	Samples
M38510/30906B2A	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type	-55 to 125	JM38510/30906B2A	Samples
M38510/30906B2A	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type	-55 to 125	JM38510/30906B2A	Samples
M38510/30906BEA	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/30906BEA	Samples
M38510/30906BEA	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/30906BEA	Samples
M38510/30906BFA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/30906BFA	Samples
M38510/30906BFA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/30906BFA	Samples
SN54LS257BJ	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	SN54LS257BJ	Samples
SN54LS257BJ	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	SN54LS257BJ	Samples
SN54LS258BJ	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	SN54LS258BJ	Samples
SN54LS258BJ	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	SN54LS258BJ	Samples
SN54S257J	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	SN54S257J	Samples
SN54S257J	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	SN54S257J	Samples
SN74LS257BD	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	LS257B	Samples

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/Ball Finish (6)	MSL Peak Temp (3)	Op Temp (°C)	Device Marking (4/5)	Samples
SN74LS257BD	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	LS257B	Samples
SN74LS257BDE4	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	LS257B	Samples
SN74LS257BDE4	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	LS257B	Samples
SN74LS257BDG4	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	LS257B	Samples
SN74LS257BDG4	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	LS257B	Samples
SN74LS257BDR	ACTIVE	SOIC	D	16	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	LS257B	Samples
SN74LS257BDR	ACTIVE	SOIC	D	16	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	LS257B	Samples
SN74LS257BN	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type	0 to 70	SN74LS257BN	Samples
SN74LS257BN	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type	0 to 70	SN74LS257BN	Samples
SN74LS257BNE4	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type	0 to 70	SN74LS257BN	Samples
SN74LS257BNE4	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type	0 to 70	SN74LS257BN	Samples
SN74LS257BNSR	ACTIVE	SO	NS	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	74LS257B	Samples
SN74LS257BNSR	ACTIVE	SO	NS	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	74LS257B	Samples
SN74LS258BD	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	LS258B	Samples
SN74LS258BD	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	LS258B	Samples
SN74LS258BDR	ACTIVE	SOIC	D	16	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	LS258B	Samples
SN74LS258BDR	ACTIVE	SOIC	D	16	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	LS258B	Samples
SN74LS258BN	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type	0 to 70	SN74LS258BN	Samples

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/Ball Finish (6)	MSL Peak Temp (3)	Op Temp (°C)	Device Marking (4/5)	Samples
SN74LS258BN	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type	0 to 70	SN74LS258BN	Samples
SN74S257N	NRND	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type	0 to 70	SN74S257N	
SN74S257N	NRND	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type	0 to 70	SN74S257N	
SNJ54LS257BFK	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type	-55 to 125	SNJ54LS 257BFK	Samples
SNJ54LS257BFK	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type	-55 to 125	SNJ54LS 257BFK	Samples
SNJ54LS257BJ	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	7603701EA SNJ54LS257BJ	Samples
SNJ54LS257BJ	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	7603701EA SNJ54LS257BJ	Samples
SNJ54LS257BW	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	7603701FA SNJ54LS257BW	Samples
SNJ54LS257BW	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	7603701FA SNJ54LS257BW	Samples
SNJ54LS258BJ	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	7603801EA SNJ54LS258BJ	Samples
SNJ54LS258BJ	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	7603801EA SNJ54LS258BJ	Samples
SNJ54S257J	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	SNJ54S257J	Samples
SNJ54S257J	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	SNJ54S257J	Samples
SNJ54S257W	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	SNJ54S257W	Samples
SNJ54S257W	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	SNJ54S257W	Samples
SNJ54S258J	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	8002301EA SNJ54S258J	Samples
SNJ54S258J	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	8002301EA SNJ54S258J	Samples
SNJ54S258W	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	8002301FA SNJ54S258W	Samples
SNJ54S258W	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	8002301FA	Samples

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/Ball Finish (6)	MSL Peak Temp (3)	Op Temp (°C)	Device Marking (4/5)	Samples
										SNJ54S258W	

(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.

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

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

(6) Lead/Ball Finish - Orderable Devices may have multiple material finish options. Finish options are separated by a vertical ruled line. Lead/Ball Finish values may wrap to two lines if the finish value exceeds the maximum column width.

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OTHER QUALIFIED VERSIONS OF SN54LS257B, SN54LS258B, SN54S257, SN74LS257B, SN74LS258B, SN74S257 :

● Catalog: SN74LS257B, SN74LS258B, SN74S257

● Military: SN54LS257B, SN54LS258B, SN54S257

NOTE: Qualified Version Definitions:

    ● Catalog - TI's standard catalog product

    ● Military - QML certified for Military and Defense Applications

![Texas Instruments logo] **PACKAGE MATERIALS INFORMATION**

TAPE AND REEL INFORMATION

REEL DIMENSIONS

TAPE DIMENSIONS

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

TAPE AND REEL INFORMATION

*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
SN74LS257BDR	SOIC	D	16	2500	330.0	16.4	6.5	10.3	2.1	8.0	16.0	Q1
SN74LS257BNSR	SO	NS	16	2000	330.0	16.4	8.2	10.5	2.5	12.0	16.0	Q1
SN74LS258BDR	SOIC	D	16	2500	330.0	16.4	6.5	10.3	2.1	8.0	16.0	Q1

TAPE AND REEL BOX DIMENSIONS

*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
SN74LS257BDR	SOIC	D	16	2500	333.2	345.9	28.6
SN74LS257BNSR	SO	NS	16	2000	367.0	367.0	38.0
SN74LS258BDR	SOIC	D	16	2500	333.2	345.9	28.6

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	0.740 (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 01/11

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.   Falls within JEDEC MS−004

D (R−PDSO−G16)   PLASTIC SMALL OUTLINE

0.394 (10,00)
0.386 (9,80)
⟨C⟩

16   9

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

0.157 (4,00)
0.150 (3,80) ⟨D⟩

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)
0.005 (0,13)

0.004 (0,10)

Gauge Plane

Seating Plane

0.010 (0,25)   0°−8°

0.050 (1,27)
0.016 (0,40)

4040047−6/M   06/11

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 0.006 (0,15) each side.
       ⟨D⟩ Body width does not include interlead flash. Interlead flash shall not exceed 0.017 (0,43) each side.
         E. Reference JEDEC MS−012 variation AC.

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D (R–PDSO–G16)   PLASTIC SMALL OUTLINE

Example Board Layout
(Note C)

Stencil Openings
(Note D)

14x1,27

16x0,55

14x1,27

16x1,50

5,40

5.40

Example
Non Soldermask Defined Pad

Example
Pad Geometry
(See Note C)

0,60

1,55

Example
Solder Mask Opening
(See Note E)

0,07

All Around

4211283–4/E 08/12

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.   Laser cutting apertures with trapezoidal walls and also rounding corners will offer better paste release. Customers should
              contact their board assembly site for stencil design recommendations. Refer to IPC–7525 for other stencil recommendations.
         E.   Customers should contact their board fabrication site for solder mask tolerances between and around signal pads.

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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.

W (R−GDFP−F16)   CERAMIC DUAL FLATPACK

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

Base and Seating Plane

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

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

0.008 (0,20) / 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/F   04/14

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 GDFP2−F16

J (R−GDIP−T**)   CERAMIC DUAL IN−LINE PACKAGE
14 LEADS SHOWN

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

C

1   7

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

0.005 (0,13) MIN

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

0.200 (5,08) MAX

A

Seating Plane

0.130 (3,30) MIN

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

0.100 (2,54)

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.

N (R−PDIP−T**)

PLASTIC DUAL−IN−LINE PACKAGE

16 PINS SHOWN

PINS ** DIM	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

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.

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