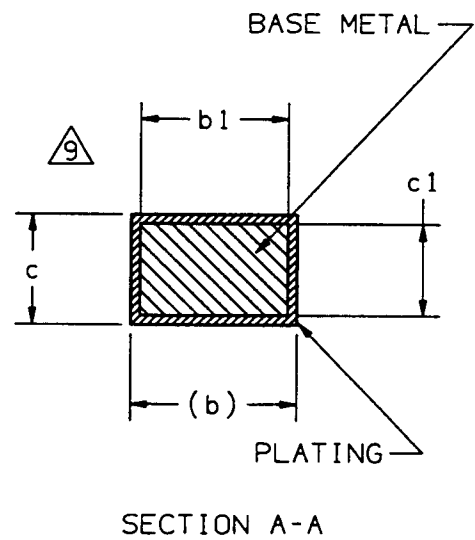
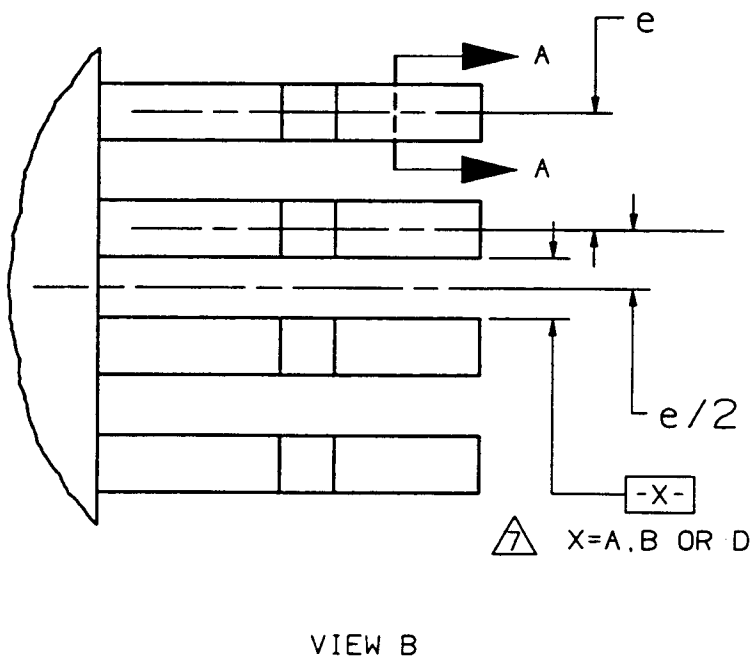
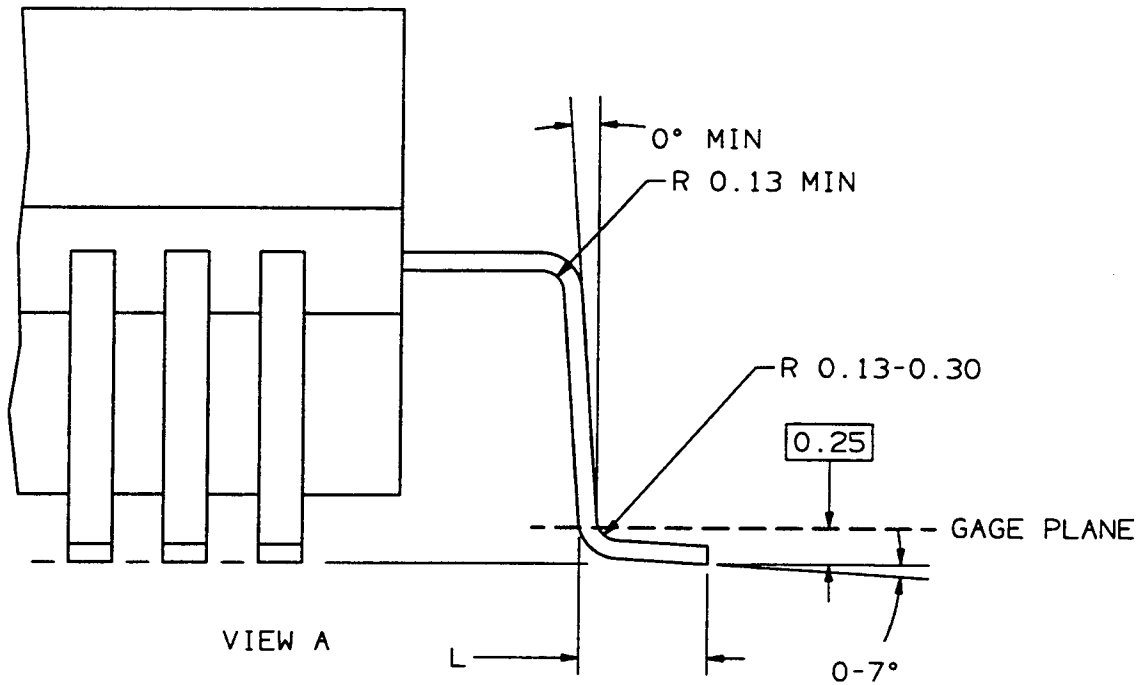
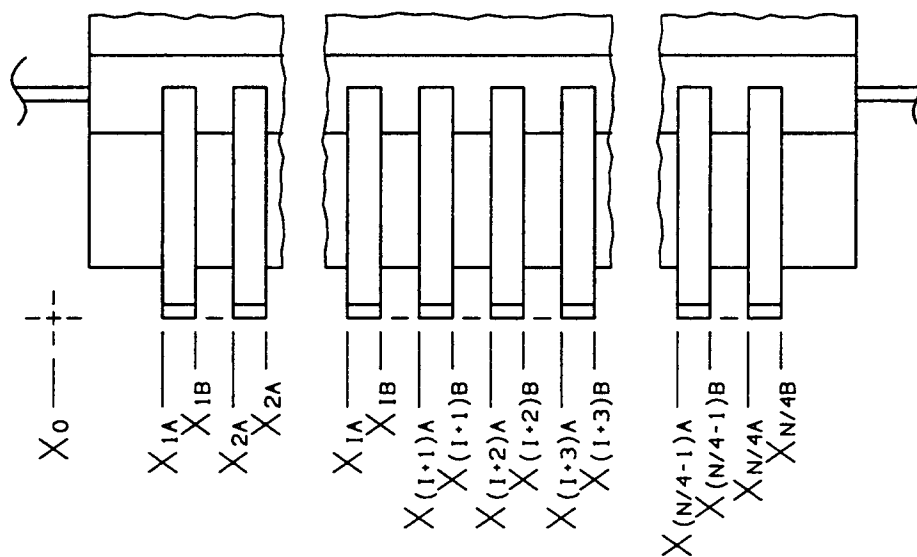


JEDEC SOLID STATE PRODUCT OUTLINES	THIS REGISTERED OUTLINE HAS BEEN PREPARED BY THE JEDEC JC-11 COMMITTEE AND REFLECTS A PRODUCT WITH ANTICIPATED USAGE IN THE ELECTRONICS INDUSTRY; CHANGES ARE LIKELY TO OCCUR.				
TITLE GLASS SEALED CQFP FAMILY	JESD-30 DESIGNATOR QGFP-G	ISSUE C	DATE JAN 96	MO-114	SHEET 1 OF 7



NOTES:

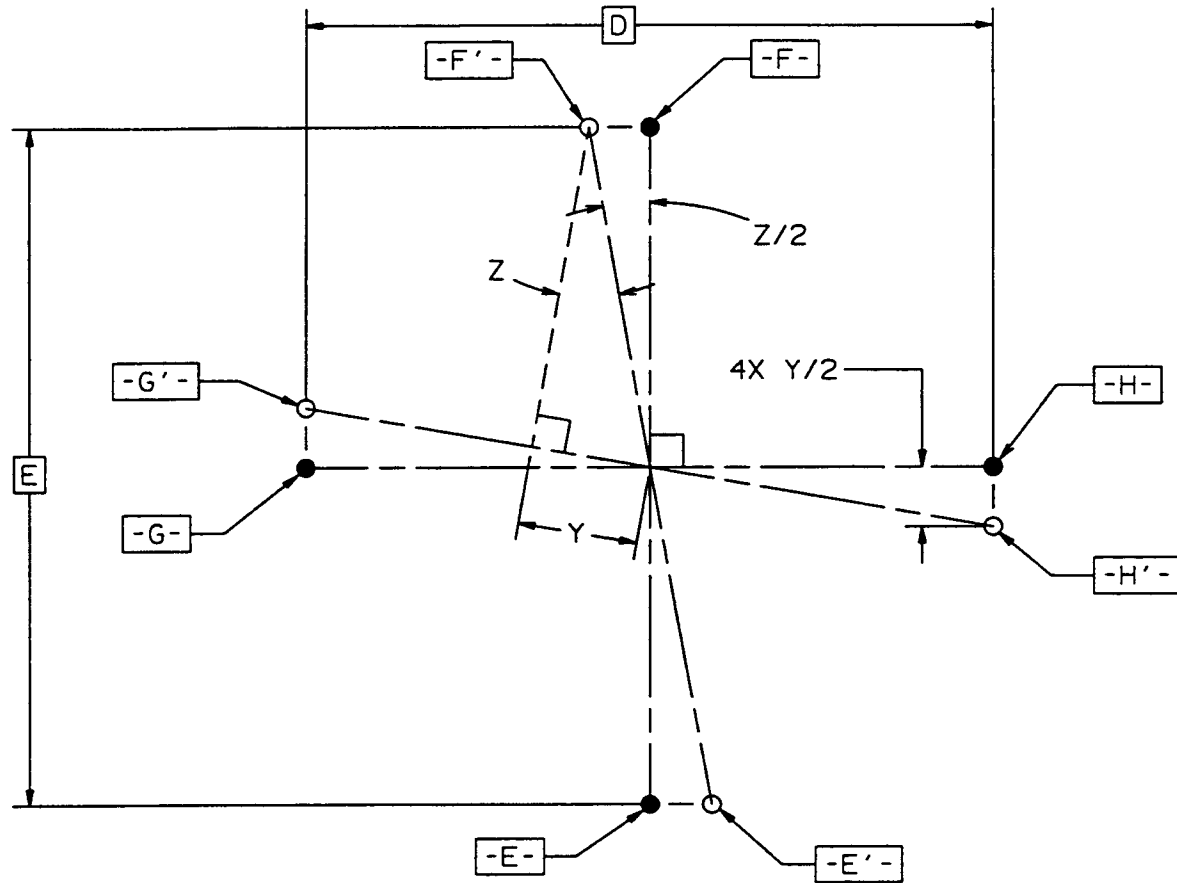
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5-1982.
2. ALL DIMENSIONS IN MILLIMETERS.
3. MAXIMUM A AND A2 DIMENSIONS INCLUDE AN OPTIONAL CERAMIC LID OR HEAT SINK. LID OR HEAT SINK CAN BE ON THE TOP OR BOTTOM OF THE PACKAGE.
4. A PIN 1 INDEX MARK SHALL BE WITHIN THE AREA SHOWN.
5. N IS THE MAXIMUM NUMBER OF LEADS.
6. DIMENSIONS D1 AND E1 INCLUDE BASE TO LID MISALIGNMENT AND GLASS RUNOUT.
7. DATUMS A, B, AND D TO BE DETERMINED NEAR THE SEATING PLANE. DATUM C, 0.1 mm FROM THE LEAD TIP.
8. EXACT SHAPE OF CORNER IS OPTIONAL.
9. THESE DIMENSIONS APPLY TO THE FLAT SECTION OF THE LEAD BETWEEN 0.10 mm AND 0.25 mm FROM THE LEAD TIP.
10. D/2 AND E/2 REFERENCE DATUMS E-F AND G-H RESPECTIVELY.
11. THE POSITIONAL TOLERANCE OF THE b DIMENSION APPLIES ONLY OVER DIMENSION L.
12. DETERMINATION OF DATUMS E-F AND G-H:



$$X' = \text{DATUM LOCATION} = \frac{\sum_{I=1}^{N/4} (X_{IB} - ((X_{IB} - X_{IA}) / 2)) - X_0}{N/4}$$

X' = E', F', G', OR H'. DETERMINE DATUM E', F', G', AND H', ONE FOR EACH OF THE FOUR SIDES. X₀ IS AN ARBITRARY MACHINE 0. THE LEAD EDGES ARE DETERMINED 0.1 mm BACK FROM THE LEAD TIP.

JEDEC SOLID STATE PRODUCT OUTLINES	TITLE GLASS SEALED COFP FAMILY	ISSUE C	DATE JAN 96	MO-114	SHEET 3 OF 7
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DETERMINE DATUMS E-F, AND G-H BY DISPLACING E'-F' AND G'-H' BY $Y/2$, OR ROTATING THROUGH $\angle Z/2$, TO GENERATE DATUMS WHICH ARE MUTUALLY PERPENDICULAR. (THIS FIGURE EXAGGERATES THE MAGNITUDE OF Y AND Z)

SYMBOL	VARIATIONS (ALL DIMENSIONS IN MILLIMETERS)							
	AA			NOTE	AB			NOTE
	MIN.	NOM.	MAX.		MIN.	NOM.	MAX.	
A			4.30	3			4.30	3
A1	0.25				0.25			
A2	3.10		3.90		3.10		3.90	
b	0.30		0.45	11	0.30		0.45	11
b1	0.30	0.35	0.40		0.30	0.35	0.40	
c	0.11		0.23		0.11		0.23	
c1	0.11		0.17		0.11		0.17	
D		31.20 BSC				31.20 BSC		
D1	26.50	27.00	27.60	6	26.50	27.00	27.60	6
e		0.80 BSC				0.80 BSC		
E		31.20 BSC				31.20 BSC		
E1	26.50	27.00	27.60	6	26.50	27.00	27.60	6
L	0.73	0.88	1.03		0.73	0.88	1.03	
N		120		5		128		5
TOLERANCES OF FORM AND POSITION								
aaa	0.20				0.20			
bbb	0.10				0.10			
NOTE								
REF.	10-295				10-295			
ISSUE	A				A			
SYMBOL	VARIATIONS (ALL DIMENSIONS IN MILLIMETERS)							
	BA			NOTE	BB			NOTE
	MIN.	NOM.	MAX.		MIN.	NOM.	MAX.	
A			4.30	3			4.30	3
A1	0.25				0.25			
A2	3.10		3.90		3.10		3.90	
b	0.22		0.38	11	0.22		0.38	11
b1	0.22	0.30	0.33		0.22	0.30	0.33	
c	0.11		0.23		0.11		0.23	
c1	0.11		0.17		0.11		0.17	
D		31.20 BSC				31.20 BSC		
D1	26.50	27.00	27.60	6	26.50	27.00	27.60	6
e		0.65 BSC				0.65 BSC		
E		31.20 BSC				31.20 BSC		
E1	26.50	27.00	27.60	6	26.50	27.00	27.60	6
L	0.73	0.88	1.03		0.73	0.88	1.03	
N		144		5		160		5
TOLERANCES OF FORM AND POSITION								
aaa	0.13				0.13			
bbb	0.10				0.10			
NOTE								
REF.	10-295				10-295			
ISSUE	A				A			
JEDEC SOLID STATE PRODUCT OUTLINES		TITLE GLASS SEALED CQFP FAMILY			ISSUE C	DATE JAN 96	MO-114	SHEET 5 OF 7

SYMBOL	VARIATIONS (ALL DIMENSIONS IN MILLIMETERS)							
	CA			NOTE	BC			NOTE
	MIN.	NOM.	MAX.		MIN.	NOM.	MAX.	
A			4.30	3			4.30	3
A1	0.25				0.25			
A2	3.10		3.90		3.10		3.90	
b	0.17		0.30	11	0.22		0.38	11
b1	0.17	0.20	0.25		0.22	0.30	0.33	
c	0.09		0.20		0.11		0.23	
c1	0.09		0.16		0.11		0.17	
D		30.60 BSC				23.20 BSC		
D1	26.50	27.00	27.60	6	18.50	19.00	19.60	6
e		0.50 BSC				0.65 BSC		
E		30.60 BSC				23.20 BSC		
E1	26.50	27.00	27.60	6	18.50	19.00	19.60	6
L	0.45	0.60	0.75		0.73	0.88	1.03	
N		208		5		112		5
TOLERANCES OF FORM AND POSITION								
aaa	0.08				0.13			
bbb	0.10				0.10			
NOTE								
REF.	10-351				10-351			
ISSUE	B				B			
SYMBOL	VARIATIONS (ALL DIMENSIONS IN MILLIMETERS)							
	CB			NOTE	BD			NOTE
	MIN.	NOM.	MAX.		MIN.	NOM.	MAX.	
A			4.30	3			4.30	3
A1	0.25				0.25			
A2	3.10		3.90		3.10		3.90	
b	0.17		0.30	11	0.22		0.38	11
b1	0.17	0.20	0.25		0.22	0.30	0.33	
c	0.09		0.20		0.11		0.23	
c1	0.09		0.16		0.11		0.17	
D		22.60 BSC				35.20 BSC		
D1	18.50	19.00	19.60	6	30.50	31.00	31.60	6
e		0.50 BSC				0.65 BSC		
E		22.60 BSC				35.20 BSC		
E1	18.50	19.00	19.60	6	30.50	31.00	31.60	6
L	0.45	0.60	0.75		0.73	0.88	1.03	
N		144		5		184		5
TOLERANCES OF FORM AND POSITION								
aaa	0.08				0.13			
bbb	0.10				0.10			
NOTE								
REF.	10-351				10-351			
ISSUE	B				B			
JEDEC SOLID STATE PRODUCT OUTLINES		TITLE GLASS SEALED COFP FAMILY		ISSUE C	DATE JAN 96	MO - 114		SHEET 6 OF 7

SYMBOL	VARIATIONS (ALL DIMENSIONS IN MILLIMETERS)							
	CC			NOTE	BE			NOTE
	MIN.	NOM.	MAX.		MIN.	NOM.	MAX.	
A			4.30	3			4.30	3
A1	0.25				0.25			
A2	3.10		3.90		3.10		3.90	
b	0.17		0.30	11	0.22		0.38	11
b1	0.17	0.20	0.25		0.22	0.30	0.33	
c	0.09		0.20		0.11		0.23	
c1	0.09		0.16		0.11		0.17	
D		34.60 BSC				43.20 BSC		
D1	30.50	31.00	31.60	6	38.50	39.00	39.60	6
e		0.50 BSC				0.65 BSC		
E		34.60 BSC				43.20 BSC		
E1	30.50	31.00	31.60	6	38.50	39.00	39.60	6
L	0.45	0.60	0.75		0.73	0.88	1.03	
N		240		5		232		5
TOLERANCES OF FORM AND POSITION								
aaa	0.08				0.13			
bbb	0.10				0.10			
NOTE								
REF.	10-351				10-351			
ISSUE	B				B			
SYMBOL	VARIATIONS (ALL DIMENSIONS IN MILLIMETERS)							
	CD			NOTE				NOTE
	MIN.	NOM.	MAX.		MIN.	NOM.	MAX.	
A			4.30	3				3
A1	0.25							
A2	3.10		3.90					
b	0.17		0.30	11				11
b1	0.17	0.20	0.25					
c	0.09		0.20					
c1	0.09		0.16					
D		42.60 BSC						
D1	38.50	39.00	39.60	6				6
e		0.50 BSC						
E		42.60 BSC						
E1	38.50	39.00	39.60	6				6
L	0.45	0.60	0.75					
N		304		5				5
TOLERANCES OF FORM AND POSITION								
aaa	0.08							
bbb	0.10							
NOTE								
REF.	10-351				10-351			
ISSUE	B				B			
JEDEC SOLID STATE PRODUCT OUTLINES			TITLE GLASS SEALED COFP FAMILY		ISSUE C	DATE JAN 96	MO-114	SHEET 7 OF 7