

## NOTES:

1. DIMENSIONS AND TOLERANCES ARE PER ASME Y14.5M-1994

2. ALL DIMENSIONS IN MILLIMETERS.

 $\sqrt{3.}$  PIN 1 INDICATOR (45° X .30).

4. N IS THE MAXIMUM NUMBER OF LEADS.

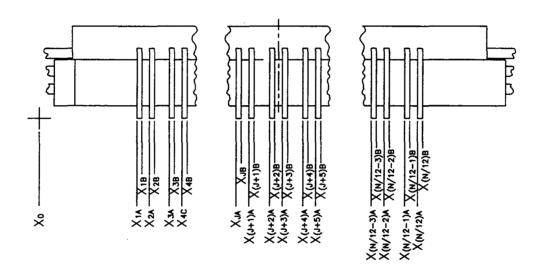
 $\sqrt{5}$  Datum's A, B, and D to be determined near the seating plane.

6 D/2 AND E/2 REFERENCE DATUMS E-F AND G-H RESPECTIVELY.

THE POSITIONAL TOLERANCE OF THE 6 DIMENSION APPLIES ON THE TIP OF THE LEAD.

/8.\ PIN NO'S START FROM OUTSIDE PINS PROCEEDING COUNTERCLOCKWISE
& CONTINUING WITH MIDDLE ROW TO INSIDE ROW, ENDING WITH N (TOTAL NO. OF PINS)

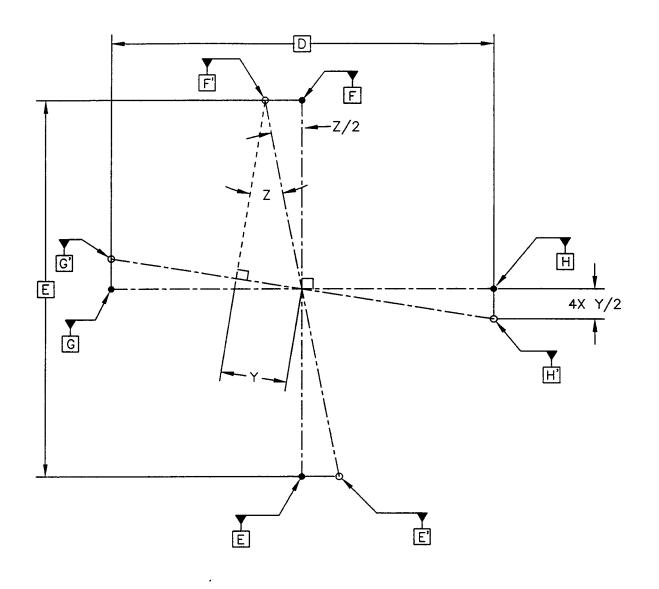
9. DETERMINATION OF DATUM'S E-F AND G-H:



$$X' = DATUM LOCATION = \frac{\sum_{J=1}^{N/12} (X_{JB} - ((X_{JB} - X_{JA})/2)) - X_0}{N/12}$$

 $X'=E',\,F',\,G'$  OR H'. DETERMINE DATUM E', F', G', AND H', ONE FOR EACH OF THE FOUR SIDES. X IS AN ARBITRARY MACHINE O. THE LEAD EDGES ARE DETERMINED 0.1 mm BACK FROM THE LEAD TIP.

JEDEC	TITLE	ISSUE	DATE	-	SHEET
SOLID STATE PRODUCT OUTLINES	PQFP-B 3-TIER FAMILY	Α	4/97	MO-198	3 OF 6



DETERMINE DATUM'S E-F. AND G-H BY DISPLACING E'-F' AND G'-H' BY Y/2. OR ROTATING THROUGH <Z/2, TO GENERATE DATUM'S WHICH ARE MUTUALLY PERPENDICULAR. (THIS FIGURE EXAGGERATES THE MAGNITUDE OF Y AND Z)

NOTE: ASME Y14.5M-1994 DOES NOT RECOGNIZE THE SHIFTING OF DATUM'S AS DEFINED ABOVE TO ESTABLISH THE PERPENDICULARITY OF THE DATUM PLANES.

JEDEC	TITLE	ISSUE	DATE		SHEET
SOLID STATE PRODUCT OUTLINES	PQFP-B 3-TIER FAMILY	Α	4/97	MO-198	4 OF 6

VARIAIUNS (ALL DIMENSIONS ARE IN MILIMETERS)	S		VARIAT	IONS (ALL DI	MENSION	S ARE IN M	ILLIMETERS	)	
A1 0.45 0.50 0.50 0.55 0.45 0.50 0.55 0.55	u u		AA		N		AB		N
A	Ö	MIN.	NOM.	MAX.	ĬĚ	MIN.	NOM.	MAX.	ĭ
A2	A	3.65	3.70	3.75	<del>                                     </del>	3.65	3.70	3.75	<del></del>
A3	A1		0.50		1	0.45	0.50	0.55	
A	A2		3.20				3.20	3.25	
AB	A3		0.88	i			0.88	0.98	
A5	A4		1.58	1.68		1	1.58	1.68	
Description	<b>A</b> 5	2.21	2.31	2.41		2.21		2.41	
c c 1 0.35         0.40 0.45 0.45         0.35 0.40 0.45 0.35 0.40 0.45 0.45 0.35 0.40 0.45 0.45 0.35 0.40 0.45 0.45 0.35 0.40 0.45 0.45 0.35 0.40 0.45 0.45 0.35 0.40 0.45 0.45 0.35 0.40 0.45 0.45 0.35 0.40 0.45 0.45 0.35 0.40 0.45 0.35 0.40 0.45 0.35 0.40 0.45 0.35 0.40 0.45 0.35 0.40 0.45 0.35 0.40 0.45 0.35 0.40 0.45 0.35 0.40 0.45 0.35 0.40 0.45 0.35 0.40 0.45 0.35 0.40 0.45 0.35 0.40 0.45 0.35 0.40 0.45 0.35 0.40 0.45 0.45 0.45 0.45 0.45 0.45 0.4	b	1	ľ	I .	7	0.15	0.20	0.25	7
C1	b1	Į.					1	I I	
D4/F4		1	ŧ	l		1		l l	
D3	1			ł	1		1	1	
D3		10.55	1	10.65	ł	13.15			
E	,	17.50		17.00	_	00.40			1 -
Tolerances of Form and Position   Tolerances   Tolerances of Form and Position   Tolerances   Tolerance		17.50		17.60	3	20.10	1		5
Column	1	17.50	1	17.60	5	20.10	E .		
1.30 BASIC   21.15 BASIC   23.75 BASIC   23.75 BASIC   24.15 BASIC   2	1	17.50		17.60		20.10			
D2/E2	l i	•	1				I.	7	
D1/E								_	
TOLERANCES OF FORM AND POSITION   O.08   O.10   O.08   O.10   O.10   O.10   O.10   O.08   O.10   O.10   O.08   O.10   O.10   O.10   O.08   O.10   O									i
αdα bbb         0.08 bbb         0.10         0.10         0.10           NOTE         1.2         1.2         1.2         1.2           REF.         // - y 7 3           SSUE         A         A         A           B         VARIATIONS (ALL DIMENSIONS ARE IN MILLIMETERS)         A         A           B         MIN.         NOM.         MAX.         E         MIN.         NOM.         MAX.         E           A1         0.45         0.50         0.55         0.45         0.50         0.55           A2         3.15         3.20         3.25         3.15         3.20         3.25           A3         0.78         0.88         0.98         0.78         0.88         0.98           A4         1.48         1.58         1.68         1.48         1.58         1.68           A5         2.21         2.31         2.41         2.21         2.31         2.41         2.21         2.31         2.41         2.21         2.31         2.41         2.21         2.31         2.41         2.21         2.31         2.41         2.21         2.31         2.41<	N		216		3		264		3
Debi				TOLERANCES	OF FOR	RM AND POSI	TION		
Debi	aaa		0.08				0.08		
Note	bbb					٠			
Note	NOTE		1,2		<u> </u>		1.2		
SSUE	REF.	-						73	·
VARIATIONS (ALL DIMENSIONS ARE IN MILLIMETERS)   AC	ISSUE			<del></del>					
AC	s			ONS (ALL DI	MENSION	IS ARE IN MI		)	
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A1			1		<del> </del>		.1	l l	
A3	A1		ľ				1	l l	}
A4	A2	3.15	3.20	3.25		3.15	3.20	1	1
A5	A3		0.88	0.98		0.78	0.88	0.98	
A5   2.21   2.31   2.41   7   2.21   2.31   2.41   7   1.50   1.5	A4	1.48	1.58	1.68	•	1.48	1.58	1.68	
b		2.21		2.41		2.21		2.41	
c         0.35         0.40         0.45         0.35         0.40         0.45           D4/E4         15.75         15.80         15.85         18.35         18.40         18.45           D3         22.70         22.75         22.80         5         25.30         25.35         25.40         5           E         28.35 BASIC         22.75         22.80         5         25.30         25.35         25.40         5           E3         22.70         22.75         22.80         5         25.30         25.35         25.40         5           e         0.50 BASIC         0.50 BASIC         0.50 BASIC         1.30 BASIC         26.95 BASIC         26.95 BASIC         26.95 BASIC         360         3           D1/E1         26.35 BASIC         3         3         360         3         3    TOLERANCES OF FORM AND POSITION   A  TOLERANCES OF FORM AND POSITION  A  TOLERANCES OF FORM AND POSITION  BASIC  1.30 BASIC  2.31 BASIC  2.32 BASIC  2.32 BASIC  2.33 BASIC  2.34 BASIC  2.43 BASIC  2.43 BASIC  2.43 BASIC  2.54 BASIC  2.54 BASIC  2.54 BASIC  2.55 BASIC  2.56 BASIC  2.69 BASIC  2.69 BASIC  2.70 BAS	ь	0.15			7	0.15		0.25	7
C1 D4/E4 15.75	b1		1						
D4/E4			1						
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D3		13.73	1	13.63		10.55	1	l l	
E 22.70		22.70	1 1	22.80	5	25.30	1		5
E3								10	
Color   Colo		22.70		22.80	5	25.30	t		5
D2/E2 D1/E1 N         24.35 BASIC 26.35 BASIC 312         3         26.95 BASIC 28.95 BASIC 28.95 BASIC 360         3           TOLERANCES OF FORM AND POSITION           aga bbb         0.08 0.10         0.08 0.10           NOTE         1,2 1,2 1,2           REF.         1/-9/73 1/-9/73 1/-9/73         1/-9/73 1/-9/73 1/-9/73           ISSUE         A         A           JEDEC SOLID STATE PRODUCT         TITLE PQFP-B A         ISSUE DATE A	e		1 1				0.50 BASI		
D1/E1									
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TOLERANCES OF FORM AND POSITION  aga		1	26.35 BASIC		1 2		1	SIC	2
ααα         0.08         0.08         0.10           NOTE         1,2         1,2           REF.         // - 4/73         // - 9/73           ISSUE         A         A           JEDEC SOLID STATE PRODUCT         TITLE PQFP-B         ISSUE DATE A           MO-198         5.0F.6			312				1 200	ı	د ا
bbb         0.10         0.10           NOTE         1,2         1,2           REF.         // - 9 7 3         // - 9 7 3           ISSUE         A         ISSUE         DATE         SHEET           SOLID STATE PRODUCT         PQFP-B         A         MO-198         5.0F.6				TOI EDANICES	l	M AND BOCK	TION		
NOTE	N			TOLERANCES	l	M AND POSI			
REF.         // - 973         // - 973           ISSUE         A         A           JEDEC SOLID STATE PRODUCT         TITLE PQFP - B A MO - 198 5 OF 6	N aaa		0.08	TOLERANCES	l	RM AND POSI	0.08		
JEDEC TITLE POPP-B ISSUE DATE SHEET SOLID STATE PRODUCT 7 TIES FAMILY A MO-198 5 OF 6	aaa bbb		0.08 0.10	TOLERANCES	l	RM AND POSI	0.08 0.10		
JEDEC TITLE ISSUE DATE SHEET SOLID STATE PRODUCT 7 TIED FAMILY A MO-198 5 OF 6	aga bbb NOTE		0.08 0.10 1,2	TOLERANCES	l	RM AND POSI	0.08 0.10 1,2		
SOLID STATE PRODUCT POPP-B A MO-198 5 OF 6	aga bbb note REF.		0.08 0.10 1,2 //-473	TOLERANCES	l	RM AND POSI	0.08 0.10 1,2 // - y7		
SOLID STATE PRODUCT   7 TIED EARLY   A   MO-198   5 OF 6	aga bbb note REF.		0.08 0.10 1,2 //-473	TOLERANCES	l	RM AND POSI	0.08 0.10 1,2 // - y7		
OUTLINES 3-HER FAMILI 4/97	N  aaa bbb  NOTE  REF. ISSUE		0.08 0.10 1,2 //-473 A	Тптье	OF FOR		0.08 0.10 1,2 11 - 47		SHEET
	N  aaa bbb  NOTE  REF. ISSUE	SOLID STATE	0.08 0.10 1,2 //-973 /A	TITLE PQF	OF FOR	ISSUE	0.08 0.10 1,2 // - 47 /A DATE	3	,

s		VARIAT	IONS (ALL DI	MENSION	IS ARE IN M	LLIMETERS)		
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0	MIN.	NOM.	MAX.	N O T E	MIN.	NOM.	MAX.	N 0 T E
A	3.65	3.70	3.75	E .	3.65	3.70	3.75	E
I ^	0.45	0.50	0.55		0.45	0.50	0.55	
1 A2	3.15	3.20	3.25		3.15	3.20	3.25	l
A3	0.78	0.88	0.98		0.78	0.88	0.98	
A4	1.48	1.58	1.68		1.48	1.58	1.68	
A5	2.21	2.31	2.41		2.21	2.31	2.41	
	0.15	0.20	0.25	7	0.15	0.20	0.25	7
b b1	0.15	0.20	0.25	'	0.15	0.20	0.25	/
c	0.35	0.40	0.25		0.35	0.40	0.25	ŀ
c1	0.35	0.40	0.45		0.35	0.40	0.45	
D4/E4	20.95	21.00	21.05		23.55	23.60	23.65	j
	20.93	33.55 BASIC	21.03		20.00	36.15 BASIC	25.65	1
D D3	27.00	27.95	28.00	5	30.50		30.60	_
E	27.90	33.55 BASIC	28.00	'	30.30	30.55 36.15 BASIC	30.60	5
E3	27.90	27.95	28.00	5	30.50	30.55	30.60	5
e	27.30	0.50 BASIC	20.00		30.30	0.50 BASIC	30.00	
e1		1.30 BASIC				1.30 BASIC		
D2/E2		29.55 BASIC				32.15 BASIC		
D1/E1		31.55 BASIC				34.15 BASIC		
N I		408		3		456		3
		L	TOLERANCES		M AND POSI	<del></del>	<u> </u>	
				J J.	/ 440 1 031		·	<del>- T</del>
aaa		0.08				0.08		
bbb		0.10		L		0.10		
NOTE		1,2				1,2		
REF.		11-473				11-473		
ISSUE		A				A		
s		VARIATI	ONS (ALL DI	MENSION	S ARE IN MI	LLIMETERS)		
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