

D   940   960   980   18   1.040   1.060   1.080   18   1.140   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.160   1.16	S					VA	RIATIO	NC:	S				
D	M B		AA		0	O   AB			0		AC		Ŋ
D1	6	MIN	NOM	MAX		MIN	NOM	мах	E	MIN	NOM	MAX	O T E
E	D	.940	.960	.980	18	1.040	1.060	1.080	18	1.140	1.160	1.180	18
E1													
Q		.940		.980	18	1.040		1.080	18	1.140	<u> </u>	1.180	18
Q1				1075	0.11	0.40	.900 BSC	075	-		1.000 BSC	075	
M												.075	9,11
N		.015		1.075		.015	10	1.075				.075	9,11
S				145			19	181	+	<del> </del>		221	5
No			.000 BSC	143			.050 BSC	101	+-		.000 BSC	1221	1
Main   Nom   Max   E   Min   Nom   Max   E		<del></del>				\/Δ	<u> </u>	) NI S		·		<u>.                                    </u>	'
L         MIN         NOM         MAX         E         MIN         NOM         MAX         E         MIN         NOM         M           D         1.240         1.260         1.280         18         1.340         1.360         1.380         18         1.440         1.460         1.           E         1.240         1.260         1.280         18         1.340         1.360         1.380         18         1.440         1.460         1.           E1         1.100         BSC         1.200         BSC         1.300         BSC         1.300         BSC           Q         .040         -         .075         9,11         .040         -         .075         9,11         .040         -         .075         9,11         .040         -         .075         9,11         .015         -         .075         9,11         .040         -         .075         9,11         .040         -         .075         9,11         .015         -         .075         9,11         .015         -         .075         9,11         .010         .010         .010         .010         .010         .010         .010         .010         .010 <t< td=""><td>Y M</td><td></td><td>AD</td><td>· ·</td><td>N</td><td></td><td></td><td>71 10</td><td>N</td><td></td><td></td><td></td><td>N</td></t<>	Y M		AD	· ·	N			71 10	N				N
D	O R	MINI		LVAY	P			T	-	<del></del>		T	9
D1         1.100 BSC         1.200 BSC         1.300 BSC           E         1.240         1.260         1.280         18         1.340         1.360         1.380         18         1.440         1.460         1.460         1.460         1.300 BSC								<u> </u>	E			MAX	E
E 1.240 1.260 1.280 18 1.340 1.360 1.380 18 1.440 1.460 1.  E1 1.100 BSC		1.240			18	1.340		1.380	18	1.440		1.480	18
E1		1 240			18	740		1 700	10	140	<del></del>		1.0
Q       .040       -       .075       9,11       .040       -       .075       9,11       .040       -       .075       9,11       .040       -       .075       9,11       .015       -       .075       9,11       .015       -       .075       9,11       .015       -       .075       9,11       .015       -       .075       9,11       .015       -       .075       9,11       .015       -       .075       9,11       .015       -       .075       9,11       .015       -       .075       9,11       .015       -       .075       9,11       .015       -       .075       9,11       .015       -       .075       9,11       .015       -       .030       BSC       -       .030       BSC       -       .050       BSC		1.240			10	1.340		1.380	10	1.440	<del></del>	1.480	18
Q1		040	1.100 BSC		0.44	040	1.200 BSC	075	10.11		1.300 BSC	075	244
M			<u>-</u>				<del>-</del>				<del></del>	.075	9,11
N 265 5 313 5 3 S .050 BSC			23	1.075	_	.013		.075	<del></del>	<del></del>	<del>                                     </del>	.075	9,11
S			-	265				717		<del>-</del> -	21	365	5
N			.050 BSC	1200	<u> </u>		.000 BSC	313	+-	<del>                                     </del>	.050 BSC	1363	3
L         MIN         NOM         MAX         É         MIN         NOM         MAX         É         MIN         NOM         NAX         E         MIN         NOM         NOM         NOM         NAX         E         MIN         NOM	Ş	-				VA	RIATIO	N	5	•		·•	
L         MIN         NOM         MAX         É         MIN         NOM         MAX         É         MIN         NOM         NAX         E         MIN         NOM         NOM         NOM         NAX         E         MIN         NOM	М В		AG		NO		AH		N		AJ		N
D       1.540       1.560       1.580       18       1.640       1.660       1.680       18       1.740       1.760       1.         D1       1.400       BSC       1.500       BSC       1.600       BSC         E       1.540       1.560       1.580       18       1.640       1.660       1.680       18       1.740       1.760       1.         E1       1.400       BSC       1.500       BSC       1.600       BSC         Q       .040       -       .075       9,11       .040       -       .075       9,11       .040       -       .075       9,11       .040       -       .075       9,11       .040       -       .075       9,11       .040       -       .075       9,11       .040       -       .075       9,11       .015       -       .075       9,11       .015       -       .075       9,11       .015       -       .075       9,11       .015       -       .075       9,11       .015       -       .075       9,11       .015       -       .075       9,11       .015       -       .075       9,11       .015       -       .075       9,11       .015		MIN	NOM	MAX		MIN	NOM	MAX	7 ¥	MIN	T T	MAX	O T E
D1       1.400 BSC       1.500 BSC       1.600 BSC         E       1.540       1.560       1.580 18       1.640       1.660       1.680 18       1.740       1.760       1.         E1       1.400 BSC       1.500 BSC       1.500 BSC       1.600 B	D	1.540	1.560	1.580	18	1.640	1.660	+		1.740		1.780	
E1	D1											1	
Q .040075 9,11 .040075 9,11 .0400 Q1 .015075 9,11 .015075 9,11 .0150 M - 29 - 4 - 31 - 4 - 33 N 421 5 481 5 5 S .000 BSC .050 BSC .050 BSC .000 BSC		1.540		1.580	18	1.640	1.660	1.680	18	1.740	1.760	1.780	18
Q1       .015       -       .075       9,11       .015       -       .075       9,11       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       -       .015       .015       -       .015	E1		1.400 BSC			<u> </u>	1.500 BSC				1.600 BSC		
M - 29 - 4 - 31 - 4 - 33 N 421 5 481 5 5 S .000 BSC .050 BSC .000 BSC NOTE 1, 2, 3, 6, 9, 16, 20, 22 REF ITEM 10-291							_	.075	<del></del>			.075	9,11
N 421 5 481 5 5 S .000 BSC .050 BSC .000 BSC NOTE 1, 2, 3, 6, 9, 16, 20, 22 REF ITEM 10-291				.075		.015		.075		.015	<del> </del>	.075	9,11
S .000 BSC .050 BSC .000 BSC NOTE 1, 2, 3, 6, 9, 16, 20, 22  REF ITEM 10-291			29	<del>  -</del>	1		31				33	<u> </u>	4
NOTE 1, 2, 3, 6, 9, 16, 20, 22 REF ITEM 10-291				421	5		-	481	5	<u>  -                                   </u>	-	545	5
REF ITEM 10-291		L		16 2	22	<u> </u>	1.050 BSC	1		<u> </u>	1.000 BSC	<u> </u>	<u> </u>
					0, 22		· · · · · · · · · · · · · · · · · · ·					·	
				···						<del></del>			
									7.				
JEDEC S-XPGA-P ISSUE DATE		IEDEC		-					ISSUE	DA	TE	Sł	HEET
Solid State Product Outline STAGGERED PIN GRID ARRAY FAMILY (LARGE OUTLINE)	Solid 5	State	Product	STAGGI	ERED	PIN	GRID ARRA	1	С	1/9	97 MO-1:	28 2	2/8

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Ş		VARIATIONS  AK N AL N AM N													
SYMBO	AK			NO	AL		N	l	NO						
0	MIN	NOM	MAX	O T E	MIN	NOM	MAX	OTE	MIN	NOM	MAX	NOLE			
D	1.840	1.860	1.880	18	1.940	1.960	1.980	18	2.040	2.060	2.080	18			
D1		1.700 BSC				1.800 BSC				1.900 BSC					
Ε	1.840	1.860	1.880	18	1.940	1.960	1.980	18	2.040	2.060	2.080	18			
E1		1.700 BSC				1.800 BSC				1.900 BSC					
Q	.040	_	.075	9,11	.040	_	.075	9.11	.040	_	075	9.11			
Q1	.015	_	.075	9,11	.015	_	.075	9,11	.015	<del>-</del>	075	9,11			
М	-	35		4		37	_	4	_	39	_	4			
N		_	613	5	_	_	685	5	_	_	761	5			
S		.050 BSC				.000 BSC				.050 BSC					
NOTE	1, 2, 3, 6, 9, 16, 20, 22														
	ITEM 10-291														
REF	ITEM		20, 2												
			20, 2												
REF SSUE	ITEM		20, 2		VA	RIATIO	NS					-			
REF SSUE	ITEM		20, 2	T	VA	RIATIO ap	NS	ZC		AQ		ZC			
REF	ITEM	10-291	MAX	N O T E	VA		NS MAX	ZOTE	MIN	AQ NOM	MAX	NOT E			
REF SSUE	B B	10-291 AN		T		AP NOM	MAX	Ë		NOM	<del>                                     </del>	N O T E			
SSUE SY M B O L	B MIN	10-291 AN NOM	MAX	NOT E	MIN	AP		N O T E	MIN 2.640		MAX 2.680				
SSUE SSUE S Y M B O L	B MIN	AN NOM 2.160	MAX	NOT E	MIN	AP NOM 2.360	MAX	Ë		NOM 2.660	2.680				
SSUE SY M B O L D D1	MIN 2.140	AN NOM 2.160 2.000 BSC	MAX 2.180	N 0 T E 18	MIN 2.340	AP NOM 2.360 2.200 BSC	MAX 2.380	T E 18	2.640	NOM 2.660 2.500 BSC	<del>                                     </del>	18			
SSUE SYMBOL D D1 E	MIN 2.140	AN NOM 2.160 2.000 BSC 2.160	MAX 2.180	N 0 T E 18	MIN 2.340	NOM 2.360 2.200 BSC 2.360	MAX 2.380	T E 18	2.640	NOM 2.660 2.500 BSC 2.660	2.680	18			
SSUE SSUE SYMBBOL DD D1 E E1	MIN 2.140	AN  NOM  2.160 2.000 BSC 2.160 2.000 BSC	MAX 2.180 2.180	N O T E 18	MIN 2.340 2.340	AP  NOM  2.360  2.200 BSC  2.360  2.200 BSC	MAX 2.380 2.380	18 18	2.640 2.640 .040	NOM 2.660 2.500 BSC 2.660 2.500 BSC	2.680	18			
SSUE SSUE SYM BOL D D1 E E1 Q	MIN 2.140 2.140 .040	AN  NOM  2.160 2.000 BSC 2.160 2.000 BSC	MAX 2.180 2.180	N O T E 18	MIN 2.340 2.340	AP  NOM  2.360  2.200 BSC  2.360  2.200 BSC  -	MAX 2.380 2.380 .075	18 18 9,11	2.640 2.640 .040	NOM 2.660 2.500 BSC 2.660 2.500 BSC	2.680 2.680 .075	18 18 9,11			
SSUE SSUE SYM BOL D D1 E E1 Q Q1 M N	MIN 2.140 2.140 .040 .015	AN  NOM  2.160 2.000 BSC 2.160 2.000 BSC	MAX 2.180 2.180	N O T E 18 18 9,11 9,11	MIN 2.340 2.340 .040 .015	AP  NOM  2.360  2.200 BSC  2.360  2.200 BSC    45	MAX 2.380 2.380 .075	18 18 9,11 9,11	2.640 2.640 .040 .015	NOM 2.660 2.500 BSC 2.660 2.500 BSC	2.680 2.680 .075	18 18 9,11 9,11			
SSUE SSUE SYMBOL DD1E E1 QQ1 MNS	MIN 2.140 2.140 .040 .015 -	AN  NOM  2.160 2.000 BSC 2.160 2.000 BSC   41   .000 BSC	MAX 2.180 2.180 .075 .075 - 841	N 0 T E 18 18 9,11 9,11 4 5	MIN 2.340 2.340 .040 .015	AP  NOM  2.360  2.200 BSC  2.360  2.200 BSC    45	MAX 2.380 2.380 .075 .075	18 18 9,11 9,11 4	2.640 2.640 .040 .015	NOM 2.660 2.500 BSC 2.660 2.500 BSC	2.680 2.680 .075 .075	18 18 9,11 9,11 4			
SSUE SSUE SYM BOL D D1 E E1 Q Q1 M N	MIN 2.140 2.140 .040 .015 -	AN  NOM  2.160 2.000 BSC 2.160 2.000 BSC  -  41  -  .000 BSC 3, 6, 9, 16,	MAX 2.180 2.180 .075 .075 - 841	N O T E 18 18 9,11 4	MIN 2.340 2.340 .040 .015	AP  NOM  2.360  2.200 BSC  2.360  2.200 BSC  -  45  -	MAX 2.380 2.380 .075 .075	18 18 9,11 9,11 4	2.640 2.640 .040 .015	NOM 2.660 2.500 BSC 2.660 2.500 BSC - - 51	2.680 2.680 .075 .075	18 18 9,11 9,11 4			

JEDEC	S-XPGA-P .100" CENTER	ISSUE	DATE		SHEET
Solid State Product Outline	STAGGERED PIN GRID ARRAY FAMILY (LARGE OUTLINE)	С	1/97	MO-128	3/8

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					\ / /	DIATIO	7110					
S   Y					V /-	RIATIO	<u>ЛИ.</u>	<u> </u>				
S M B O		ВА		N		BB		NO		вс		O
Ō	MIN	NOM	MAX	Ö T E	MIN	NOM	мах	Ť	MIN	NOM	MAX	N O T E
D	.940	.960	.980		1.040	1.060	1.080	18	1.140	1.160	1.180	18
D1		.800 BSC				.900 BSC				1.000 BSC		
Ε	.940	.960	.980	18	1.040	1.060	1.080	18	1.140	1.160	1.180	18
E1		.800 BSC				.900 BSC				1.000 BSC		
Q	0.0	_	0.0	21	0.0		0.0	21	0.0	-	0.0	21
Q1	0.0		0.0	21	0.0	_	0.0	21	0.0		0.0	21
M		17		4		19		4		21		4
N			145	_5_			181	5			221	5
<u></u>	ļ	.000 BSC			<u> </u>	.050 BSC	L	<u> </u>	<u> </u>	.000 BSC	<u></u>	L
Ş					VA	RIATIC	)NS	$\mathbf{S}$				
SYMBO	BD N BE N BF							RF		N		
Ö	MIN	NOM	MAX	O T E	MIN	NOM	мах	P E	MIN	NOM	MAX	N O T E
D	1.240	1.260	1.280	18	1.340	1.360	1.380		1.440	1.460	1.480	18
D1		1.100 BSC	1.200	-10	1.0.10	1.200 BSC	1.560	+	1.4.10	1.300 BSC	1.460	
E	1.240	1.260	1.280	18	1.340	1.360	1.380	18	1.440	1.460	1.480	18
E1		1.100 BSC				1.200 BSC		+	1	1.300 BSC	1100	<del></del> -
Q	0.0	_	0.0	21	0.0		0.0	21	0.0		0.0	21
Q1	0.0	_	0.0	21	0.0		0.0	21	0.0	_	0.0	21
М	-	23	_	4	_	25	_	4	-	27	_	4
N	_	_	265	5	_	_	313	5		_	365	5
S		.050 BSC				.000 BSC				.050 BSC		
Ş					VA	RIATIC	NS	$\hat{\mathbf{S}}$				
SYMBO		BG		02		BH		N	\	BJ		N
þ	MINI		Tuax	O T E	NAIN1			- P F E			T	N O T E
D	MIN 1.540	NOM 1.560	MAX		MIN 1.640	NOM	MAX	+	MIN	NOM	MAX	
D1	1.540	1.400 BSC	1.580	10	1.040	1.660 1.500 BSC	1.680	18	1.740	1.760 1.600 BSC	1.780	18
E	1.540	1.560	1.580	18	1.640	1.660	1.680	18	1.740	1.760	1.780	18
E1		1.400 BSC	1			1.500 BSC		1	1	1.600 BSC	1.700	
Q	0.0	_	0.0	21	0.0	-	0.0	21	0.0	-	0.0	21
Q1	0.0	-	0.0	21	0.0	<del>-</del>	0.0	21	0.0	_	0.0	21
М		29	_	4		31	-	4	-	33	_	4
N			421	5		_	481	5	1-	_	545	5
S	<u> </u>	.000 BSC			<u> </u>	.050 BSC				.000 BSC		
NOTE REF		, 2, 3, 6, 9 EM 10-341		J, 22						<del> </del>		<u></u>
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ISSUE					<del></del>							
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S-XPGA-P							1	SSUE	DA	TE	SH	IEET
	JEDEC	i i		100"	CEN	TER						}
		Product	STAGGE	RED	PIN	GRID ARRA	Y	0	1/9	97 MO-12	28 4/	/8
1	Outline	9					`	С				
FAMILY (LARGE OUTLINE)										ł		

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S		VARIATIONS													
SYMBOL		ВК		20		BL		0.0			NO				
O L	MIN	NOM	MAX	Ť	MIN	NOM	MAX	Ť	MIN	NOM	MAX	Ŏ T E			
D	1.840	1.860	1.880	18	1.940	1.960	.980	18	2.040	2.060	2.080	18			
D1		1.700 BSC				1.800 BSC				1.900 BSC					
Ε	1.840	1.860	1.880	18	1.940	1.960	1.980	18	2.040	2.060	2.080	18			
E1		1.700 BSC				1.800 BSC				1.900 BSC					
Q	0.0		0.0	21	0.0	-	0.0	21	0.0	_	0.0	21			
Q1	0.0	-	0.0	21	0.0	-	0.0	21	0.0	_	0.0	21			
М		35	-	4	_	37	_	4		39		4			
Ν	_	_	613	5	_	-	685	5	-	_	761	5			
S		.050 BSC				.000 BSC				.050 BSC					
SYMBO	VARIATIONS														
M N		BN		Ö	ļ	BP	N		BQ			02			
L	MIN	NOM	MAX	20-E	MIN	NOM	MAX	Ť	MIN	NOM	MAX	Ĕ			
D	2.140	2.160	2.180	18	2.340	2.360	2.380	18	2.640	2.660	2.680	18			
D1		2.000 BSC				2.200 BSC				2.500 BSC					
Ε	2.140	2.160	2.180	18	2.340	2.360	2.380	18	2.640	2.660	2.680	18			
E1		2.000 BSC				2.200 BSC				2.500 BSC					
Q	0.0	_	0.0	21	0.0	_	0.0	21	0.0	_	0.0	21			
Q1	0.0	_	0.0	21	0.0	_	0.0	21	0.0	-	0.0	21			
М	-	41		4		45		4	_	51	-	4			
N	-	_	841	5	-		1013	5		_	1301	5			
S		.000 BSC				.000 BSC				.050 BSC					
NOTE		3, 6, 9, 16,	20, 2	2											
REF		10-341													
SSUE	В														

JEDEC	S-XPGA-P .100" CENTER	ISSUE	DATE		SHEET
Solid State Product Outline	STAGGERED PIN GRID ARRAY FAMILY (LARGE OUTLINE)	С	1/97	MO-128	5/8

#### NOTES:

- DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994. 1
- 2 ALL DIMENSIONS IN INCHES.
- TERMINAL POSITION DESIGNATION PER JEDEC PUBLICATION 95-1. SPP-010.
- "M" REPRESENTS THE PIN MATRIX SIZE.
- "N" REPRESENTS THE MAXIMUM ALLOWABLE NUMBER OF PINS.
- 23 x 23 MATRIX SIZES ARE SHOWN FOR ILLUSTRATION ONLY.



DIMENSION "A" INCLUDES THE PACKAGE BODY AND LID FOR BOTH CAVITY UP AND DOWN CONFIGURATIONS. (SEE REFERENCE DRAWING ON THE NEXT PAGE). DIMENSION "A" DOES NOT INCLUDE INTEGRAL HEATSINK OR ATTACHED FEATURES.



STANDOFFS FOR VARIATIONS AA-AQ SHOULD BE LOCATED ON THE PIN MATRIX DIAGONALS.



THE SEATING PLANE IS THE OUTER STANDOFF SURFACE FACING AWAY FROM THE THE CERAMIC BODY FOR VARIATIONS AA-AQ. THE SEATING PLANE IS THE CERAMIC BODY SURFACE OR LID FOR VARIATIONS BA-BQ.



DIMENSION "Q" APPLIES TO CAVITY UP CONFIGURATION ONLY. DIMENSION "Q1" APPLIES TO CAVITY DOWN CONFIGURATION ONLY. (SEE REFERENCE DRAWING ON THE NEXT PAGE).



IS IS MEASURED WITH RESPECT TO DATUM A AND DATUM B AND DEFINES THE POSITION OF THE CENTER PIN IN THE OUTER ROW, WHEN THERE IS AN ODD NUMBER OF PINS IN THE OUTER ROW, [S] = .000", WHEN AN EVEN NUMBER ARE USED. [S] = .050". ALL PINS IN A GIVEN ROW MUST BE ON A .100" GRID. ADJACENT ROWS OFFSET BY .050".



DATUM C IS THE PLANE OF PIN TO PACKAGE INTERFACE FOR BOTH CAVITY



UP AND DOWN CONFIGURATIONS. (SEE REFERENCE DRAWING ON THE NEXT PAGE). PIN DIAMETER INCLUDES SOLDER DIP OR CUSTOM FINISH.



PIN TIPS MAY REQUIRE A RADIUS OR CHAMFER WHEN USED WITH A SOCKET PER THE ATTACHED APPLICATIONS NOTE.



THERE MUST BE SOME TYPE OF A1 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 DIFFERING TYPES.



THERE MUST BE .010" MINIMUM SPACING BETWEEN ANY TWO METALLIZED FEATURES ON THE PACKAGE.



DIMENSION "D" AND "E" DO NOT INCLUDE CERAMIC PROTRUSIONS. SUCH PROTRUSIONS MAY NOT EXCEED MORE THAN .003" ON ANY SIDE. CORNERS OF THE PACKAGE BODY MAY HAVE CHAMFERS FOR MECHANICAL PROTECTION OR IDENTIFICATION.



IN SOME APPLICATIONS A HIGHER MINIMUM PIN LENGTH MAY BE REQUIRED PER THE ATTACHED APPLICATION NOTE.

20ackslash THIS DIMENSION DEFINES THE MAXIMUM SIZE FOR THE BRAZE PADS, PINS MUST BE POSITIONED ENTIRELY ON THE BRAZE PADS.



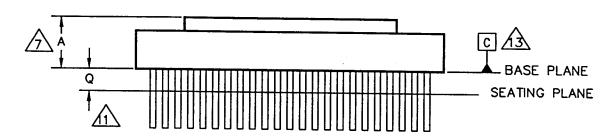
THERE ARE NO STANDOFF PINS ON VARIATIONS BA THROUGH BQ.

THE PACKAGE DESIGNATOR DOES NOT SPECIFY A MATERIAL. THE MATERIAL IS THE MANUFACTURER'S OPTION. THIS REGISTRATION WAS ORIGINALLY DEVELOPED FOR CERAMIC DESIGNS.

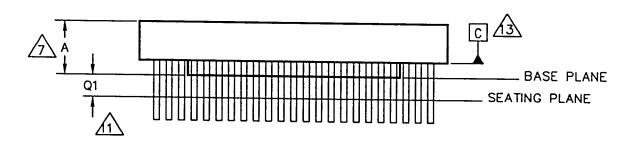
JEDEC	S-XPGA-P .100" CENTER	ISSUE	DATE		SHEET
Solid State Product Outline	STAGGERED PIN GRID ARRAY FAMILY (LARGE OUTLINE)	С	1/97	MO-128	6/8

### REFERENCE DRAWING

## CAVITY UP



# CAVITY DOWN



JEDEC	S-XPGA-P .100" CENTER	ISSUE	DATE		SHEET
Solid State Product Outline	STAGGERED PIN GRID ARRAY FAMILY (LARGE OUTLINE)	С	1/97	MO-128	7/8

#### **APPLICATION NOTES:**

- 1. 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. STANDOFF HEIGHT MUST BE IN THE RANGE .055"/.045" FOR VARIATIONS AA-AQ.

  - C. RECOMMENDED MINIMUM PIN LENGTH (DIMENSION "L") SHOULD BE .115".
    D. RECOMMENDED MAXIMUM PIN DIAMETER INCLUDING FINISH SHOULD BE .020".
- 2. FOR MILITARY APPLICATIONS THE PIN LENGTH (DIMENSION "L") RANGE MAY BE RESTRICTED TO .120"/.140".
- 3. ALL VARIATIONS ARE SUITABLE FOR SINGLE AND MULTICHIP APPLICATIONS.

JEDEC	S-XPGA-P	ISSUE	DATE		SHEET
	.100" CENTER STAGGERED PIN GRID ARRAY FAMILY (LARGE OUTLINE)	С	1/97	MO-128	8/8