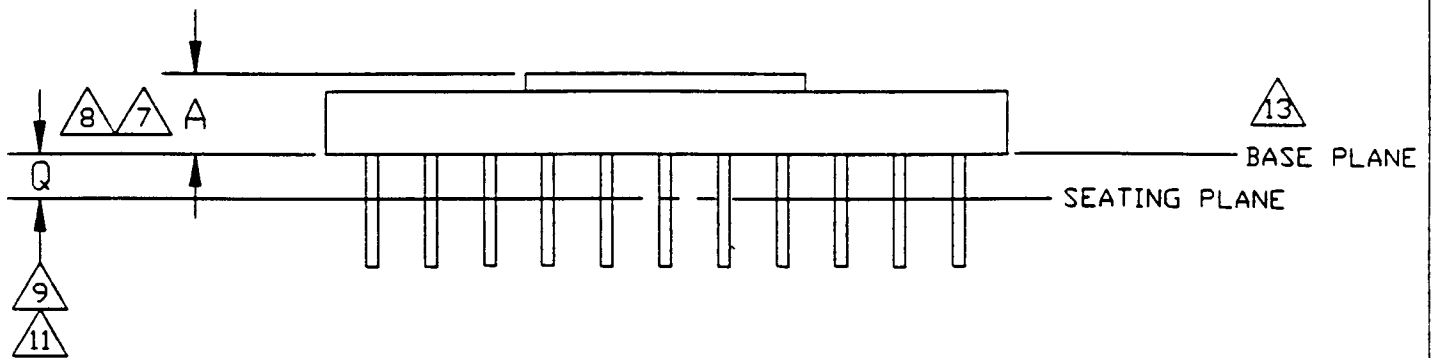


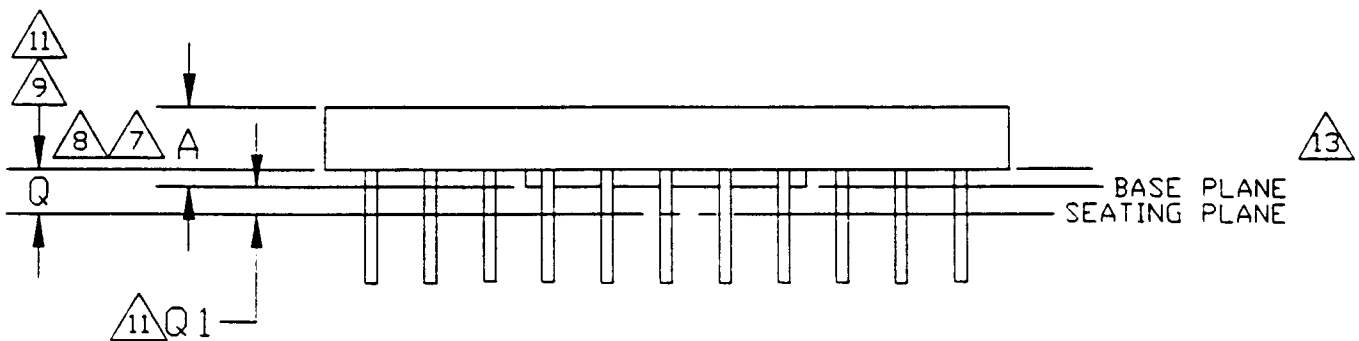
FIGURE 1

FIGURE 2

CAVITY UP



CAVITY DOWN



SYMBOL	VARIATIONS															
	AA			NOTE	AB			NOTE	AC			NOTE	AD			NOTE
	MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX	
D	.940	.960	.980	18	1.040	1.060	1.080	18	1.140	1.160	1.180	18	1.240	1.260	1.280	18
E	.940	.960	.980	18	1.040	1.060	1.080	18	1.140	1.160	1.180	18	1.240	1.260	1.280	18
M	---	9	---	4	---	10	---	4	---	11	---	4	---	12	---	4
N	---	---	81	5	---	---	100	5	---	---	121	5	---	---	144	5
Q	.045	---	.075	11	.045	---	.075	11	.045	---	.075	11	.045	---	.075	11
Q1	.025	---	---	11	.025	---	---	11	.025	---	---	11	.025	---	---	11
S	---	.000	---	21	---	.050	---	21	---	.000	---	21	---	.050	---	21

NOTE	1,2,3,6,9,14,17															
REF	Item 10-122															
ISSUE	A															

SYMBOL	AE			NOTE	AF			NOTE	AG			NOTE	AH			NOTE
	MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX	
	MIN	NOM	MAX	NOTE	MIN	NOM	MAX	NOTE	MIN	NOM	MAX	NOTE	MIN	NOM	MAX	NOTE
D	1.340	1.360	1.380	18	1.440	1.460	1.480	18	1.540	1.560	1.580	18	1.640	1.660	1.680	18
E	1.340	1.360	1.380	18	1.440	1.460	1.480	18	1.540	1.560	1.580	18	1.640	1.660	1.680	18
M	---	13	---	4	---	14	---	4	---	15	---	4	---	16	---	4
N	---	---	169	5	---	---	196	5	---	---	225	5	---	---	256	5
Q	.045	---	.075	11	.045	---	.075	11	.045	---	.075	11	.045	---	.075	11
Q1	.025	---	---	11	.025	---	---	11	.025	---	---	11	.025	---	---	11
S	---	.000	---	21	---	.050	---	21	---	.000	---	21	---	.050	---	21

NOTE	1,2,3,6,9,14,17								1,2,3,6,9,14,17				1,2,3,6,9,14,17			
REF	Item 10-122								10-325				10-122			
ISSUE	A								B				A			

SYMBOL	AJ			NOTE	AK			NOTE	AL			NOTE	AM			NOTE
	MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX	
	MIN	NOM	MAX	NOTE	MIN	NOM	MAX	NOTE	MIN	NOM	MAX	NOTE	MIN	NOM	MAX	NOTE
D	1.740	1.760	1.780	18	1.840	1.860	1.880	18	1.940	1.960	1.980	18	2.040	2.060	2.080	18
E	1.740	1.760	1.780	18	1.840	1.860	1.880	18	1.940	1.960	1.980	18	2.040	2.060	2.080	18
M	---	17	---	4	---	18	---	4	---	19	---	4	---	20	---	4
N	---	---	289	5	---	---	324	5	---	---	361	5	---	---	400	5
Q	.045	---	.075	11	.045	---	.075	11	.045	---	.075	11	.045	---	.075	11
Q1	.025	---	---	11	.025	---	---	11	.025	---	---	11	.025	---	---	11
S	---	.000	---	21	---	.050	---	21	---	.000	---	21	---	.050	---	21

NOTE	1,2,3,6,9,14,17				1,2,3,6,9,14,17											
REF	Item 10-325				10-122											
ISSUE	B				A											

JEDEC SOLID STATE PRODUCT OUTLINE				PIN GRID ARRAY FAMILY .100 INCH PITCH (LARGE OUTLINE) S-CPGA-P				ISSUE B	DATE JUNE 1993	M□-067				SHEET 3 of 8	
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SYMBOL	VARIATIONS															
	AN			NOTE	AP			NOTE	AR			NOTE	AT			NOTE
	MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX	
D	2.440	2.460	2.480	18	3.040	3.060	3.080	18	3.840	3.860	3.880	18	4.440	4.460	4.480	18
E	2.440	2.460	2.480	18	3.040	3.060	3.080	18	3.840	3.860	3.880	18	4.440	4.460	4.480	18
M	---	24	---	4	---	30	---	4	---	38	---	4	---	44	---	4
N	---	---	576	5	---	---	900	5	---	---	1444	5	---	---	1936	5
Q	.045	---	.075	11	.045	---	.075	11	.045	---	.075	11	.045	---	.075	11
Q1	.025	---	---	11	.025	---	---	11	.025	---	---	11	.025	---	---	11
S	---	.050	---	21	---	.050	---	21	---	.050	---	21	---	.050	---	21

NOTE	1,2,3,6,9,14,17
REF	Item 10-325
ISSUE	B

SYMBOL				NOTE				NOTE				NOTE				NOTE
	MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX	
D																
E																
M																
N																
Q																
Q1																
S																

NOTE	
REF	
ISSUE	

SYMBOL				NOTE				NOTE				NOTE				NOTE
	MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX	
D																
E																
M																
N																
Q																
Q1																
S																

NOTE	
REF	
ISSUE	

JEDEC SOLID STATE PRODUCT OUTLINE	PIN GRID ARRAY FAMILY .100 INCH PITCH (LARGE OUTLINE) S-CPGA-P	ISSUE B	DATE JUNE 1993	M□-067	SHEET 4 of 8
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SYMBOL	VARIATIONS															
	BA			NOTE	BB			NOTE	BC			NOTE	BD			NOTE
	MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX	
D	.940	.960	.980	18	1.040	1.060	1.080	18	1.140	1.160	1.180	18	1.240	1.260	1.280	18
E	.940	.960	.980	18	1.040	1.060	1.080	18	1.140	1.160	1.180	18	1.240	1.260	1.280	18
M	---	9	---	4	---	10	---	4	---	11	---	4	---	12	---	4
N	---	---	81	5	---	---	100	5	---	---	121	5	---	---	144	5
Q	.000	---	.000	11	.000	---	.000	11	.000	---	.000	11	.000	---	.000	11
Q1	.000	---	.000	11	.000	---	.000	11	.000	---	.000	11	.000	---	.000	11
S	---	.000	---	21	---	.050	---	21	---	.000	---	21	---	.050	---	21

NOTE 1,2,3,6,9,14,17

REF Item 10-325

ISSUE B

SYMBOL	BE			NOTE	BF			NOTE	BG			NOTE	BH			NOTE
	MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX	
	MIN	NOM	MAX	NOTE	MIN	NOM	MAX	NOTE	MIN	NOM	MAX	NOTE	MIN	NOM	MAX	NOTE
D	1.340	1.360	1.380	18	1.440	1.460	1.480	18	1.540	1.560	1.580	18	1.640	1.660	1.680	18
E	1.340	1.360	1.380	18	1.440	1.460	1.480	18	1.540	1.560	1.580	18	1.640	1.660	1.680	18
M	---	13	---	4	---	14	---	4	---	15	---	4	---	16	---	4
N	---	---	169	5	---	---	196	5	---	---	225	5	---	---	256	5
Q	.000	---	.000	11	.000	---	.000	11	.000	---	.000	11	.000	---	.000	11
Q1	.000	---	.000	11	.000	---	.000	11	.000	---	.000	11	.000	---	.000	11
S	---	.000	---	21	---	.050	---	21	---	.000	---	21	---	.050	---	21

NOTE 1,2,3,6,9,14,17

REF Item 10-325

ISSUE B

SYMBOL	BJ			NOTE	BK			NOTE	BL			NOTE	BM			NOTE
	MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX	
	MIN	NOM	MAX	NOTE	MIN	NOM	MAX	NOTE	MIN	NOM	MAX	NOTE	MIN	NOM	MAX	NOTE
D	1.740	1.760	1.780	18	1.840	1.860	1.880	18	1.940	1.960	1.980	18	2.040	2.060	2.080	18
E	1.740	1.760	1.780	18	1.840	1.860	1.880	18	1.940	1.960	1.980	18	2.040	2.060	2.080	18
M	---	17	---	4	---	18	---	4	---	19	---	4	---	20	---	4
N	---	---	289	5	---	---	324	5	---	---	361	5	---	---	400	5
Q	.000	---	.000	11	.000	---	.000	11	.000	---	.000	11	.000	---	.000	11
Q1	.000	---	.000	11	.000	---	.000	11	.000	---	.000	11	.000	---	.000	11
S	---	.000	---	21	---	.050	---	21	---	.000	---	21	---	.050	---	21

NOTE 1,2,3,6,9,14,17

REF Item 10-325

ISSUE B

JEDEC SOLID STATE PRODUCT OUTLINE	PIN GRID ARRAY FAMILY .100 INCH PITCH (LARGE OUTLINE) S-CPGA-P	ISSUE B	DATE JUNE 1993	M0-067	SHEET 5 of 8
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SYMBOL	VARIATIONS															
	BN			NOTE	BP			NOTE	BR			NOTE	BT			NOTE
	MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX	
D	2.440	2.460	2.480	18	3.040	3.060	3.080	18	3.840	3.860	3.880	18	4.440	4.460	4.480	18
E	2.440	2.460	2.480	18	3.040	3.060	3.080	18	3.840	3.860	3.880	18	4.440	4.460	4.480	18
M	---	24	---	4	---	30	---	4	---	38	---	4	---	44	---	4
N	---	---	576	5	---	---	900	5	---	---	1444	5	---	---	1936	5
Q	.000	---	.000	11	.000	---	.000	11	.000	---	.000	11	.000	---	.000	11
Q1	.000	---	.000	11	.000	---	.000	11	.000	---	.000	11	.000	---	.000	11
S	---	.050	---	21	---	.050	---	21	---	.050	---	21	---	.050	---	21

NOTE 1,2,3,6,9,14,17

REF Item 10-325

ISSUE B

SYMBOL				NOTE				NOTE				NOTE				NOTE
	MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX	
D																
E																
M																
N																
Q																
Q1																
S																

NOTE

REF

ISSUE

SYMBOL				NOTE				NOTE				NOTE				NOTE
	MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX		MIN	NOM	MAX	
D																
E																
M																
N																
Q																
Q1																
S																

NOTE

REF

ISSUE

JEDEC SOLID STATE PRODUCT OUTLINE	PIN GRID ARRAY FAMILY .100 INCH PITCH (LARGE OUTLINE) S-CPGA-P	ISSUE B	DATE JUNE 1993	M□-067	SHEET 6 of 8
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NOTES:

- 1 Dimensioning & Tolerancing per ANSI Y14.5M-1982.
- 2 Refer to applicable symbol list.
- 3 Terminal position designation per JEDEC STANDARD PROCEDURES AND PRACTICES, number SPP-010, JESD 95-1.
- 4 Symbol "M" is the pin matrix size.
- 5 Symbol "N" is the maximum allowable number of pins.
- 6 11x11 and 12x12 matrix sizes shown for illustration only.
- 7 Dimension "A" includes the package body and lid for both cavity up and cavity down configurations. (See Figure 2, Pg. 2)
- 8 Dimension "A" does not include heatsinks or other attached features.
- 9 Standoffs for variations AA-AT must be located on the pin matrix diagonals. The major dimension of the standoff shall be .045 inch minimum. There are no standoffs on variations BA-BT.
- 10 For variations AA-AT, the seating plane is defined by the standoff surface facing away from the ceramic body (outer standoff surface). For variations BA-BT the seating plane is defined by the user method of application and thereby allows for no standoffs.
- 11 Dimension "Q" is measured from the ceramic body to the outer stand-off surface and is applicable to both cavity up and cavity down configurations. Dimension "Q1" is measured from the lid to the outer standoff surface and is applicable to the cavity down configuration only. (See Figure 2, Pg. 2)
- 12 All pins must be on .100 inch grid.
- 13 -C- is the plane of pin to package interface for both cavity up and down configurations. (See Figure 2, Pg. 2)
- 14 See APPLICATION NOTE.
- 15 Pin tips should have a radius or chamfer. See APPLICATION NOTE.
- 16 This dimension allows a 750 microinch thick coating for solder dipped parts. See APPLICATION NOTE.
- 17 There must be some type of AI corner identification on both top and bottom surfaces of the package. ID type is optional and may consist of notches, ID pins, metallized markings or other features. The features used on each surface may be of different types.
- 18 There must be .020 inch minimum spacing between any two metal features on the package surface.
- 19 Dimension "D" and "E" do not include ceramic protrusions. Such protrusions may not extend more than .003 inch on any side. Corners and edges of the package body may have chamfers for mechanical protection or identification.
- 20 This dimension defines the maximum size for the pin braze pads.
- 21 S is measured with respect to -A- and -B-.
- 22 All dimensions are in INCHES.

JEDEC SOLID STATE PRODUCT OUTLINE	PIN GRID ARRAY FAMILY .100 INCH PITCH (LARGE OUTLINE) S-CPGA-P	ISSUE B	DATE JUNE 1993	M□-067	SHEET 7 of 8
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APPLICATION NOTES:

- A. For applications where a PGA package is used in a socket, the following requirements may apply:
 - a. Pin tips must have a radius or chamfer.
 - b. Minimum pin length (dimension "L") must be .120".
 - c. Maximum pin diameter including finish should be .020".
- B. For military applications the pin length (dimension "L") range may be restricted to .120"/.140".
- C. All variations are suitable for single and multichip applications.

JEDEC SOLID STATE PRODUCT OUTLINE	PIN GRID ARRAY FAMILY .100 INCH PITCH (LARGE OUTLINE) S-CPGA-P	ISSUE B	DATE JUNE 1993	M□-□67	SHEET 8 of 8
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