

**SN54150, SN54151A, SN54LS151, SN54S151,
SN74150, SN74151A, SN74LS151, SN74S151****DATA SELECTORS/MULTIPLEXERS**

DECEMBER 1972—REVISED MARCH 1988

- '150 Selects One-of-Sixteen Data Sources
- Others Select One-of-Eight Data Sources
- All Perform Parallel-to-Serial Conversion
- All Permit Multiplexing from N Lines to One Line
- Also For Use as Boolean Function Generator
- Input-Clamping Diodes Simplify System Design
- Fully Compatible with Most TTL Circuits

TYPE	TYPICAL AVERAGE		TYPICAL DISSIPATION
	PROPAGATION DELAY TIME DATA INPUT TO W OUTPUT	POWER	
'150	13 ns	200 mW	
'151A	8 ns	145 mW	
'LS151	13 ns	30 mW	
'S151	4.5 ns	225 mW	

description

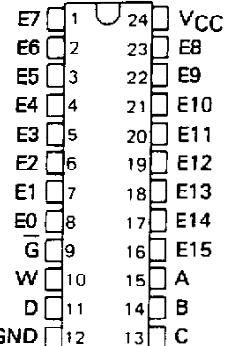
These monolithic data selectors/multiplexers contain full on-chip binary decoding to select the desired data source. The '150 selects one-of-sixteen data sources; the '151A, 'LS151, and 'S151 select one-of-eight data sources. The '150, '151A, 'LS151, and 'S151 have a strobe input which must be at a low logic level to enable these devices. A high level at the strobe forces the W output high, and the Y output (as applicable) low.

The '150 has only an inverted W output; the '151A, 'LS151, and 'S151 feature complementary W and Y outputs.

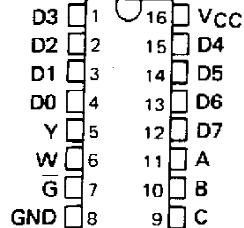
The '151A and '152A incorporate address buffers that have symmetrical propagation delay times through the complementary paths. This reduces the possibility of transients occurring at the output(s) due to changes made at the select inputs, even when the '151A outputs are enabled (i.e., strobe low).

**SN54150 . . . J OR W PACKAGE
SN74150 . . . N PACKAGE**

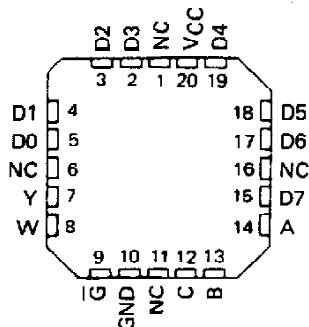
(TOP VIEW)

**SN54151A, SN54LS151, SN54S151 . . . J OR W PACKAGE
SN74151A . . . N PACKAGE****SN74LS151, SN74S151 . . . D OR N PACKAGE**

(TOP VIEW)

**SN54LS151, SN54S151 . . . FK PACKAGE**

(TOP VIEW)

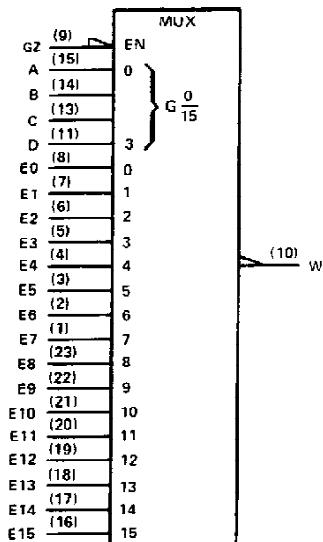


NC - No internal connection

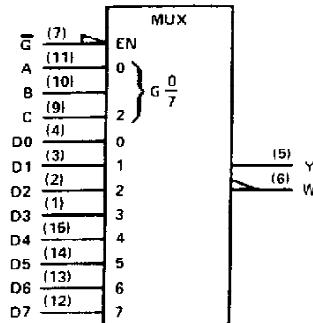
**SN54150, SN54151A, SN54LS151, SN54S151,
SN74150, SN74151A, SN74LS151, SN74S151
DATA SELECTORS/MULTIPLEXERS**

logic symbols†

'150



'151A, 'LS151, 'S151



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

'150

FUNCTION TABLE

INPUTS				OUTPUT
SELECT		STROBE		W
D	C	B	A	\bar{G}
X	X	X	X	H
L	L	L	L	L
L	L	L	H	L
L	L	H	L	L
L	L	H	H	L
L	H	L	L	L
L	H	L	H	L
L	H	H	L	L
L	H	H	H	L
H	L	L	L	L
H	L	L	H	L
H	L	H	L	L
H	L	H	H	L
H	H	L	L	L
H	H	L	H	L
H	H	H	L	L
H	H	H	H	L

'151A, 'LS151, 'S151

FUNCTION TABLE

INPUTS				OUTPUTS	
SELECT		STROBE		Y	W
C	B	A	\bar{G}		
X	X	X	H	H	H
L	L	L	L	D0	$\bar{D}0$
L	L	H	L	D1	$\bar{D}1$
L	H	L	L	D2	$\bar{D}2$
L	H	H	L	D3	$\bar{D}3$
H	L	L	L	D4	$\bar{D}4$
H	L	H	L	D5	$\bar{D}5$
H	H	L	L	D6	$\bar{D}6$
H	H	H	L	D7	$\bar{D}7$

H = high level, L = low level, X = irrelevant

$\bar{E}0, \bar{E}1 \dots \bar{E}15$ = the complement of the level of the respective E input

D0, D1 ... D7 = the level of the D respective input

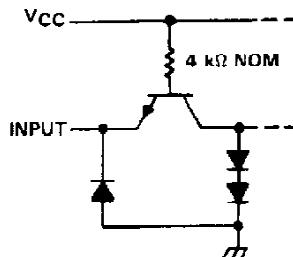
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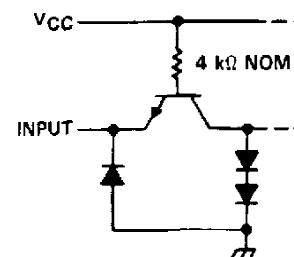
**SN54150, SN54151A, SN54LS151, SN54S151
SN74150, SN74151A, SN74LS151, SN74S151
DATA SELECTORS/MULTIPLEXERS**

schematics of inputs and outputs

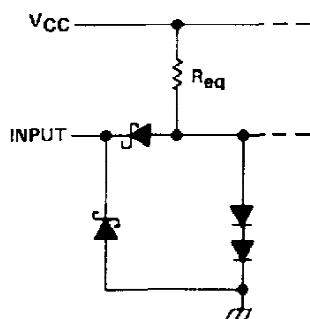
EQUIVALENT OF EACH INPUT
OF '150



EQUIVALENT OF EACH INPUT
OF '151A

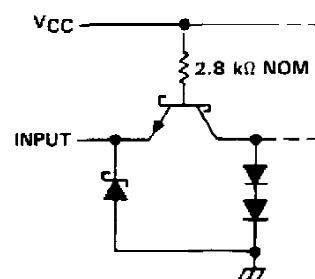


EQUIVALENT OF EACH INPUT
OF 'LS151

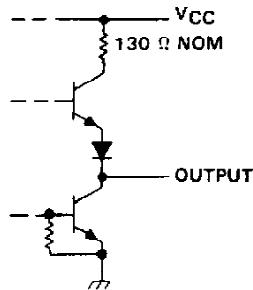


Data select and strobe $R_{eq} = 20 \text{ k}\Omega \text{ NOM}$
Data inputs $R_{eq} = 17 \text{ k}\Omega \text{ NOM}$

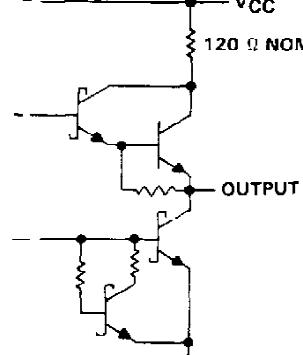
EQUIVALENT OF EACH INPUT
OF 'S151



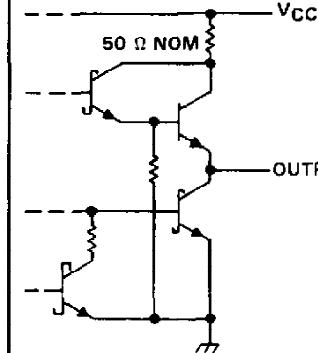
TYPICAL OF ALL OUTPUTS
OF '150, '151A



TYPICAL OF ALL OUTPUTS
OF 'LS151



TYPICAL OF ALL OUTPUTS
OF 'S151



SN54150, SN54151A, SN74150, SN74151A DATA SELECTORS/MULTIPLEXERS

recommended operating conditions

	SN54'			SN74'			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}				-800		-800	μA
Low-level output current, I_{OL}				16		16	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 [†]	'150			'151A			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	$V_{CC} = \text{MIN}$, $I_I = -8 \text{ mA}$			-1.5			-1.5	V
V_{OH} High-level output voltage	$V_{CC} = \text{MIN}$, $V_{IH} = 2 \text{ V}$, $V_{IL} = 0.8 \text{ V}$, $I_{OH} = -800 \mu\text{A}$	2.4	3.4		2.4	3.4		V
V_{OL} Low-level output voltage	$V_{CC} = \text{MIN}$, $V_{IH} = 2 \text{ V}$, $V_{IL} = 0.8 \text{ V}$, $I_{OL} = 16 \text{ mA}$		0.2	0.4		0.2	0.4	V
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	$V_{CC} = \text{MAX}$, $V_I = 2.4 \text{ V}$		40			40		μA
I_{IL} Low-level input current	$V_{CC} = \text{MAX}$, $V_I = 0.4 \text{ V}$		-1.6			-1.6		mA
I_{OS} Short-circuit output current [§]	$V_{CC} = \text{MAX}$	SN54'	-20	-55	-20	-55		mA
		SN74'	-18	-55	-18	-55		
I_{CC} Supply current	$V_{CC} = \text{MAX}$, See Note 3		40	68		29	48	mA

[†] For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions for the applicable device type.

[‡] All typical values at $V_{CC} = 5 \text{ V}$, $T_A = 25^\circ\text{C}$.

[§] Not more than one output of the '151A should be shorted at a time.

NOTE 3: I_{CC} is measured with the strobe and data select inputs at 4.5 V, all other inputs and outputs open.

switching characteristics, $V_{CC} = 5 \text{ V}$, $T_A = 25^\circ\text{C}$

PARAMETER [¶]	FROM (INPUT)	TO (OUTPUT)	TEST CONDITIONS	'150			'151A			UNIT	
				MIN	TYP	MAX	MIN	TYP	MAX		
tPLH	A, B, or C (4 levels)	Y	$C_L = 15 \text{ pF}$, $R_L = 400 \Omega$, See Note 4 i			25	38			ns	
tPHL						25	38				
tPLH	A, B, C, or D (3 levels)	W		23	35		17	26		ns	
tPHL				22	33		19	30			
tPLH	Strobe \bar{G}	Y				21	33			ns	
tPHL						22	33				
tPLH	Strobe \bar{G}	W		15.5	24		14	21		ns	
tPHL				21	30		15	23			
tPLH	D0 thru D7	Y				13	20			ns	
tPHL						18	27				
tPLH	E0 thru E15, or D0 thru D7	W		8.5	14		8	14		ns	
tPHL				13	20		8	14			

[¶]tPLH = propagation delay time, low-to-high-level output

tPHL = propagation delay time, high-to-low-level output

NOTE 4: Load circuits and voltage waveforms are shown in Section 1.

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**SN54LS151, SN74LS151
DATA SELECTORS/MULTIPLEXERS**

recommended operating conditions

	SN54LS151			SN74LS151			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}			-400			-400	μA
Low-level output current, I_{OL}			4			8	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 [†]	SN54LS151			SN74LS151			UNIT
		MIN	TYP [‡]	MAX	MIN	TYP [‡]	MAX	
V_{IH} High-level input voltage		2		2				V
V_{IL} Low-level input voltage			0.7			0.8		V
V_{IK} Input clamp voltage	$V_{CC} = \text{MIN}$, $I_I = -18 \text{ mA}$			-1.5			-1.5	V
V_{OH} High-level output voltage	$V_{CC} = \text{MIN}$, $V_{IH} = 2 \text{ V}$, $V_{IL} = V_{IL\text{max}}$, $I_{OH} = -400 \mu A$	2.5	3.4		2.7	3.4		V
V_{OL} Low-level output voltage	$V_{CC} = \text{MIN}$, $V_{IH} = 2 \text{ V}$, $I_{OL} = 4 \text{ mA}$ $V_{IL} = V_{IL\text{max}}$ $I_{OL} = 8 \text{ mA}$	0.25	0.4		0.25	0.4		V
I_I Input current at maximum input voltage	$V_{CC} = \text{MAX}$, $V_I = 7 \text{ V}$			0.1			0.1	mA
I_{IH} High-level input current	$V_{CC} = \text{MAX}$, $V_I = 2.7 \text{ V}$			20			20	μA
I_{IL} Low-level input current	$V_{CC} = \text{MAX}$, $V_I = 0.4 \text{ V}$			-0.4			-0.4	mA
I_{OS} Short-circuit output current [§]	$V_{CC} = \text{MAX}$	-20	-100	-20	-100	-20	-100	mA
I_{CC} Supply current	$V_{CC} = \text{MAX}$, Outputs open, All inputs at 4.5 V	6.0	10	6.0	10	6.0	10	mA

[†] For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions for the applicable device type.

[‡] 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 short-circuit should not exceed one second.

switching characteristics, $V_{CC} = 5 \text{ V}$, $T_A = 25^\circ\text{C}$

PARAMETER [¶]	FROM (INPUT)	TO (OUTPUT)	TEST CONDITIONS	MIN	TYP	MAX	UNIT	
t _{PLH}	A, B, or C (4 levels)	Y	$C_L = 15 \text{ pF}$, $R_L = 2 \text{ k}\Omega$, See Note 4	27	43			
t _{PHL}				18	30		ns	
t _{PLH}		W		14	23			
t _{PHL}				20	32		ns	
t _{PLH}		Strobe G		26	42			
t _{PHL}				20	32		ns	
t _{PLH}		W		15	24			
t _{PHL}				18	30		ns	
t _{PLH}		Any D		20	32			
t _{PHL}				16	26		ns	
t _{PLH}		W		13	21			
t _{PHL}				12	20		ns	

[¶]t_{PLH} = propagation delay time, low-to-high-level output

t_{PHL} = propagation delay time, high-to-low-level output

NOTE 4: Load circuits and voltage waveforms are shown in Section 1.

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SN54S151, SN74S151 DATA SELECTORS/MULTIPLEXERS

recommended operating conditions

	SN54S151			SN74S151			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}			-1			-1	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 [†]	MIN	TYP [‡]	MAX	UNIT
V_{IH} High-level input voltage			2		V
V_{IL} Low-level input voltage				0.8	V
V_{IK} Input clamp voltage	$V_{CC} = \text{MIN}$, $I_I = -18 \text{ mA}$			-1.2	V
V_{OH} High-level output voltage	$V_{CC} = \text{MIN}$, $V_{IH} = 2 \text{ V}$, $V_{IL} = 0.8 \text{ V}$, $I_{OH} = -1 \text{ mA}$	SN54S151	2.5	3.4	V
V_{OL} Low-level output voltage	$V_{CC} = \text{MIN}$, $V_{IH} = 2 \text{ V}$, $V_{IL} = 0.8 \text{ V}$, $I_{OL} = 20 \text{ mA}$	SN74S151	2.7	3.4	
I_I Input current at maximum input voltage	$V_{CC} = \text{MAX}$, $V_I = 5.5 \text{ V}$			1	mA
I_{IH} High-level input current	$V_{CC} = \text{MAX}$, $V_I = 2.7 \text{ V}$			50	μA
I_{IL} Low-level input current	$V_{CC} = \text{MAX}$, $V_I = 0.5 \text{ V}$			-2	mA
I_{OS} Short-circuit output current [§]	$V_{CC} = \text{MAX}$		-40	-100	mA
I_{CC} Supply current	$V_{CC} = \text{MAX}$, All inputs at 4.5 V, All outputs open		45	70	mA

[†]For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions for the applicable device type.

[‡]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.

switching characteristics, $V_{CC} = 5 \text{ V}$, $T_A = 25^\circ\text{C}$

PARAMETER [¶]	FROM (INPUT)	TO (OUTPUT)	TEST CONDITIONS	MIN	TYP	MAX	UNIT
t_{PLH}	A, B, or C (4 levels)	Y	$C_L = 15 \text{ pF}$, $R_L = 280 \text{ k}\Omega$, See Note 4	12	18		ns
t_{PHL}	A, B, or C (3 levels)	W		12	18		
t_{PLH}	Any D	Y		10	15		
t_{PHL}	Any D	W		9	13.5		
t_{PLH}	Strobe \bar{G}	Y		8	12		
t_{PHL}	Strobe \bar{G}	W		8	12		
t_{PLH}				4.5	7		
t_{PHL}				4.5	7		
t_{PLH}				11	16.5		
t_{PHL}				12	18		

[¶] t_{PLH} = propagation delay time, low-to-high-level output

[¶] t_{PHL} = propagation delay time, high-to-low-level output

NOTE 4: Load circuits and voltage waveforms are shown in Section 1.

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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
5962-9558001QJA	ACTIVE	CDIP	J	24	1	TBD	Call TI	N / A for Pkg Type	-55 to 125	5962-9558001QJ A SNJ54150J	Samples
5962-9558001QKA	ACTIVE	CFP	W	24	1	TBD	A42	N / A for Pkg Type	-55 to 125	5962-9558001QK A SNJ54150W	Samples
5962-9558001QKA	ACTIVE	CFP	W	24	1	TBD	A42	N / A for Pkg Type	-55 to 125	5962-9558001QK A SNJ54150W	Samples
76010012A	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type	-55 to 125	76010012A SNJ54LS 151FK	Samples
76010012A	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type	-55 to 125	76010012A SNJ54LS 151FK	Samples
7601001EA	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	7601001EA SNJ54LS151J	Samples
7601001EA	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	7601001EA SNJ54LS151J	Samples
JM38510/01401BKA	ACTIVE	CFP	W	24	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 01401BKA	Samples
JM38510/01401BKA	ACTIVE	CFP	W	24	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 01401BKA	Samples
JM38510/07901BEA	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 07901BEA	Samples
JM38510/07901BFA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 07901BFA	Samples
JM38510/30901B2A	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type	-55 to 125	JM38510/ 30901B2A	Samples
JM38510/30901B2A	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type	-55 to 125	JM38510/ 30901B2A	Samples
JM38510/30901BEA	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 30901BEA	Samples
JM38510/30901BEA	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 30901BEA	Samples



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PACKAGE OPTION ADDENDUM

17-Mar-2017

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
JM38510/30901BFA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 30901BFA	Samples
JM38510/30901BFA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 30901BFA	Samples
M38510/01401BKA	ACTIVE	CFP	W	24	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 01401BKA	Samples
M38510/01401BKA	ACTIVE	CFP	W	24	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 01401BKA	Samples
M38510/07901BEA	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 07901BEA	Samples
M38510/07901BFA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 07901BFA	Samples
M38510/30901B2A	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type	-55 to 125	JM38510/ 30901B2A	Samples
M38510/30901B2A	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type	-55 to 125	JM38510/ 30901B2A	Samples
M38510/30901BEA	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 30901BEA	Samples
M38510/30901BEA	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 30901BEA	Samples
M38510/30901BFA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 30901BFA	Samples
M38510/30901BFA	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	JM38510/ 30901BFA	Samples
SN54150J	ACTIVE	CDIP	J	24	1	TBD	Call TI	N / A for Pkg Type	-55 to 125	SN54150J	Samples
SN54150J	ACTIVE	CDIP	J	24	1	TBD	Call TI	N / A for Pkg Type	-55 to 125	SN54150J	Samples
SN54LS151J	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	SN54LS151J	Samples
SN54LS151J	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	SN54LS151J	Samples
SN54S151J	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	SN54S151J	Samples
SN74151AN	OBsolete	PDIP	N	16		TBD	Call TI	Call TI	0 to 70		
SN74151AN	OBsolete	PDIP	N	16		TBD	Call TI	Call TI	0 to 70		

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
SN74LS151D	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	LS151	Samples
SN74LS151D	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	LS151	Samples
SN74LS151DE4	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	LS151	Samples
SN74LS151DE4	ACTIVE	SOIC	D	16	40	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	LS151	Samples
SN74LS151DR	ACTIVE	SOIC	D	16	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	LS151	Samples
SN74LS151DR	ACTIVE	SOIC	D	16	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	LS151	Samples
SN74LS151DRE4	ACTIVE	SOIC	D	16	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	LS151	Samples
SN74LS151DRE4	ACTIVE	SOIC	D	16	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	LS151	Samples
SN74LS151N	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type	0 to 70	SN74LS151N	Samples
SN74LS151N	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type	0 to 70	SN74LS151N	Samples
SN74LS151NE4	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type	0 to 70	SN74LS151N	Samples
SN74LS151NE4	ACTIVE	PDIP	N	16	25	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type	0 to 70	SN74LS151N	Samples
SN74LS151NSR	ACTIVE	SO	NS	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	74LS151	Samples
SN74LS151NSR	ACTIVE	SO	NS	16	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 70	74LS151	Samples
SNJ54150J	ACTIVE	CDIP	J	24	1	TBD	Call TI	N / A for Pkg Type	-55 to 125	5962-9558001QJA SNJ54150J	Samples
SNJ54150J	ACTIVE	CDIP	J	24	1	TBD	Call TI	N / A for Pkg Type	-55 to 125	5962-9558001QJA SNJ54150J	Samples
SNJ54150W	ACTIVE	CFP	W	24	1	TBD	A42	N / A for Pkg Type	-55 to 125	5962-9558001QKA SNJ54150W	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
SNJ54150W	ACTIVE	CFP	W	24	1	TBD	A42	N / A for Pkg Type	-55 to 125	5962-9558001QK A SNJ54150W	Samples
SNJ54LS151FK	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type	-55 to 125	76010012A SNJ54LS 151FK	Samples
SNJ54LS151FK	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type	-55 to 125	76010012A SNJ54LS 151FK	Samples
SNJ54LS151J	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	7601001EA SNJ54LS151J	Samples
SNJ54LS151J	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	7601001EA SNJ54LS151J	Samples
SNJ54S151J	ACTIVE	CDIP	J	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	SNJ54S151J	Samples
SNJ54S151W	ACTIVE	CFP	W	16	1	TBD	A42	N / A for Pkg Type	-55 to 125	SNJ54S151W	Samples

(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.



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PACKAGE OPTION ADDENDUM

17-Mar-2017

(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.

Important Information and Disclaimer: The information provided on this page represents TI's knowledge and belief as of the date that it is provided. TI bases its knowledge and belief on information provided by third parties, and makes no representation or warranty as to the accuracy of such information. Efforts are underway to better integrate information from third parties. TI has taken and continues to take reasonable steps to provide representative and accurate information but may not have conducted destructive testing or chemical analysis on incoming materials and chemicals. TI and TI suppliers consider certain information to be proprietary, and thus CAS numbers and other limited information may not be available for release.

In no event shall TI's liability arising out of such information exceed the total purchase price of the TI part(s) at issue in this document sold by TI to Customer on an annual basis.

OTHER QUALIFIED VERSIONS OF SN54LS151, SN74LS151 :

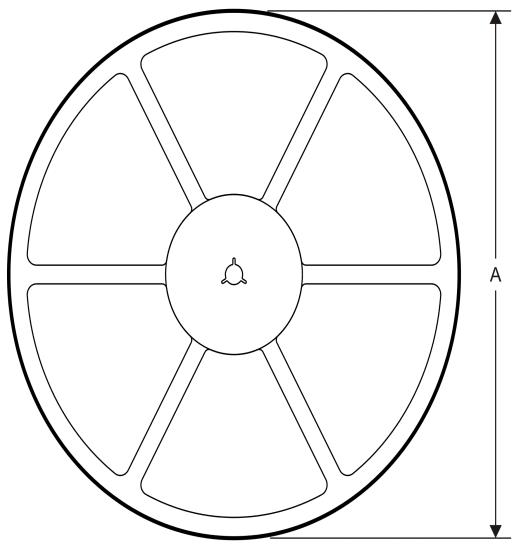
- Catalog: [SN74LS151](#)
- Military: [SN54LS151](#)

NOTE: Qualified Version Definitions:

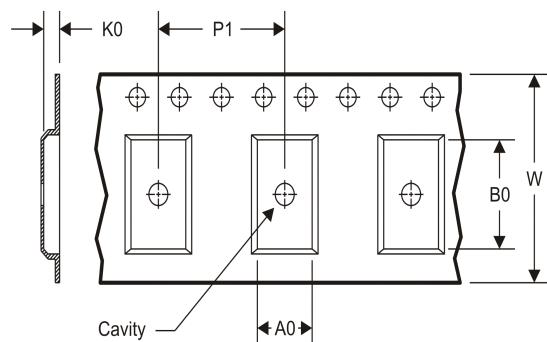
- Catalog - TI's standard catalog product
- Military - QML certified for Military and Defense Applications

TAPE AND REEL INFORMATION

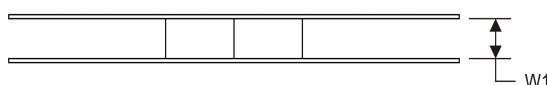
REEL DIMENSIONS



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

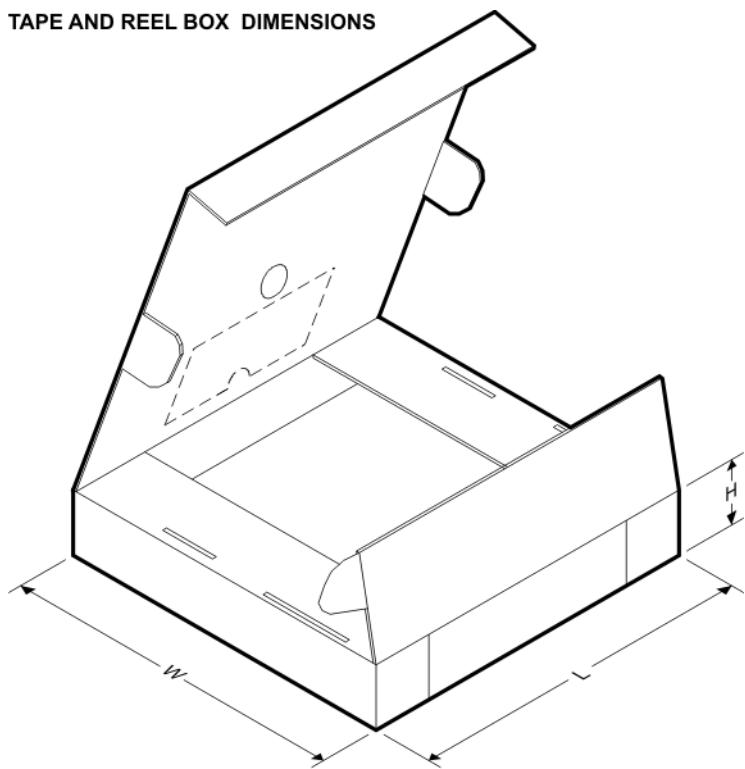


TAPE AND REEL INFORMATION

*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
SN74LS151DR	SOIC	D	16	2500	330.0	16.4	6.5	10.3	2.1	8.0	16.0	Q1
SN74LS151NSR	SO	NS	16	2000	330.0	16.4	8.2	10.5	2.5	12.0	16.0	Q1

TAPE AND REEL BOX DIMENSIONS



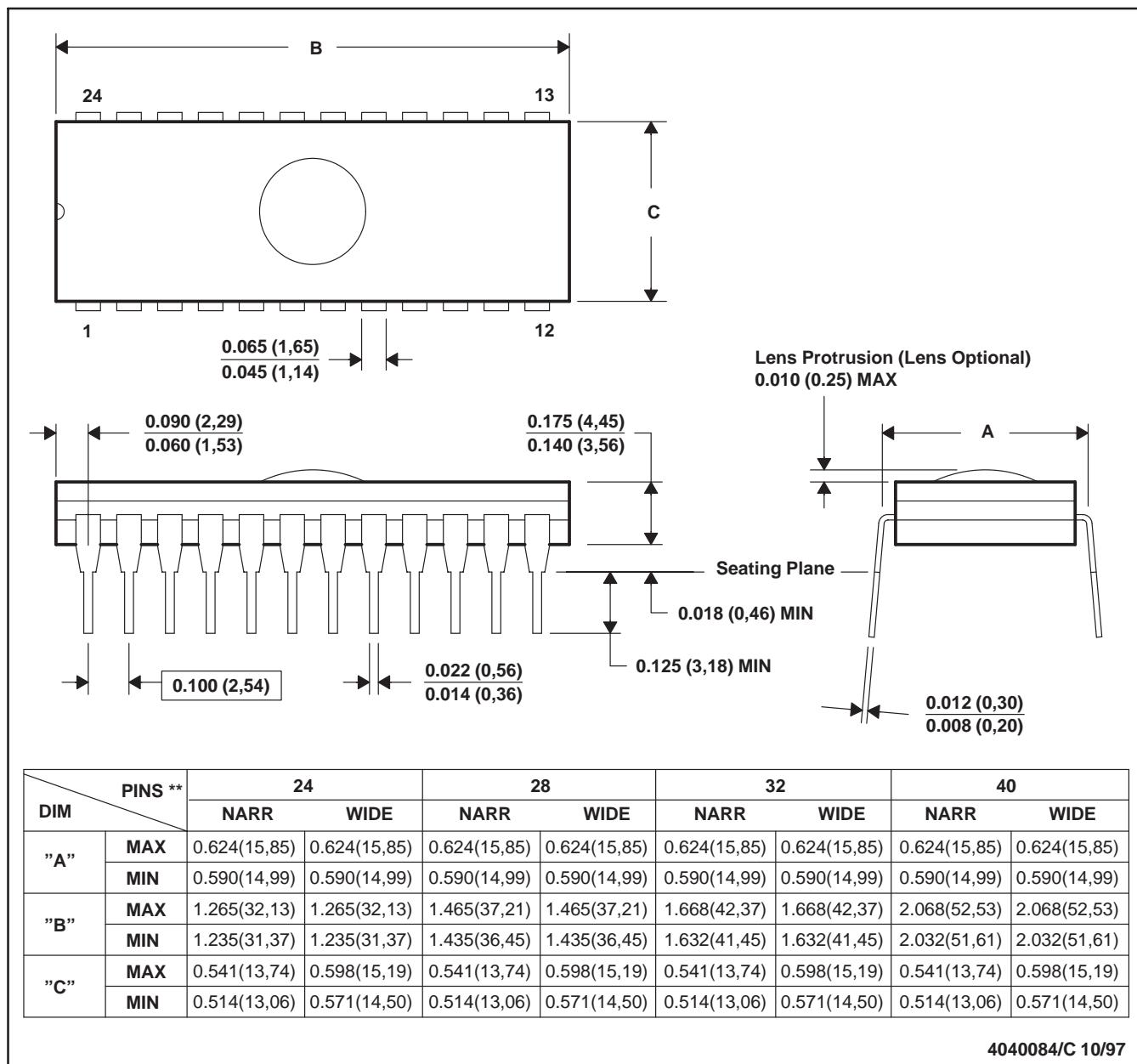
*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
SN74LS151DR	SOIC	D	16	2500	333.2	345.9	28.6
SN74LS151NSR	SO	NS	16	2000	367.0	367.0	38.0

J (R-GDIP-T**)

CERAMIC DUAL-IN-LINE PACKAGE

24 PINS SHOWN

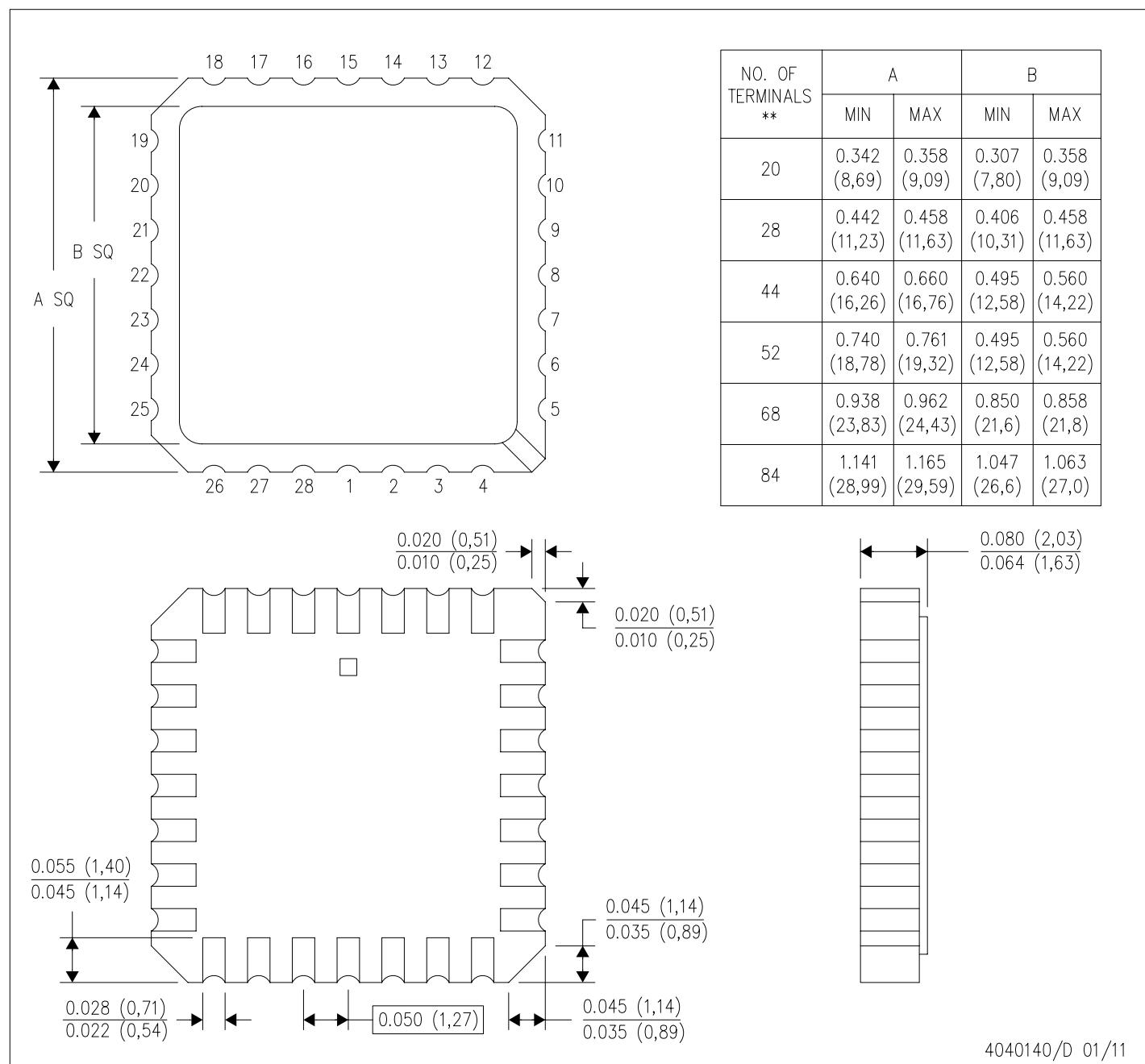


- NOTES:
- All linear dimensions are in inches (millimeters).
 - This drawing is subject to change without notice.
 - Window (lens) added to this group of packages (24-, 28-, 32-, 40-pin).
 - This package can be hermetically sealed with a ceramic lid using glass frit.
 - Index point is provided on cap for terminal identification.

FK (S-CQCC-N**)

28 TERMINAL SHOWN

LEADLESS CERAMIC CHIP CARRIER

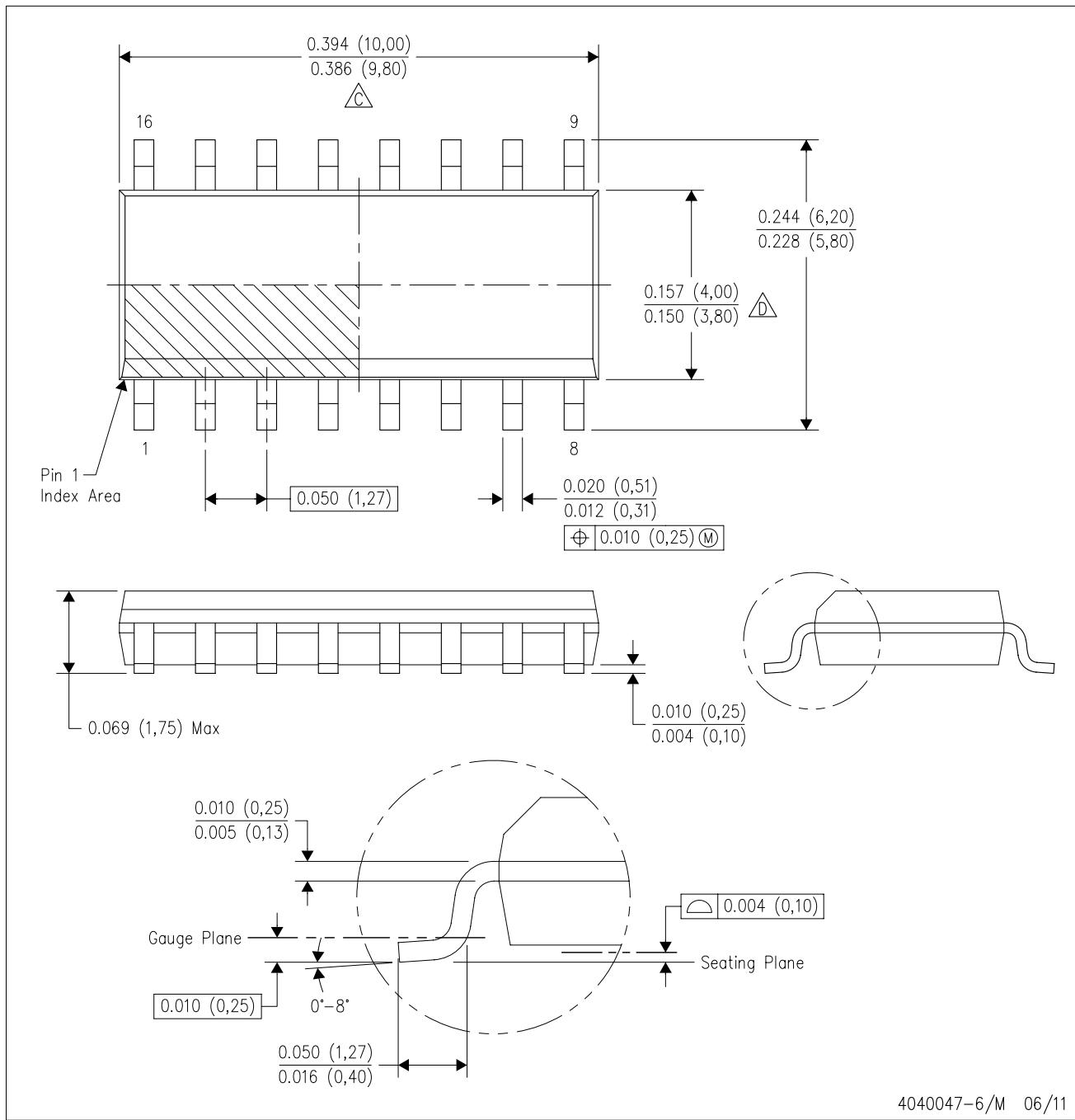


- NOTES:
- All linear dimensions are in inches (millimeters).
 - This drawing is subject to change without notice.
 - This package can be hermetically sealed with a metal lid.
 - Falls within JEDEC MS-004

4040140/D 01/11

D (R-PDSO-G16)

PLASTIC SMALL OUTLINE



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.

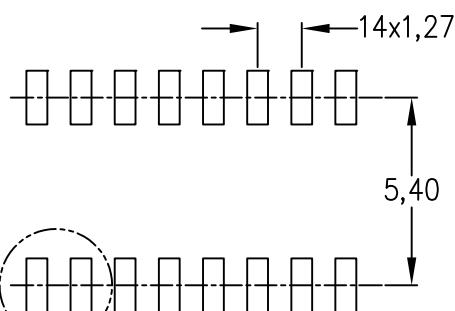
E. Reference JEDEC MS-012 variation AC.

LAND PATTERN DATA

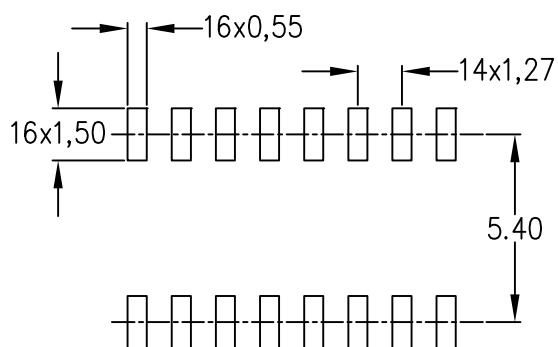
D (R-PDSO-G16)

PLASTIC SMALL OUTLINE

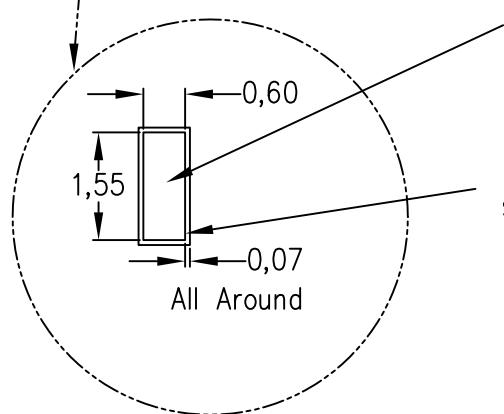
Example Board Layout
(Note C)



Stencil Openings
(Note D)



Example
Non Soldermask Defined Pad



Example
Pad Geometry
(See Note C)

Example
Solder Mask Opening
(See Note E)

4211283-4/E 08/12

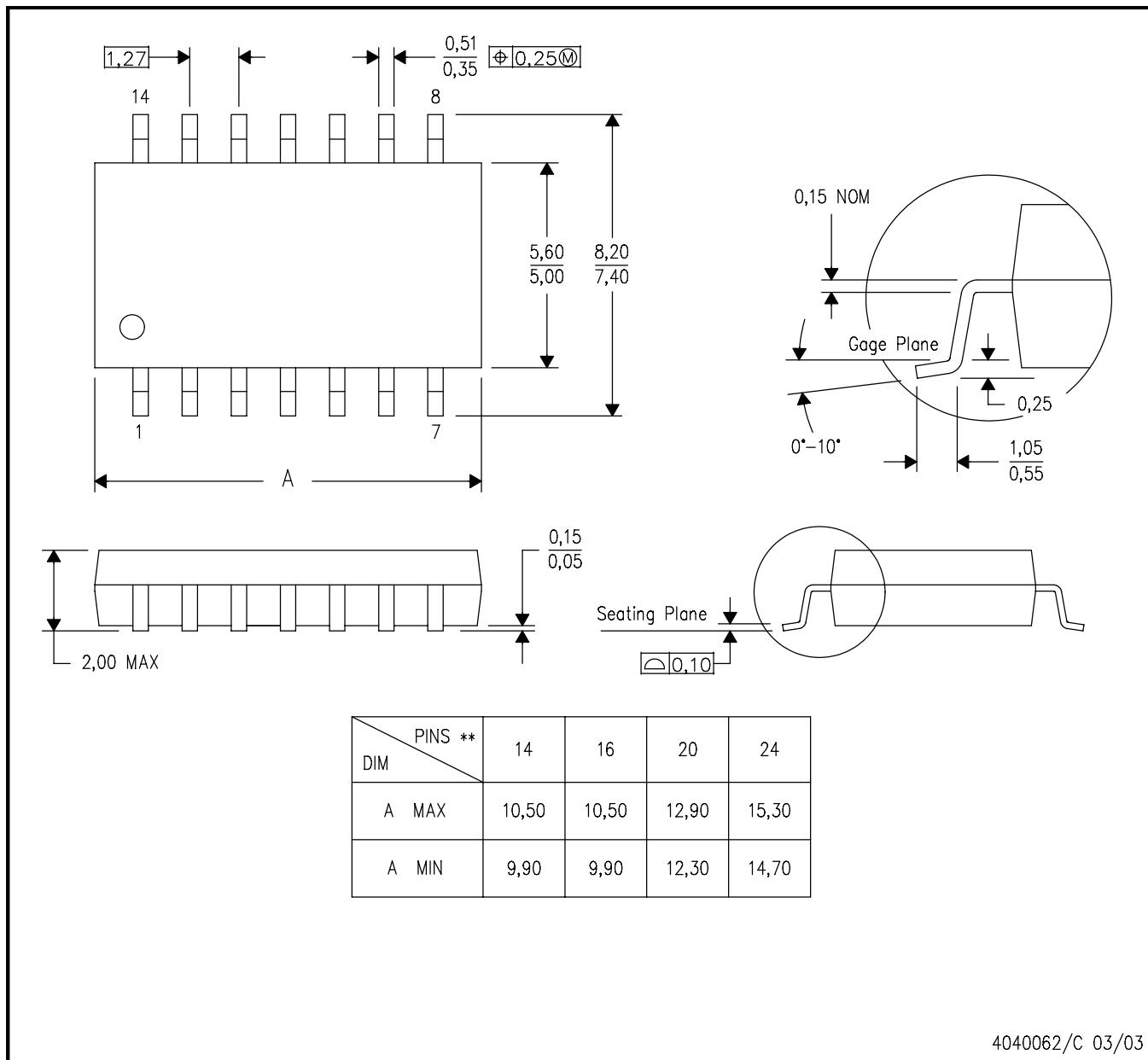
- NOTES:
- A. All linear dimensions are in millimeters.
 - B. This drawing is subject to change without notice.
 - C. Publication IPC-7351 is recommended for alternate designs.
 - D. Laser cutting apertures with trapezoidal walls and also rounding corners will offer better paste release. Customers should 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.

MECHANICAL DATA

NS (R-PDSO-G)**

14-PINS SHOWN

PLASTIC SMALL-OUTLINE PACKAGE

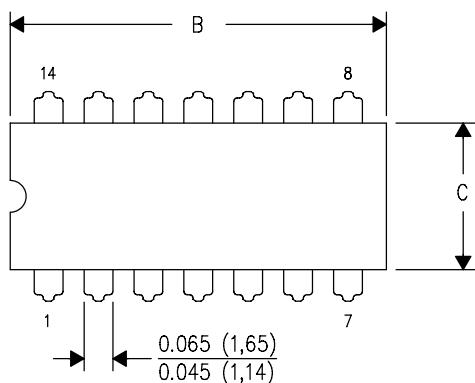


- NOTES: A. All linear dimensions are in millimeters.
 B. This drawing is subject to change without notice.
 C. Body dimensions do not include mold flash or protrusion, not to exceed 0,15.

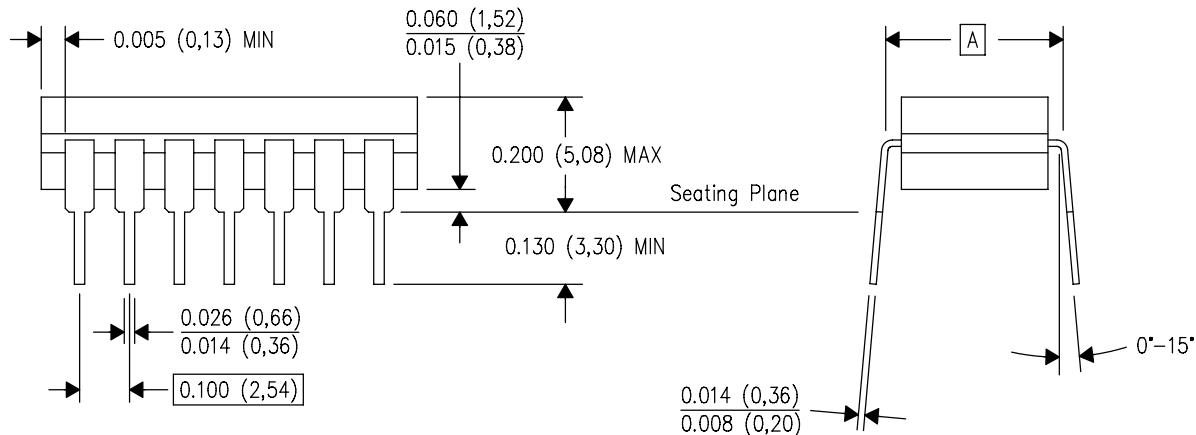
J (R-GDIP-T**)

14 LEADS SHOWN

CERAMIC DUAL IN-LINE PACKAGE



PINS **\nDIM	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)



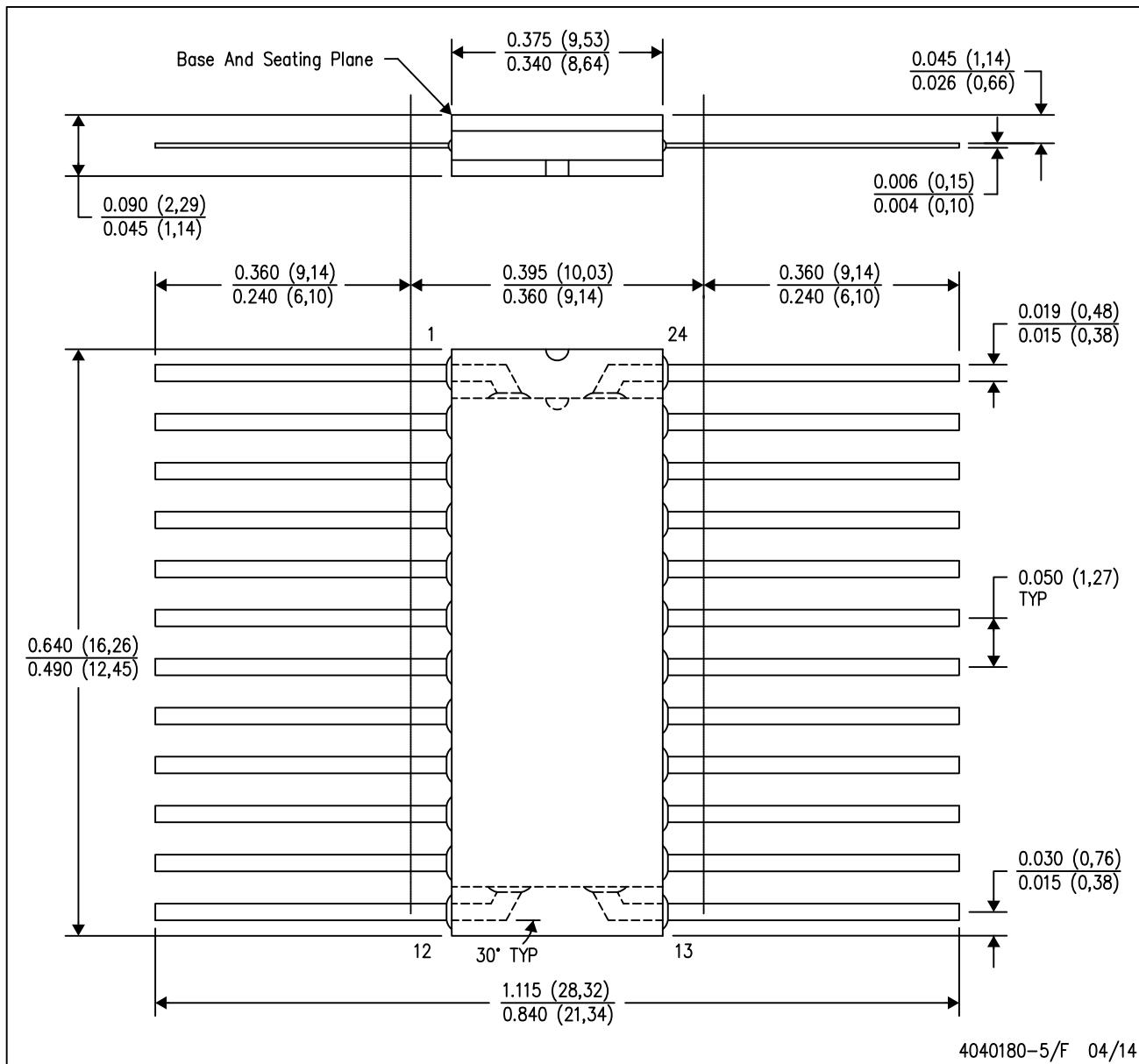
4040083/F 03/03

- NOTES:
- 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.

MECHANICAL DATA

W (R-GDFP-F24)

CERAMIC DUAL FLATPACK



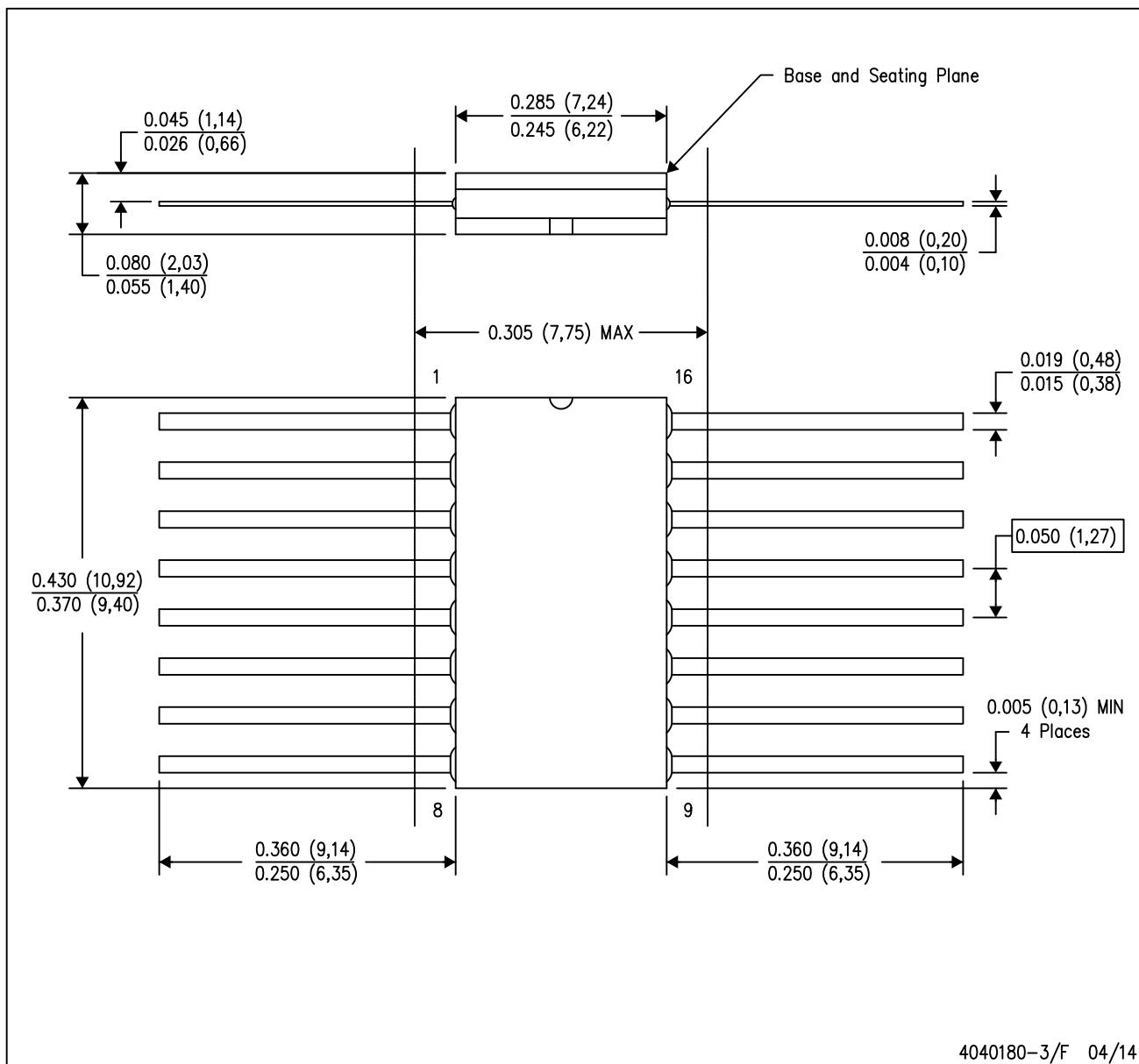
4040180-5/F 04/14

- 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-F20

MECHANICAL DATA

W (R-GDFP-F16)

CERAMIC DUAL FLATPACK



4040180-3/F 04/14

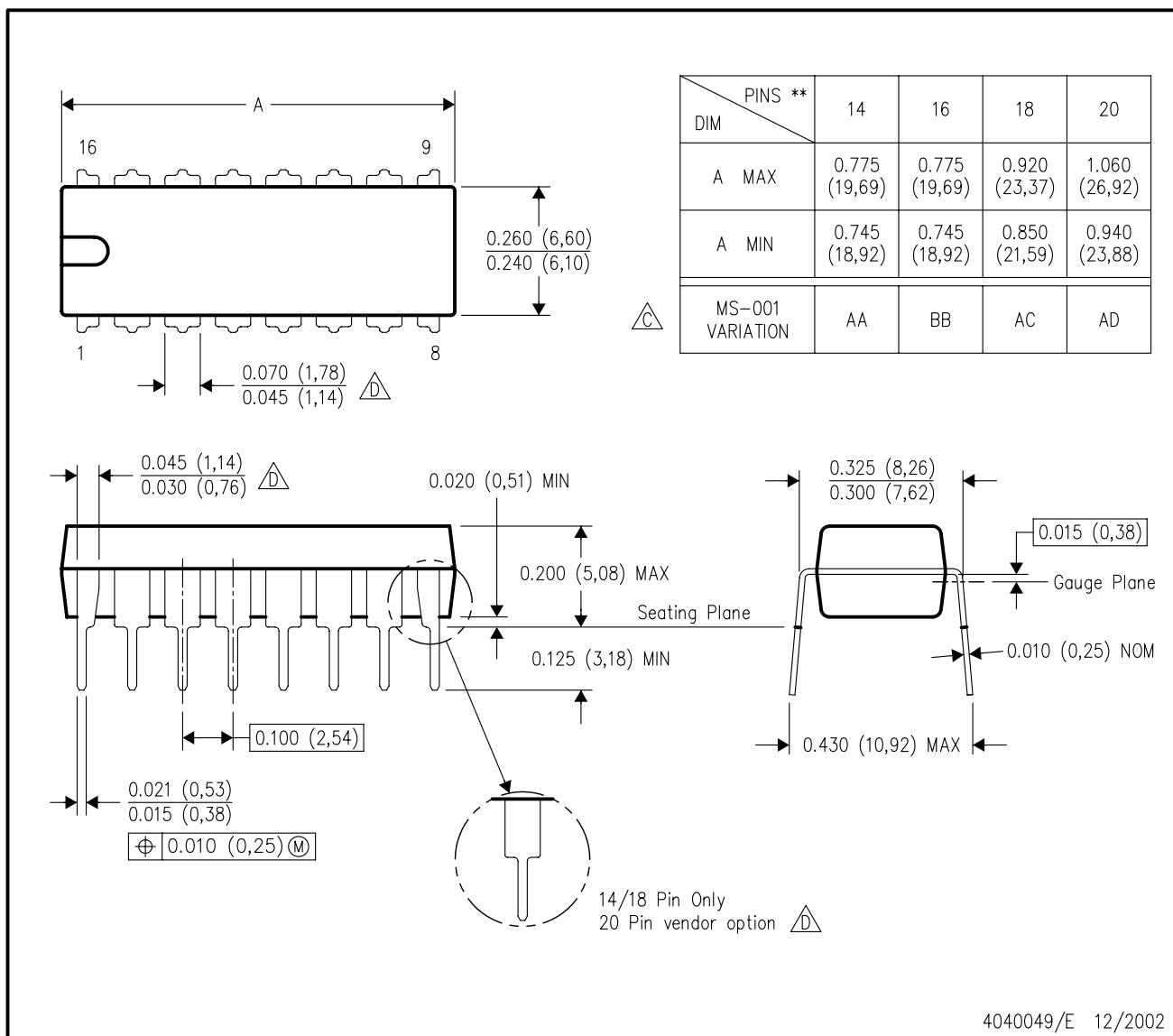
NOTES:

- 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

N (R-PDIP-T**)

16 PINS SHOWN

PLASTIC DUAL-IN-LINE PACKAGE



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.