Lattice Semiconductor Corporation - LX64EV-5F100C Datasheet

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Understanding Embedded - FPGAs (Field Programmable Gate Array)

Embedded - FPGAs, or Field Programmable Gate Arrays, are advanced integrated circuits that offer unparalleled flexibility and performance for digital systems. Unlike traditional fixed-function logic devices, FPGAs can be programmed and reprogrammed to execute a wide array of logical operations, enabling customized functionality tailored to specific applications. This reprogrammability allows developers to iterate designs quickly and implement complex functions without the need for custom hardware.

Applications of Embedded - FPGAs

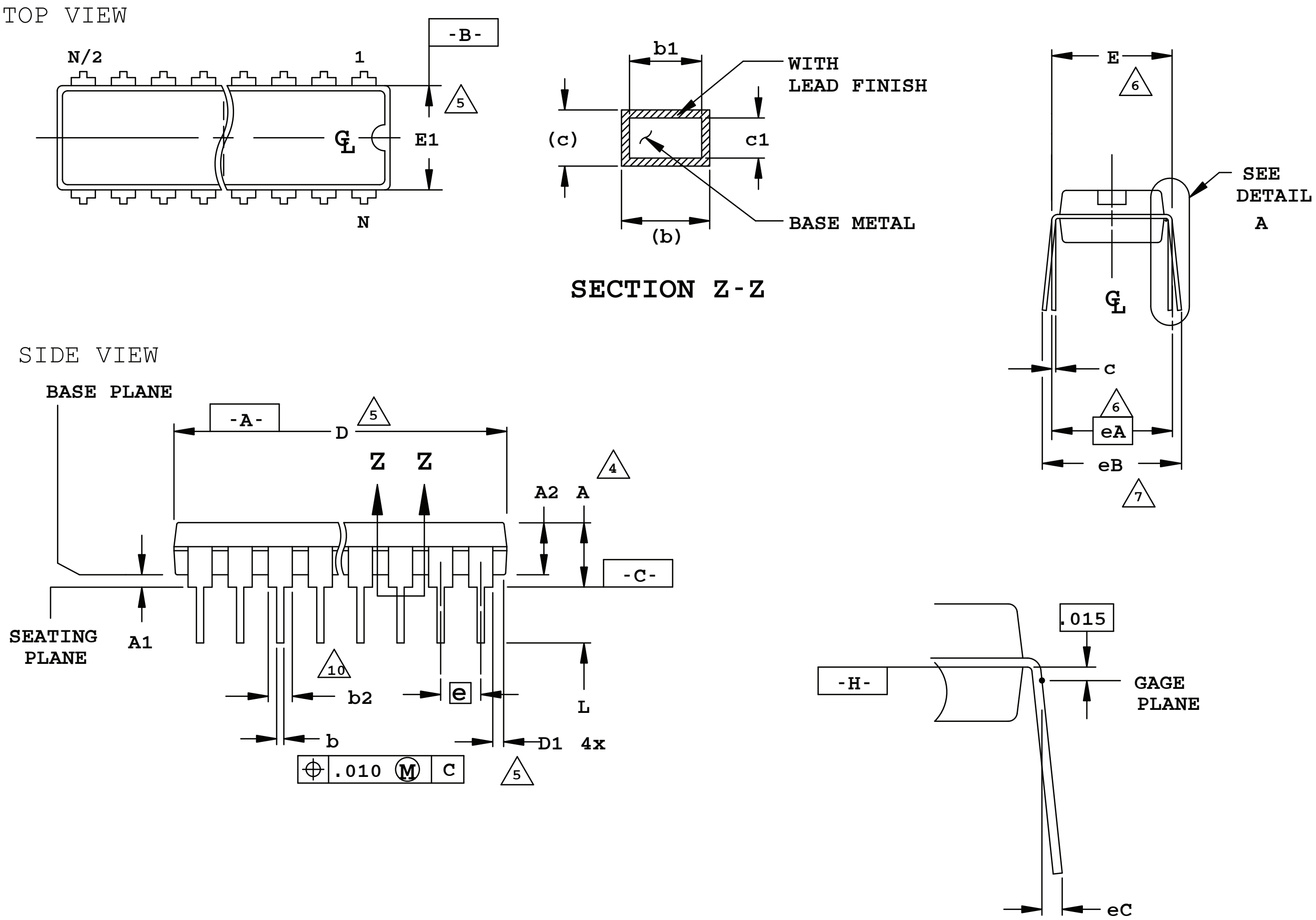
The versatility of Embedded - FPGAs makes them indispensable in numerous fields. In telecommunications,

Details	
Product Status	Obsolete
Number of LABs/CLBs	-
Number of Logic Elements/Cells	-
Total RAM Bits	-
Number of I/O	64
Number of Gates	-
Voltage - Supply	3V ~ 3.6V
Mounting Type	Surface Mount
Operating Temperature	0°C ~ 90°C (TJ)
Package / Case	100-LBGA
Supplier Device Package	100-FPBGA (11x11)
Purchase URL	https://www.e-xfl.com/product-detail/lattice-semiconductor/lx64ev-5f100c

Email: info@E-XFL.COM
Address: Room A, 16/F, Full Win Commercial Centre, 573 Nathan Road, Mongkok, Hong Kong

24-Pin Plastic DIP

Dimensions in Inches



DETAIL A

NOTES:

1. CONTROLLING DIMENSION: INCH.
2. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M
3. DISTANCE BETWEEN LEADS INCLUDING DAMBAR PROTRUSIONS TO BE .005 MINIMUM.

△4. DIMENSIONS A, A1 & L ARE MEASURED WITH THE PACKAGE SEATED IN JEDEC SEATING PLANE GAUGE GS-3.

△5. DIMENSIONS D, D1 AND E1 DO NOT INCLUDE MOLD FLASH OR PROTRUSIONS. MOLD FLASH OR PROTRUSIONS SHALL NOT EXCEED .010

△6. E AND eA MEASURED WITH THE LEADS CONSTRAINED TO BE PERPENDICULAR TO DATUM -C-

△7. eB AND eC ARE MEASURED AT THE LEAD TIPS WITH THE LEADS UNCONSTRAINED.

△8. N IS THE MAXIMUM NUMBER OF LEAD POSITIONS.

9. POINTED OR ROUNDED LEAD TIPS ARE PREFERRED TO EASE INSERTION

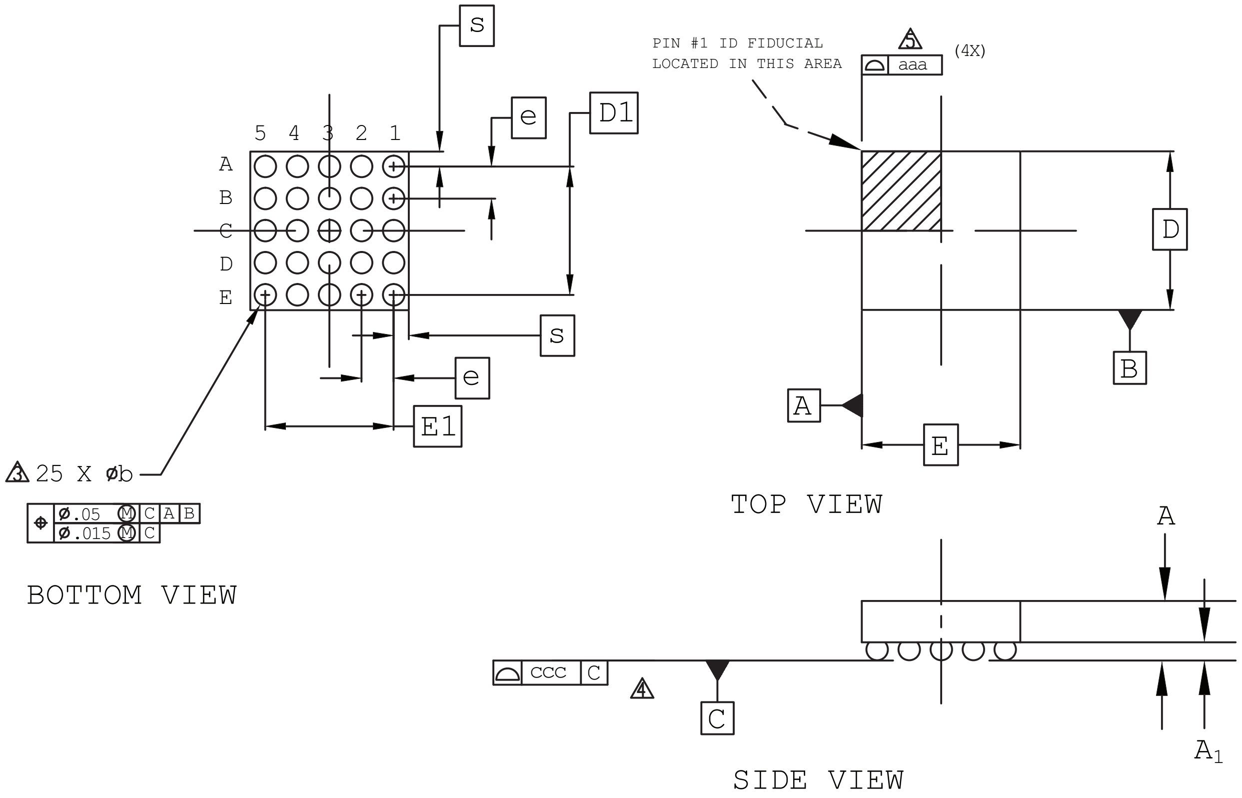
△10. b2 MAXIMUM DIMENSIONS DOES NOT INCLUDE DAMBAR PROTRUSIONS. DAMBAR PROTRUSIONS SHALL NOT EXCEED .010

△11. DATUM PLANE -H- COINCIDENT WITH THE BOTTOM OF LEAD , WHERE LEAD EXITS BODY

	N = 24			
SYMBOL	INCHES			NOTE
	MIN.	NOM.	MAX.	
A	-	-	.210	4
A1	.015	-	-	4
A2	.115	.130	.195	
b	.014	.018	.022	
b1	.014	.018	.020	
b2	.045	.060	.070	10
c	.008	.010	.014	
c1	.008	.010	.011	
D	1.230	1.250	1.280	5
D1	.005	-	-	5
E	.300	.310	.325	6
E1	.240	.250	.280	5
e	.100 BSC			
eA	.300 BSC			6
eB	-	-	.430	7
eC	.000	-	.060	7
L	.115	.130	.150	

25-Ball WLCS Package (0.35 mm Pitch)

Dimensions in Millimeters



Notes:

1 ALL DIMENSIONS AND TOLERANCE PER ASME Y 14.5M - 1994.

2 ALL DIMENSIONS ARE IN MILLIMETERS.

3 DIMENSION “b” IS MEASURED AT THE MAXIMUM BUMP DIAMETER PARALLEL TO PRIMARY DATUM C.

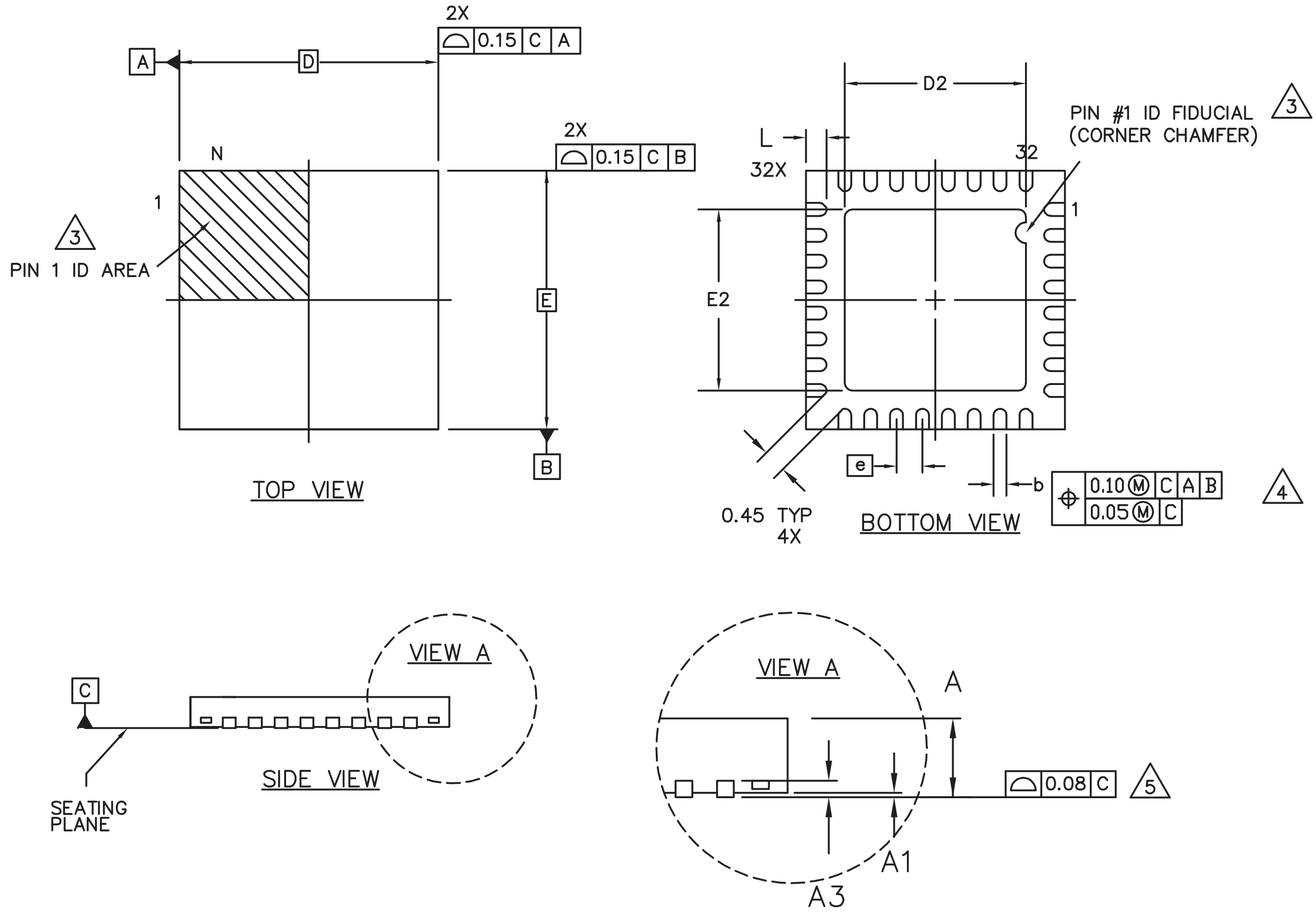
4 PRIMARY DATUM C AND SEATING PLANE ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BUMPS.

5 BILATERAL TOLERANCE ZONE IS APPLIED TO EACH SIDE OF THE PACKAGE BODY.

REF.	Min.	Nom.	Max.
A	0.413	0.452	0.491
A1	0.122	0.152	0.182
b	0.188	0.218	0.248
D	1.71 BSC		
E	1.71 BSC		
D1	1.40 BSC		
E1	1.40 BSC		
e	0.35 BSC		
aaa	0.03		
ccc	0.03		
s	–	0.015	–

32-Pin QFN Package Option 3: MachXO2 SG32C

Dimensions in Millimeters



NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.

2. ALL DIMENSIONS ARE IN MILLIMETERS.

3 EXACT SHAPE AND SIZE OF THIS FEATURE IS OPTIONAL.

4 DIMENSION b APPLIES TO PLATED TERMINAL AND IS MEASURED BETWEEN 0.15 AND 0.30 mm FROM TERMINAL TIP.

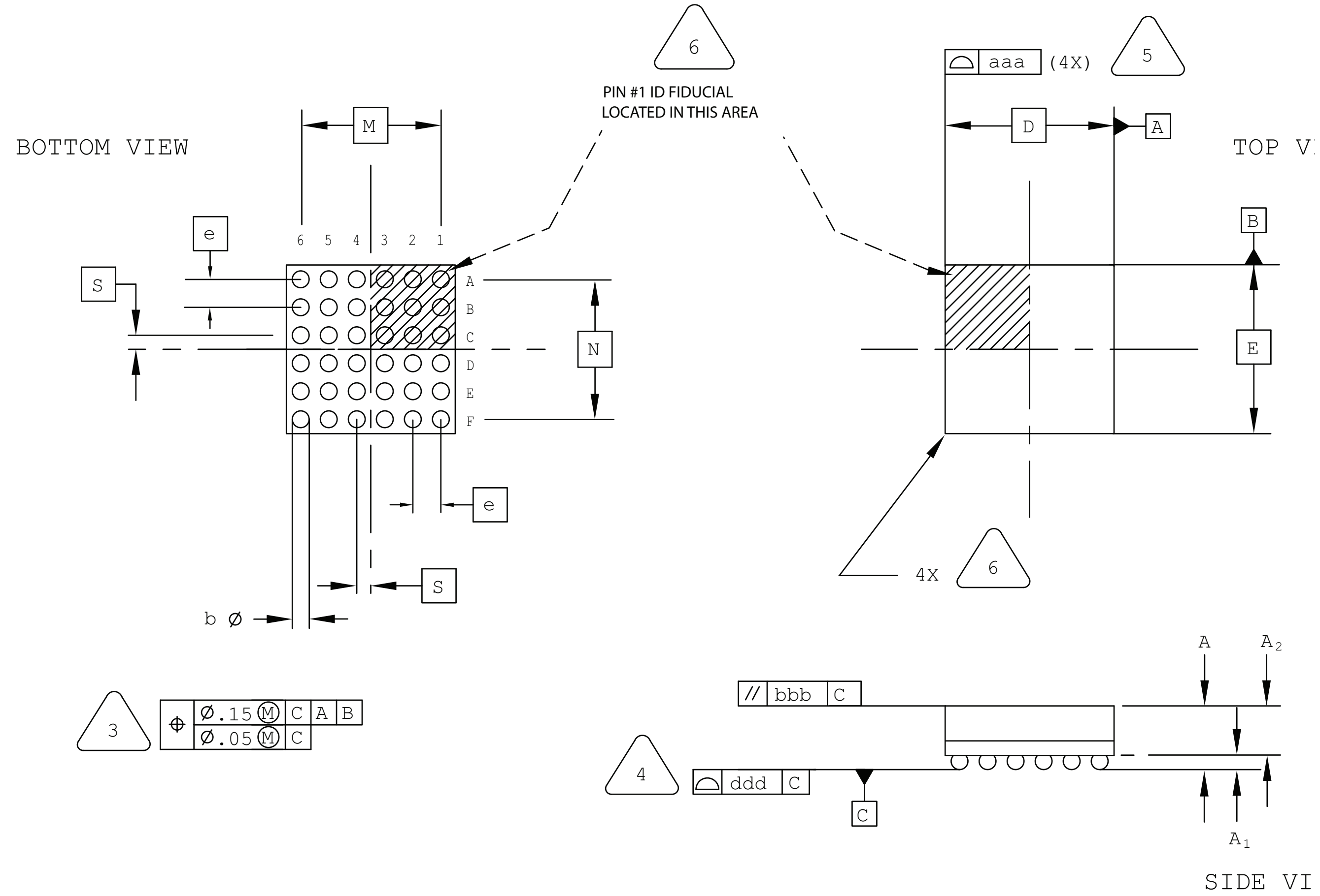
5 APPLIES TO EXPOSED PORTION OF TERMINALS.

6. JEDEC REFERENCE MO-248 AND DR-4.2

SYMBOL	MIN.	NOM.	MAX.
A	0.50	0.55	0.65
A1	0.00	0.02	0.05
A3	0.2 REF		
D	5.0 BSC		
D2	3.40	3.50	3.60
E	5.0 BSC		
E2	3.40	3.50	3.60
b	0.18	0.25	0.30
e	0.50 BSC		
L	0.35	0.40	0.45

36-Ball ucBGA Package Option 1

Dimensions in Millimeters



NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.

2. ALL DIMENSIONS ARE IN MILLIMETERS.

3 DIMENSION "b" IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER, PARALLEL TO PRIMARY DATUM C

4 PRIMARY DATUM C AND SEATING PLANE ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.

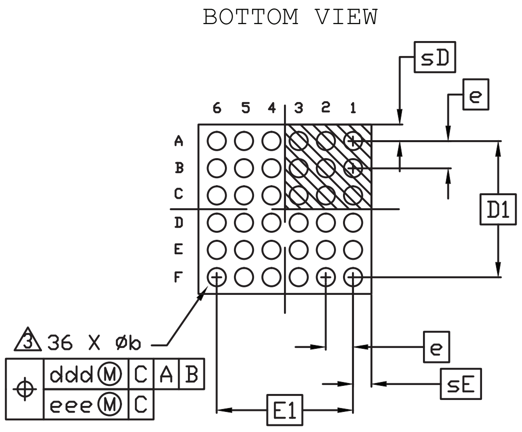
5 BILATERAL TOLERANCE ZONE IS APPLIED TO EACH SIDE OF THE PACKAGE BODY.

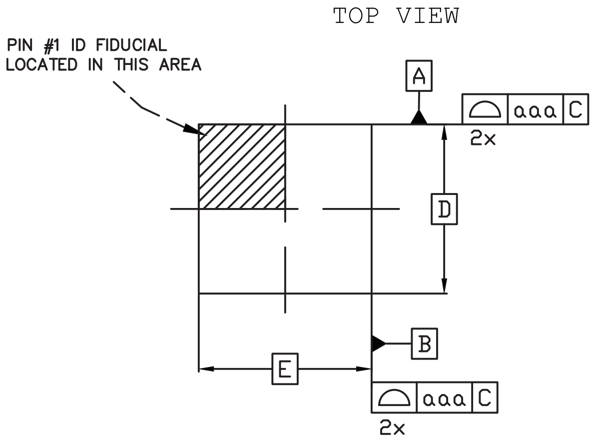
6 EXACT SHAPE AND SIZE OF THIS FEATURE IS OPTIONAL.

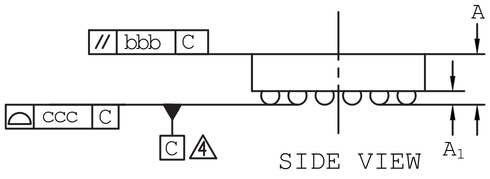
SYMBOL	MIN.	NOM.	MAX.
A	-	-	1.00
A1	0.10	-	-
A2	-	-	0.90
D/E	2.50 BSC		
M/N	2.00 BSC		
S	0.20 BSC		
b	0.20	0.25	0.30
e	0.40 BSC		
aaa	-	-	0.10
bbb	-	-	0.10
ddd	-	-	0.10

36-Ball WLCS Package Option 2: MachXO3™

Dimensions in Millimeters







NOTES:

1. ALL DIMENSIONS AND TOLERANCE PER ASME Y 14.5M - 1994.

2. ALL DIMENSIONS ARE IN MILLIMETERS.

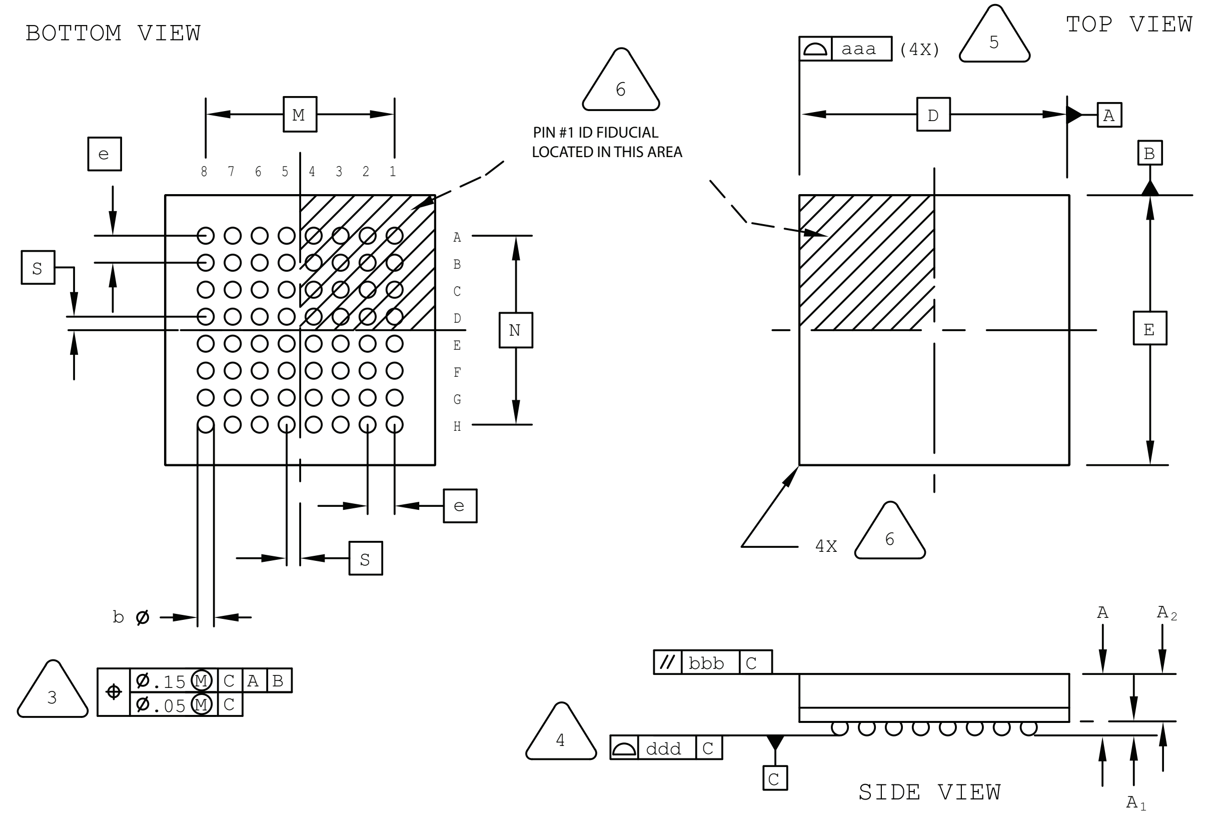
3. DIMENSION "b" IS MEASURES AT THE MAXIMUM BUMP DIAMETER PARALLEL TO PRIMARY DATUM C.

4. PRIMARY DATUM C AND SEATING PLANE ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BUMPS.

REF.	Min.	Nom.	Max.
A	0.510	0.543	0.576
A1	0.167	0.196	0.225
b	0.239	0.266	0.319
D		2.487 BSC	
E		2.541 BSC	
D1		2.00 BSC	
E1		2.00 BSC	
e		0.40 BSC	
sD	-	0.244	-
sE	-	0.271	-
aaa		0.025	
bbb		0.060	
ccc		0.030	
ddd		0.0150	
eee		0.050	

64-Ball ucBGA Package

Dimensions in Millimeters



NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.

2. ALL DIMENSIONS ARE IN MILLIMETERS.

3 DIMENSION "b" IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER, PARALLEL TO PRIMARY DATUM C

4 PRIMARY DATUM C AND SEATING PLANE ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.

5 BILATERAL TOLERANCE ZONE IS APPLIED TO EACH SIDE OF THE PACKAGE BODY.

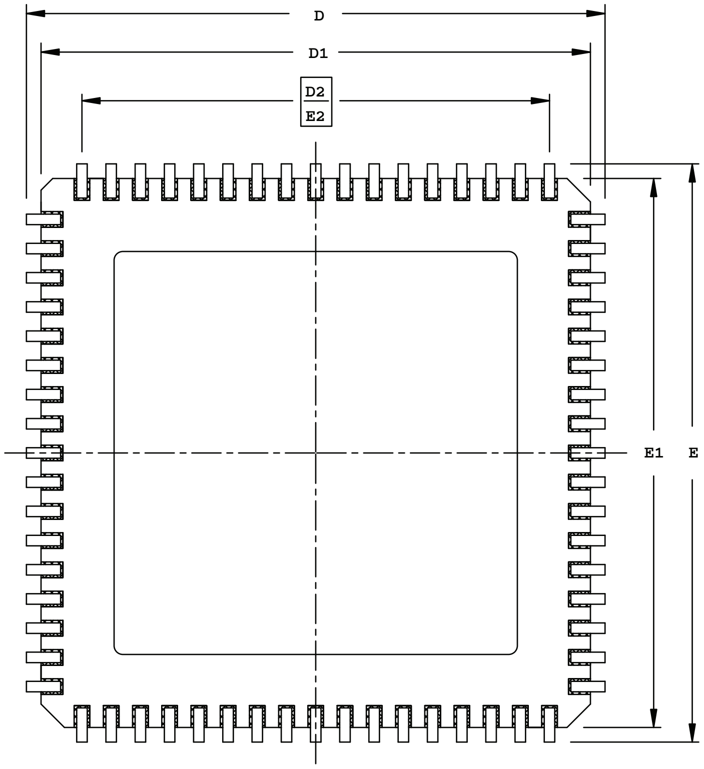
6 EXACT SHAPE AND SIZE OF THIS FEATURE IS OPTIONAL.

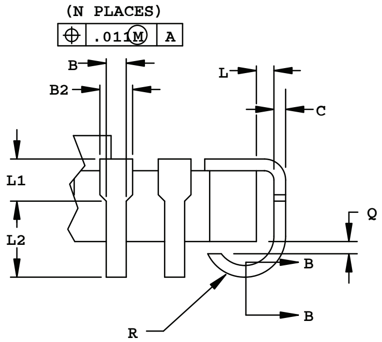
SYMBOL	MIN.	NOM.	MAX.
A	-	-	1.00
A1	0.10	-	-
A2	-	-	0.90
D/E	4.00 BSC		
M/N	2.80 BSC		
S	0.20 BSC		
b	0.20	0.25	0.30
e	0.40 BSC		
aaa	-	-	0.10
bbb	-	-	0.10
ddd	-	-	0.08

68-Pin JLCC Package

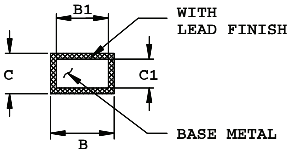
Dimensions in Inches

BOTTOM VIEW

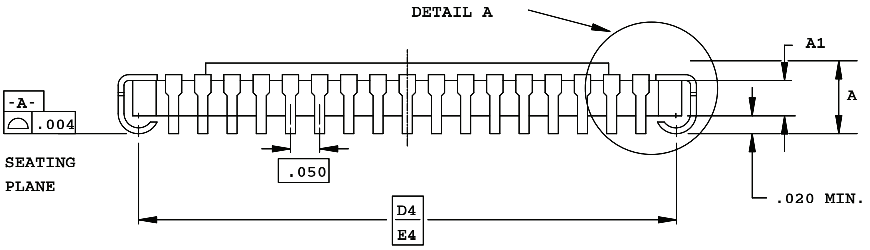




DETAIL A



SECTION B-B



SIDE VIEW

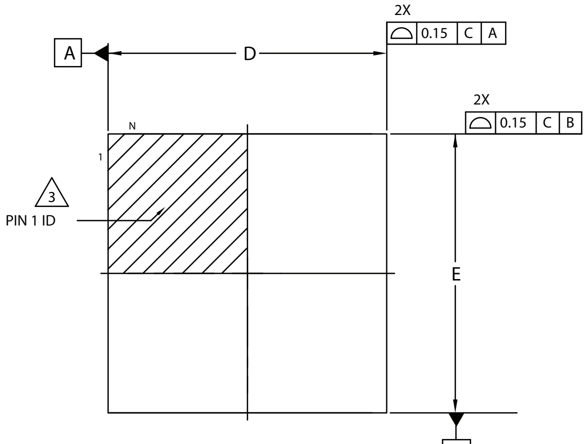
SYMBOL	INCHES		
	MIN.		MAX.
A	.115	-	.190
A1	.080 REF		
B	.013	-	.023
B1	.013	-	.020
B2	.022	-	.035
C	.007	-	.013
C1	.007	-	.010
D/E	.975	.990	1.000
D1/E1	.920	-	.960
D2/E2	.800 BSC		
D4/E4	.930 BSC		
L	.005	-	-
L1	.020	-	-
L2	.025	-	-
Q	.003	-	-
R	.020	-	.040
N	68		

NOTES:

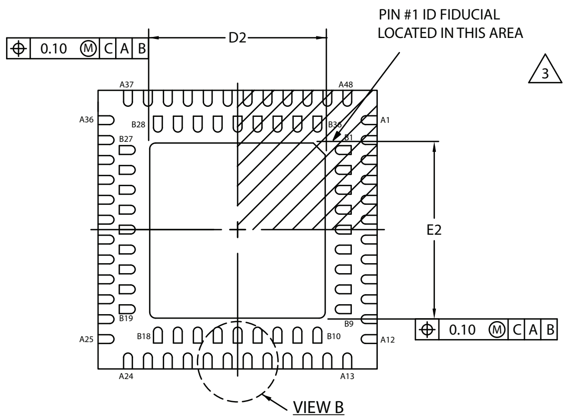
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M.
2. ALL DIMENSIONS ARE IN INCHES.
3. CORNER CHAMFERS AND/OR NOTCHES ARE OPTIONAL.

84-Pin QFN Package

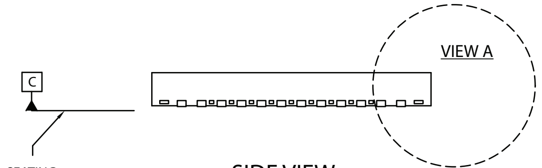
Dimensions in Millimeters



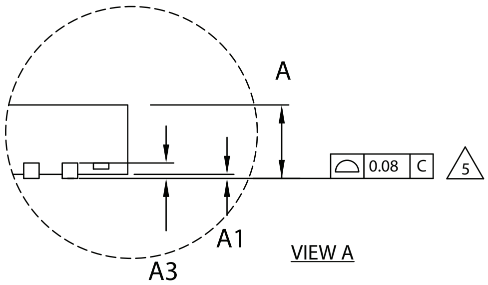
TOP VIEW



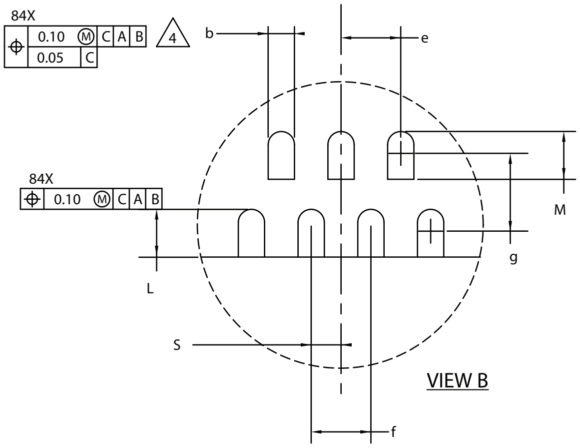
BOTTOM VIEW



SIDE VIEW



VIEW A



VIEW B

NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.

2. ALL DIMENSIONS ARE IN MILLIMETERS.

3 EXACT SHAPE AND SIZE OF THIS FEATURE IS OPTIONAL.

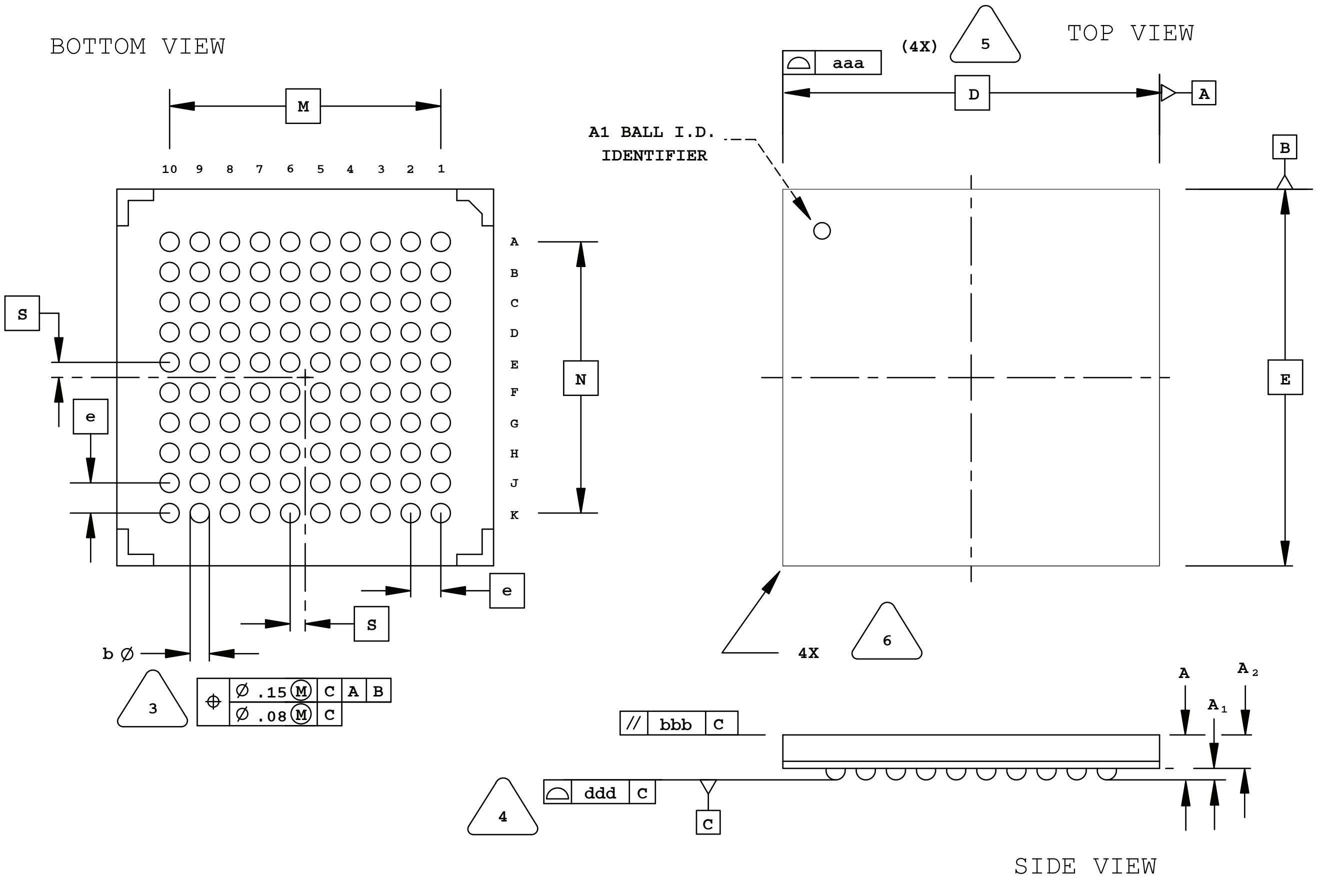
4 DIMENSION b APPLIES TO PLATED TERMINAL AND IS MEASURED BETWEEN 0.15 AND 0.30 mm FROM TERMINAL TIP.

5 APPLIES TO EXPOSED PORTION OF TERMINALS.

SYMBOL	MIN.	NOM.	MAX.
A	0.75	0.85	0.95
A1	0.00	0.02	0.05
A3	0.15 REF		
D	7.0 BSC		
D2	4.30	-	4.50
E	7.0 BSC		
E2	4.30	-	4.50
b	0.17	0.22	0.27
e	0.50 BSC		
f	0.50 BSC		
g	0.65 BSC		
S	0.25 BSC		
L	0.30	0.40	0.50
M	0.30	0.40	0.50

100-Ball caBGA Package

Dimensions in Millimeters



NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.

2. ALL DIMENSIONS ARE IN MILLIMETERS.

3 DIMENSION "b" IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER, PARALLEL TO PRIMARY DATUM C

4 PRIMARY DATUM C AND SEATING PLANE ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.

5 BILATERAL TOLERANCE ZONE IS APPLIED TO EACH SIDE OF THE PACKAGE BODY.

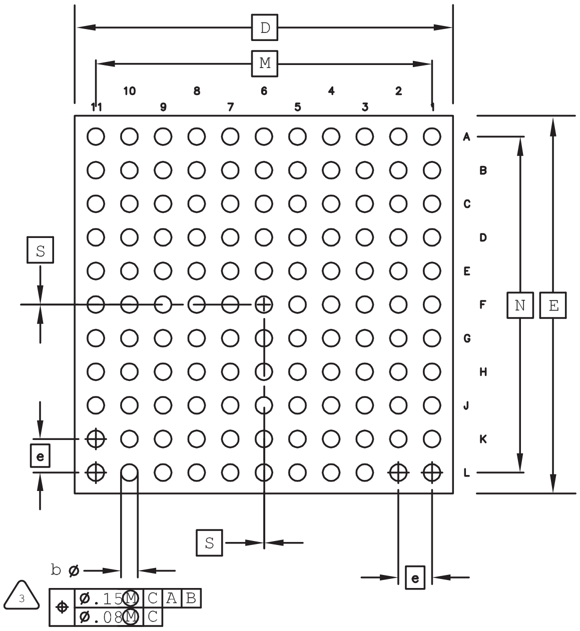
6 EXACT SHAPE AND SIZE OF THIS FEATURE IS OPTIONAL.

SYMBOL	MIN.	NOM.	MAX.
A	1.30	1.40	1.50
A1	0.31	0.36	0.41
A2	0.99	1.04	1.09
D/E	10.00 BSC		
M/N	7.20 BSC		
S	0.40 BSC		
b	0.40	0.46	0.52
e	0.80 BSC		
aaa	-	-	0.10
bbb	-	-	0.10
ddd	-	-	0.12

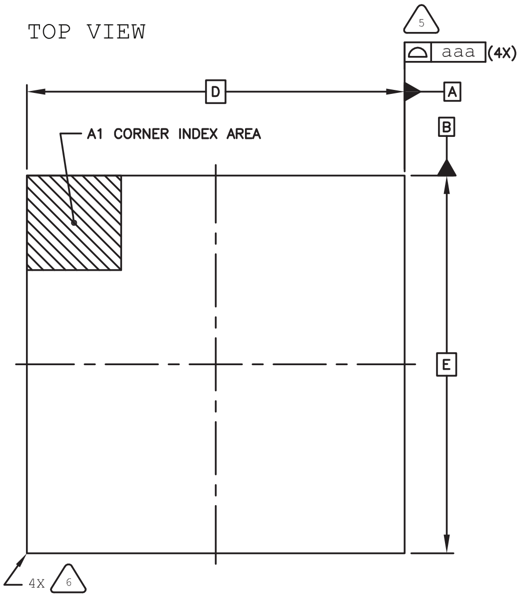
121-Ball caBGA Package (9x9 mm Body)

Dimensions in Millimeters

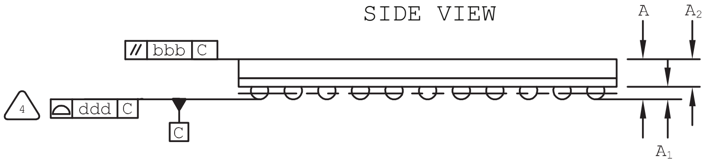
BOTTOM VIEW



TOP VIEW



SIDE VIEW



NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.

2. ALL DIMENSIONS ARE IN MILLIMETERS.

3. DIMENSION "b" IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER, PARALLEL TO PRIMARY DATUM C

4. PRIMARY DATUM C AND SEATING PLANE ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.

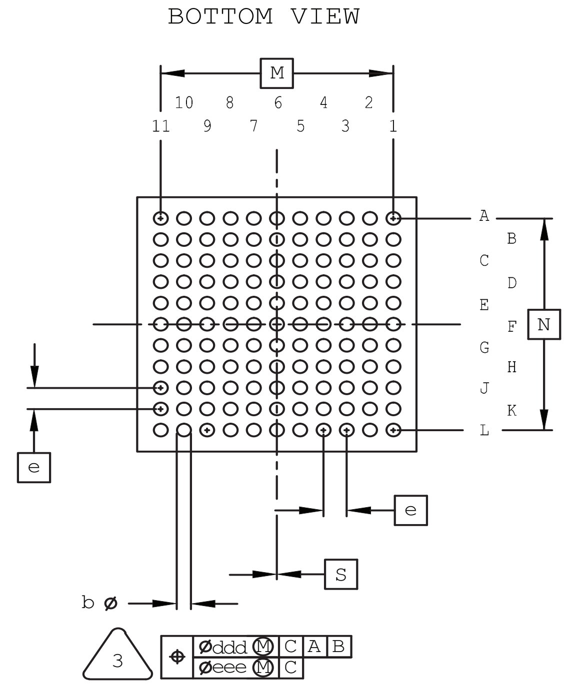
5. BILATERAL TOLERANCE ZONE IS APPLIED TO EACH SIDE OF THE PACKAGE BODY.

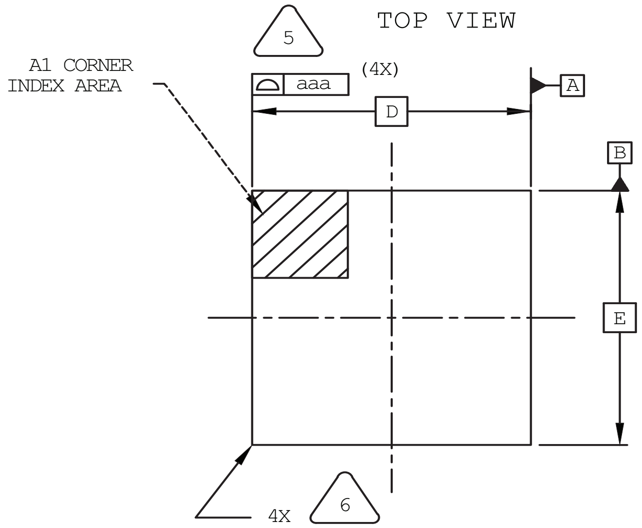
6. EXACT SHAPE AND SIZE OF THIS FEATURE IS OPTIONAL.

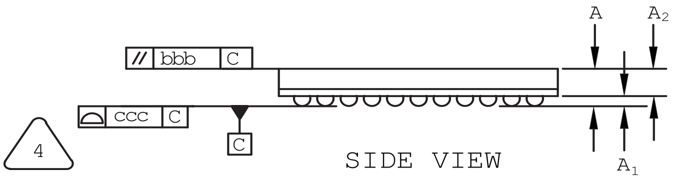
SYMBOL	MIN.	NOM.	MAX.
A	-	-	1.10
A1	0.15	-	-
A2	0.55	-	-
D/E	9.00 BSC		
M/N	8.00 BSC		
S	0.00 BSC		
b	0.30	0.40	0.50
e	0.80 BSC		
aaa	0.15		
bbb	0.20		
ddd	0.10		

121-Ball csfBGA Package

Dimensions in Millimeters







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3 DIMENSION "b" IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER, PARALLEL TO PRIMARY DATUM C.

4 PRIMARY DATUM C AND SEATING PLANE ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.

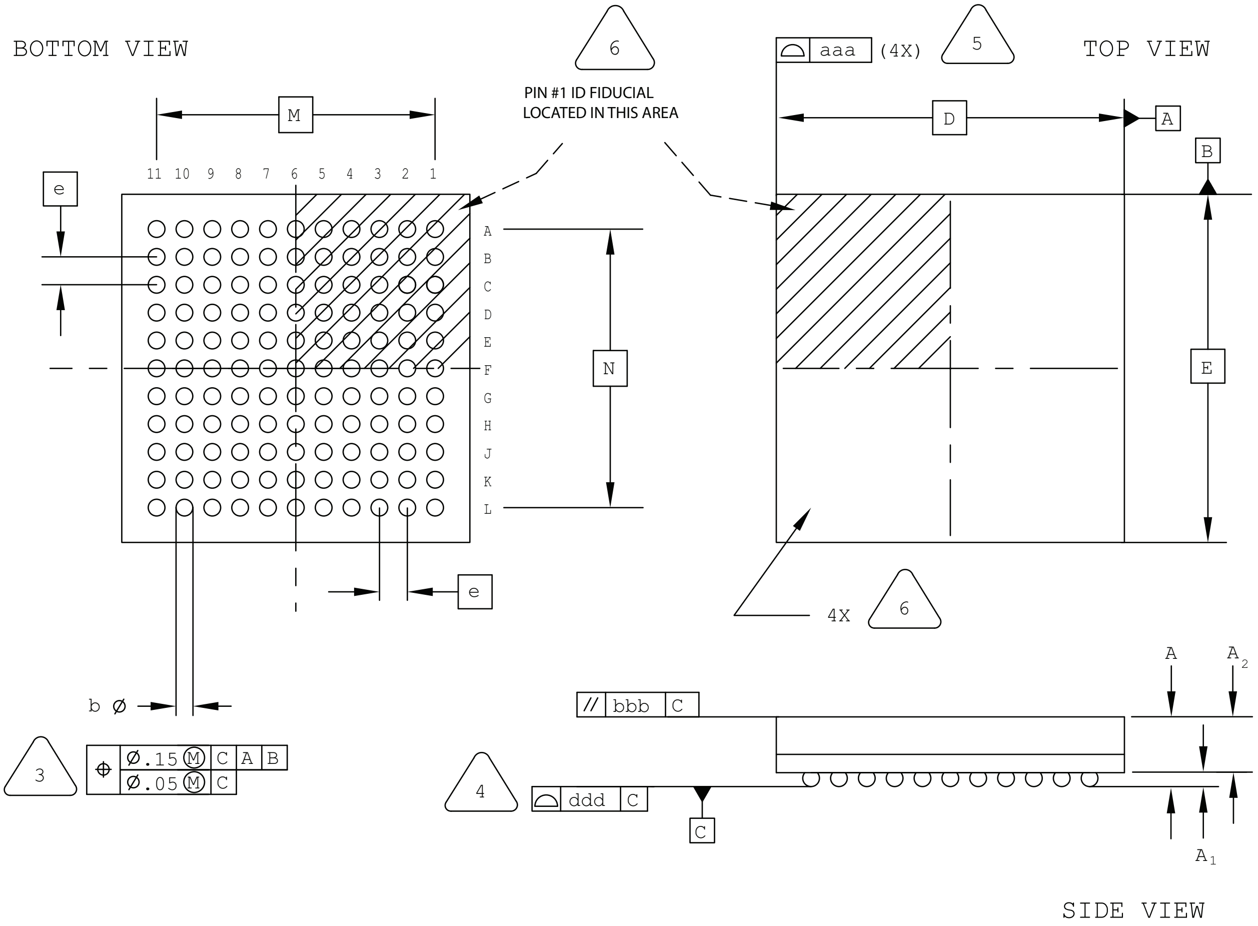
5 BILATERAL TOLERANCE ZONE IS APPLIED TO EACH SIDE OF THE PACKAGE BODY.

6 EXACT SHAPE AND SIZE OF THIS FEATURE IS OPTIONAL.

SYMBOL	MIN.	NOM.	MAX.
A	–	–	1.00
A1	0.15	0.24	–
A2	–	0.66	–
D/E	6.00 BSC		
M/N	5.00 BSC		
S	0.00 BSC		
b	0.25	0.30	0.35
e	0.50 BSC		
aaa	0.10		
bbb	0.10		
ccc	0.08		
ddd	0.15		
eee	0.05		

121-Ball ucBGA Package

Dimensions in Millimeters



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4. PRIMARY DATUM C AND SEATING PLANE ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.

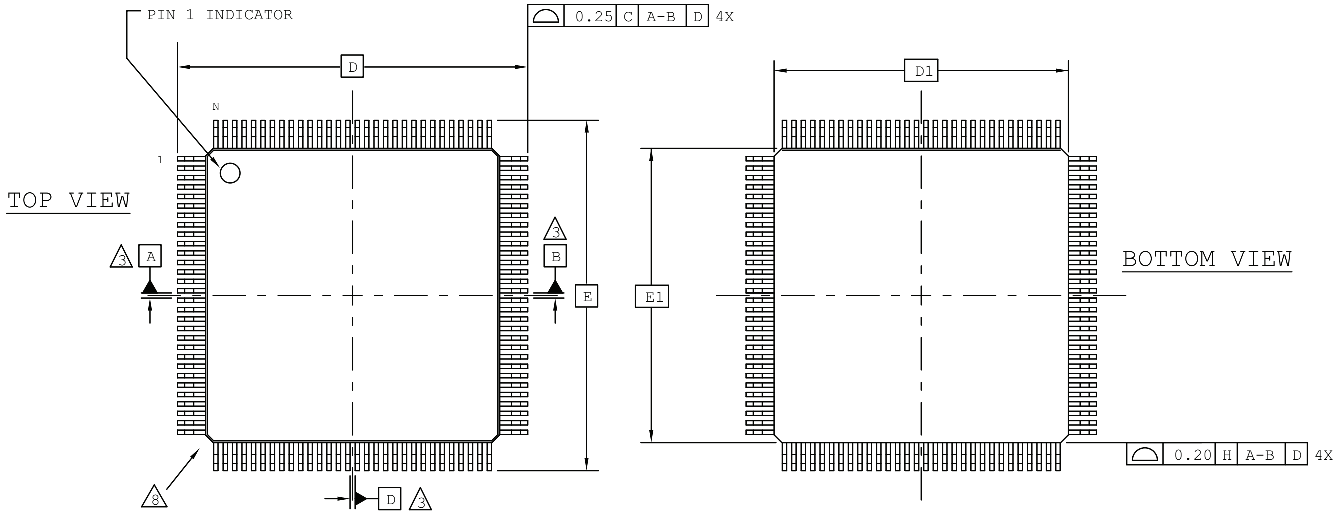
5. BILATERAL TOLERANCE ZONE IS APPLIED TO EACH SIDE OF THE PACKAGE BODY.

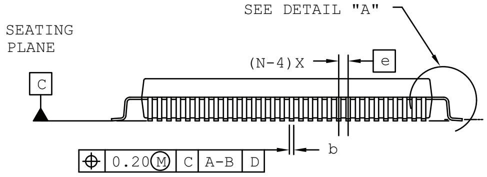
6. EXACT SHAPE AND SIZE OF THIS FEATURE IS OPTIONAL.

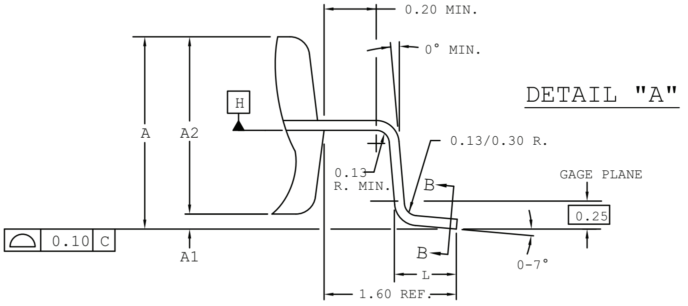
SYMBOL	MIN.	NOM.	MAX.
A	-	-	1.00
A1	0.10	-	-
A2	-	-	0.90
D/E	5.00 BSC		
M/N	4.00 BSC		
b	0.20	0.25	0.30
e	0.40 BSC		
aaa	-	-	0.10
bbb	-	-	0.10
ddd	-	-	0.10

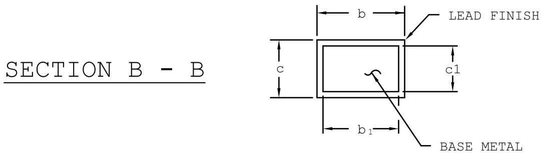
128-Pin PQFP Package

Dimensions in Millimeters









NOTES:

1.0 DIMENSIONING AND TOLERANCING PER ANSI Y14.5 - 1982.

2.0 ALL DIMENSIONS ARE IN MILLIMETERS.

3 DATUMS A, B AND D TO BE DETERMINED AT DATUM PLANE H.

4.0 DIMENSIONS D1 AND E1 DO NOT INCLUDE MOLD PROTRUSION. ALLOWABLE MOLD PROTRUSION IS 0.254 MM ON D1 AND E1 DIMENSIONS.

5.0 THE TOP OF PACKAGE MAY BE SMALLER THAN THE BOTTOM OF THE PACKAGE BY 0.15 MM.

6.0 SECTION B-B:
THESE DIMENSIONS APPLY TO THE FLAT SECTION OF THE LEAD BETWEEN 0.10 AND 0.25 MM FROM THE LEAD TIP.

7.0 A1 IS DEFINED AS THE DISTANCE FROM THE SEATING PLANE TO THE LOWEST POINT ON THE PACKAGE BODY.

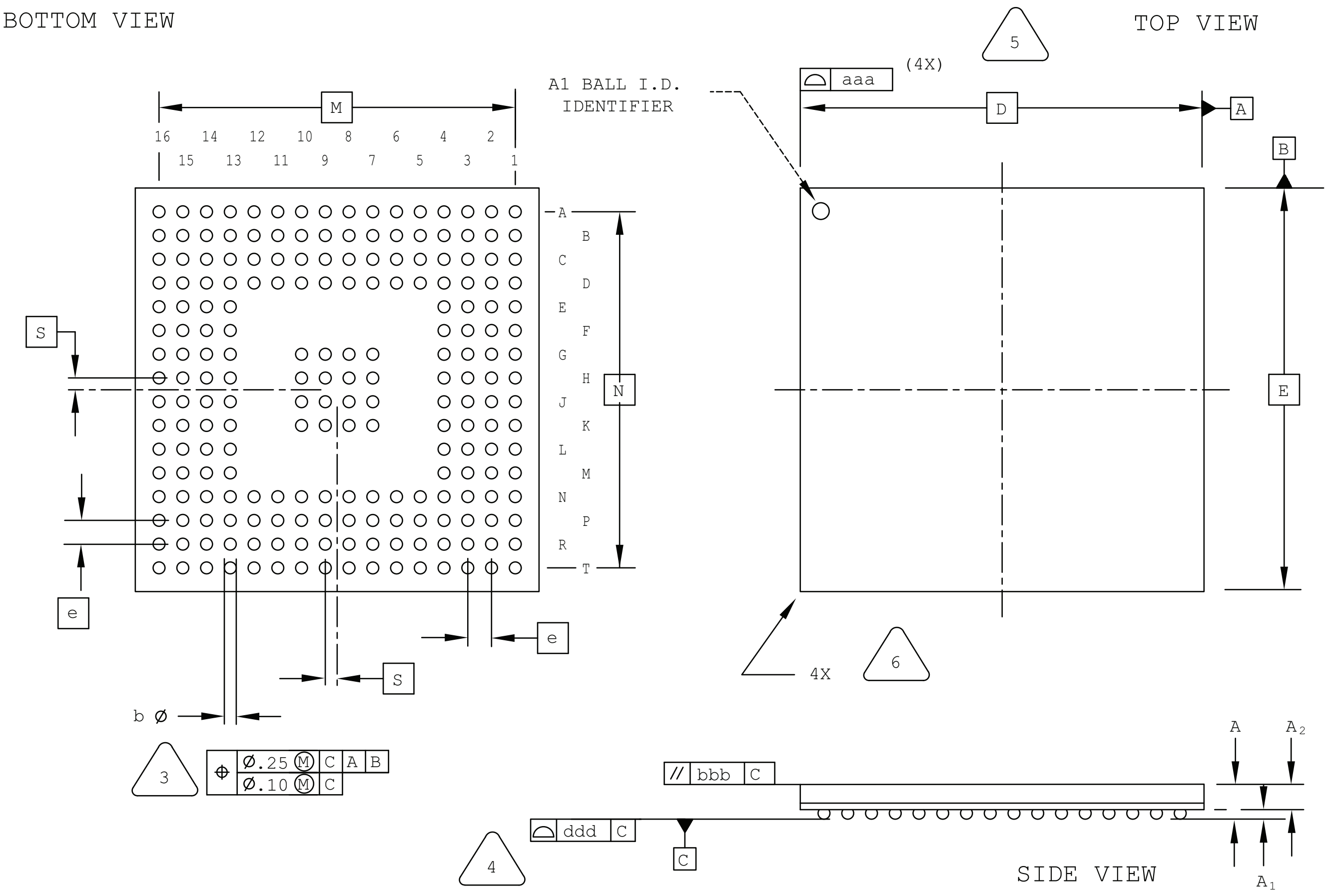
8 EXACT SHAPE OF EACH CORNER IS OPTIONAL.

9 EXACT SHAPE OF EXPOSED HEATSINK IS OPTIONAL.

SYMBOL	MIN.	NOM.	MAX.
A	-	-	4.10
A1	0.25	-	0.50
A2	3.20	3.40	3.60
D	31.20 BSC		
D1	28.00 BSC		
E	31.20 BSC		
E1	28.00 BSC		
L	0.73	0.88	1.03
N	128		
e	0.80 BSC		
b	0.29	-	0.45
b1	0.29	0.35	0.41
c	0.11	-	0.23
c1	0.11	0.15	0.19

208-Ball ftBGA Package

Dimensions in Millimeters



NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.

2. ALL DIMENSIONS ARE IN MILLIMETERS.

△ 3 DIMENSION "b" IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER, PARALLEL TO PRIMARY DATUM C

△ 4 PRIMARY DATUM C AND SEATING PLANE ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.

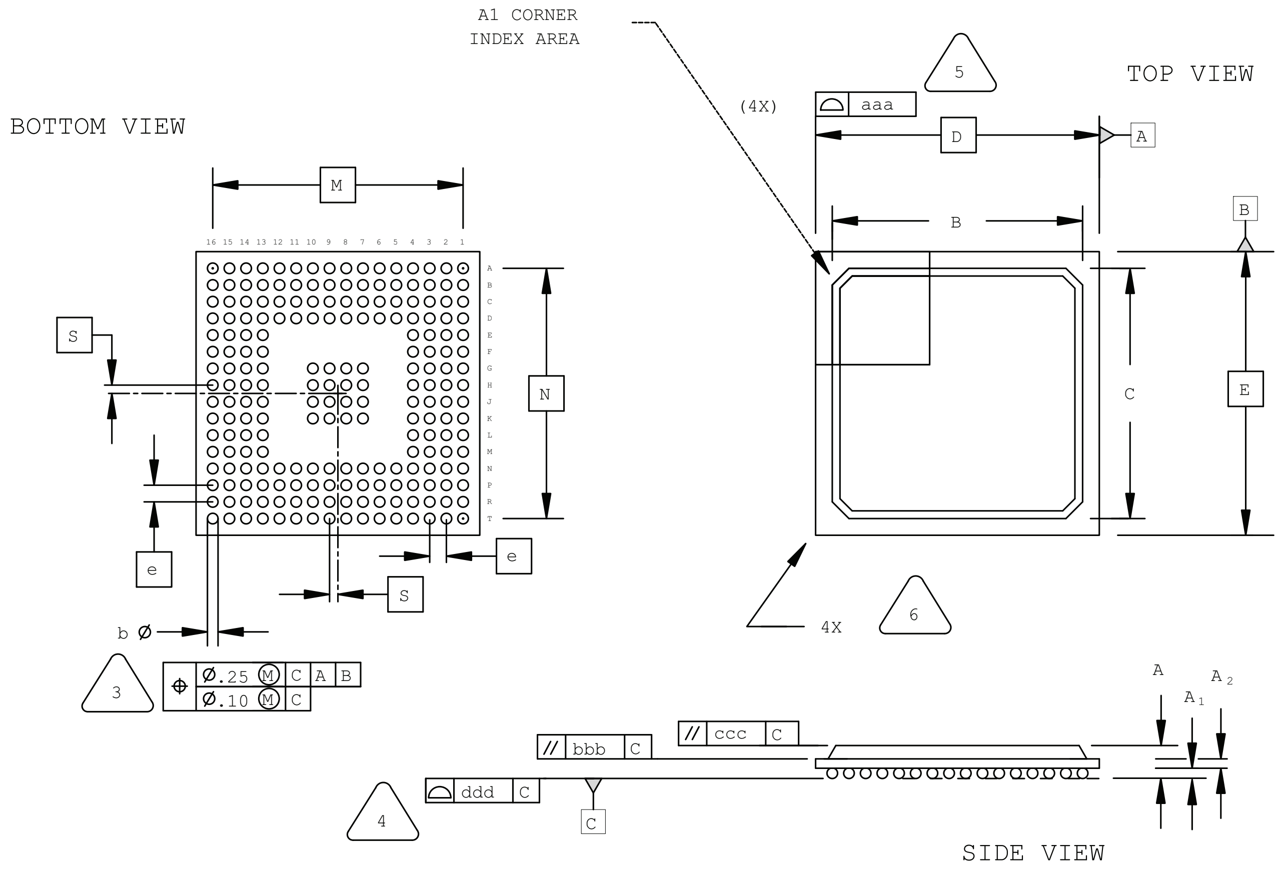
△ 5 BILATERAL TOLERANCE ZONE IS APPLIED TO EACH SIDE OF THE PACKAGE BODY.

△ 6 EXACT SHAPE AND SIZE OF THIS FEATURE IS OPTIONAL.

SYMBOL	MIN.	NOM.	MAX.
A	1.25	1.40	1.55
A1	0.30	-	-
A2	-	-	1.25
D/E	17.0 BSC		
M/N	15.0 BSC		
S	0.50 BSC		
b	0.40	0.50	0.60
e	1.0 BSC		
aaa	-	-	0.20
bbb	-	-	0.25
ddd	-	-	0.12

208-Ball fpBGA Package

Dimensions in Millimeters



NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.

2. ALL DIMENSIONS ARE IN MILLIMETERS.

3 DIMENSION "b" IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER, PARALLEL TO PRIMARY DATUM C

4 PRIMARY DATUM C AND SEATING PLANE ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.

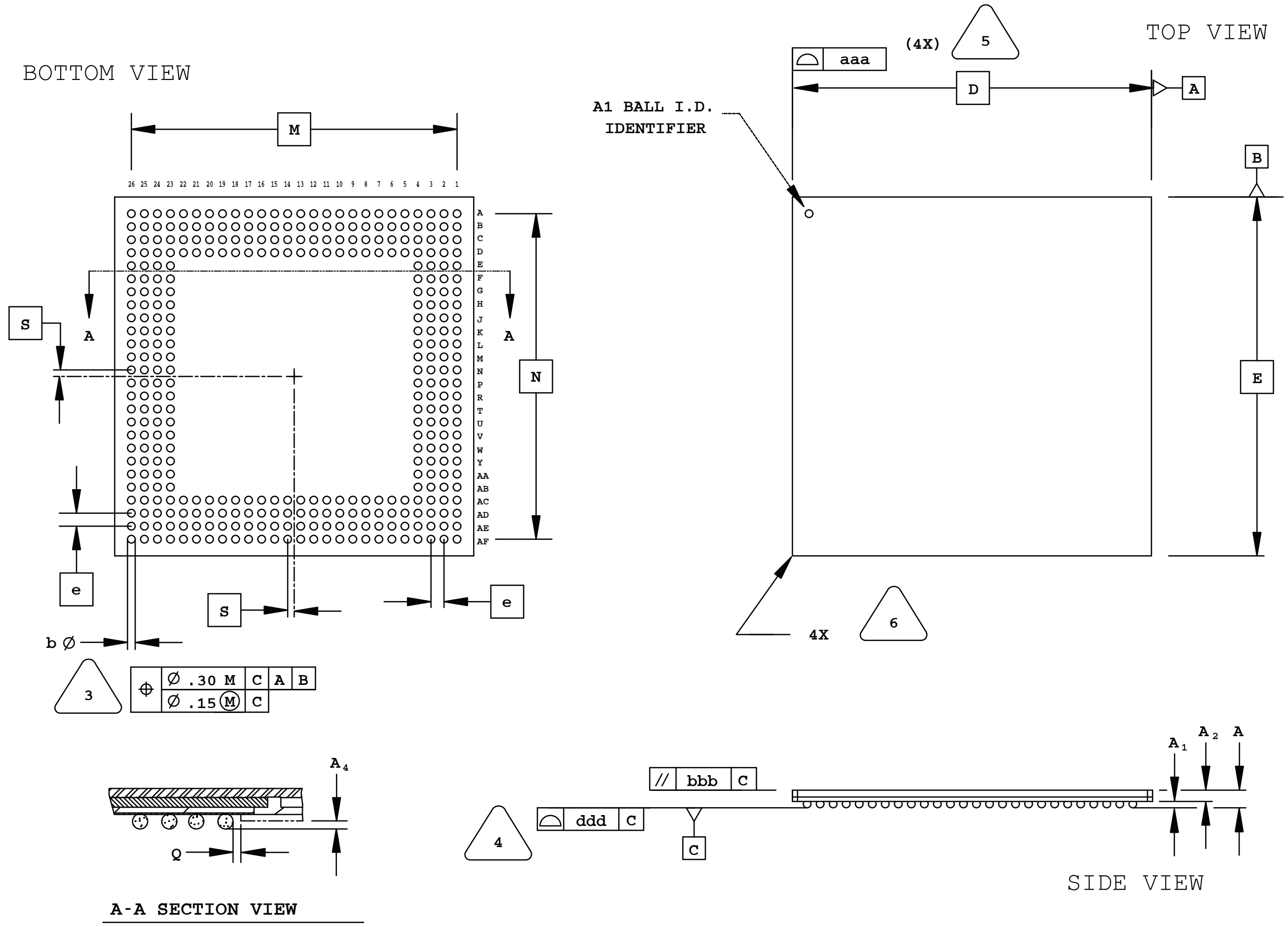
5 BILATERAL TOLERANCE ZONE IS APPLIED TO EACH SIDE OF THE PACKAGE BODY.

6 EXACT SHAPE AND SIZE OF THIS FEATURE IS OPTIONAL.

SYMBOL	MIN.	NOM.	MAX.
A	1.30	1.70	2.10
A1	0.30	0.50	0.70
A2	0.30	0.50	0.70
B/C	14.80	15.30	15.80
D/E	17.00 BSC		
M/N	15.00 BSC		
S	0.50 BSC		
b	0.50	0.60	0.70
e	1.00 BSC		
aaa	-	-	0.20
bbb	-	-	0.25
ccc	-	-	0.35
ddd	-	-	0.20

352-Ball SBGA Package

Dimensions in Millimeters



NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.

2. ALL DIMENSIONS ARE IN MILLIMETERS.

3 DIMENSION "b" IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER, PARALLEL TO PRIMARY DATUM C

4 PRIMARY DATUM C AND SEATING PLANE ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.

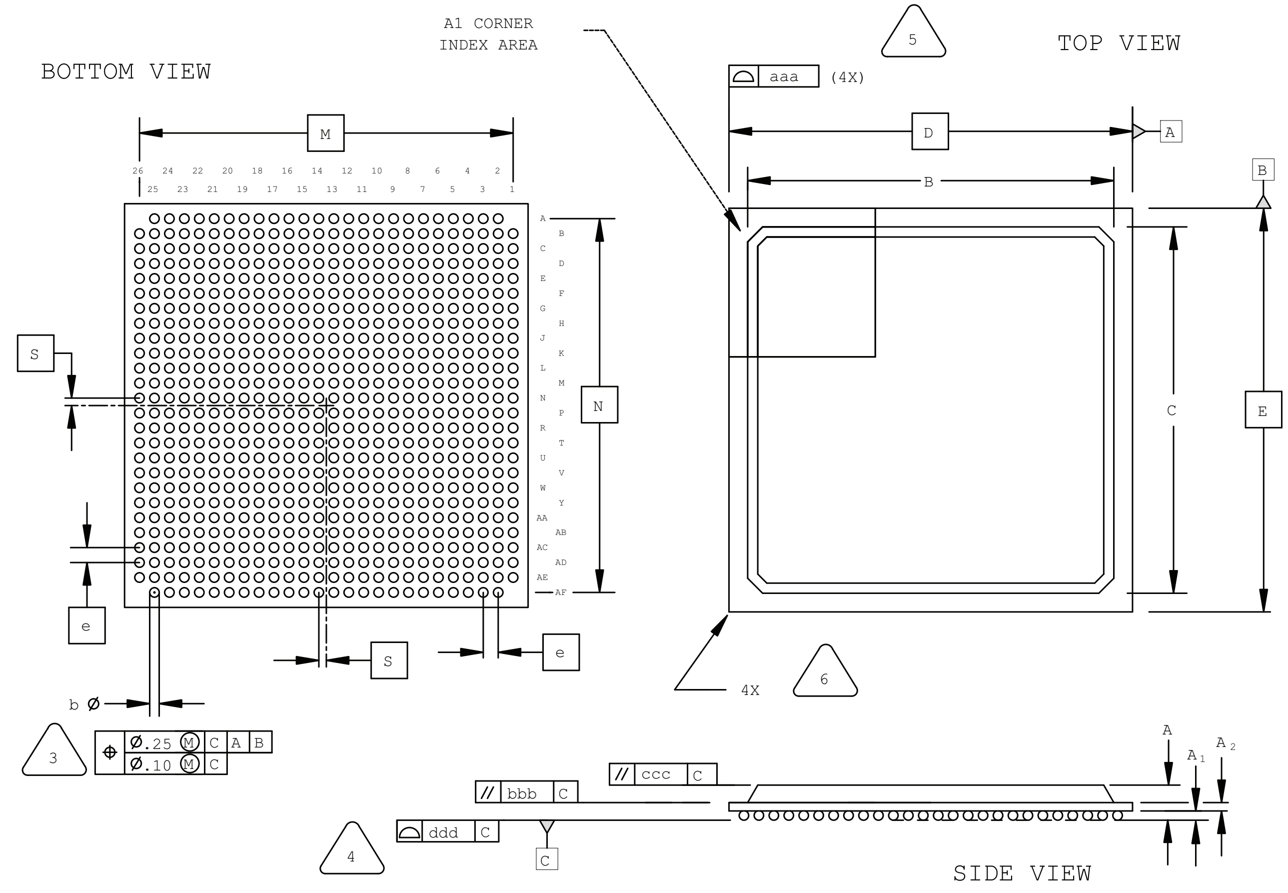
5 BILATERAL TOLERANCE ZONE IS APPLIED TO EACH SIDE OF THE PACKAGE BODY.

6 EXACT SHAPE AND SIZE OF THIS FEATURE IS OPTIONAL.

SYMBOL	MIN.	NOM.	MAX.
A	-	-	1.70
A1	0.50	0.65	0.80
A2	0.80	0.90	1.00
D/E	35.00 BSC		
M/N	31.75 BSC		
S	0.635 BSC		
b	0.60	0.75	0.90
e	1.27 BSC		
Q	0.25	-	-
A4	0.10	-	-
aaa	-	-	0.20
bbb	-	-	0.25
ddd	-	-	0.20

672-Ball fpBGA Package

Dimensions in Millimeters



NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.

2. ALL DIMENSIONS ARE IN MILLIMETERS.

3. DIMENSION "b" IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER, PARALLEL TO PRIMARY DATUM C

4. PRIMARY DATUM C AND SEATING PLANE ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.

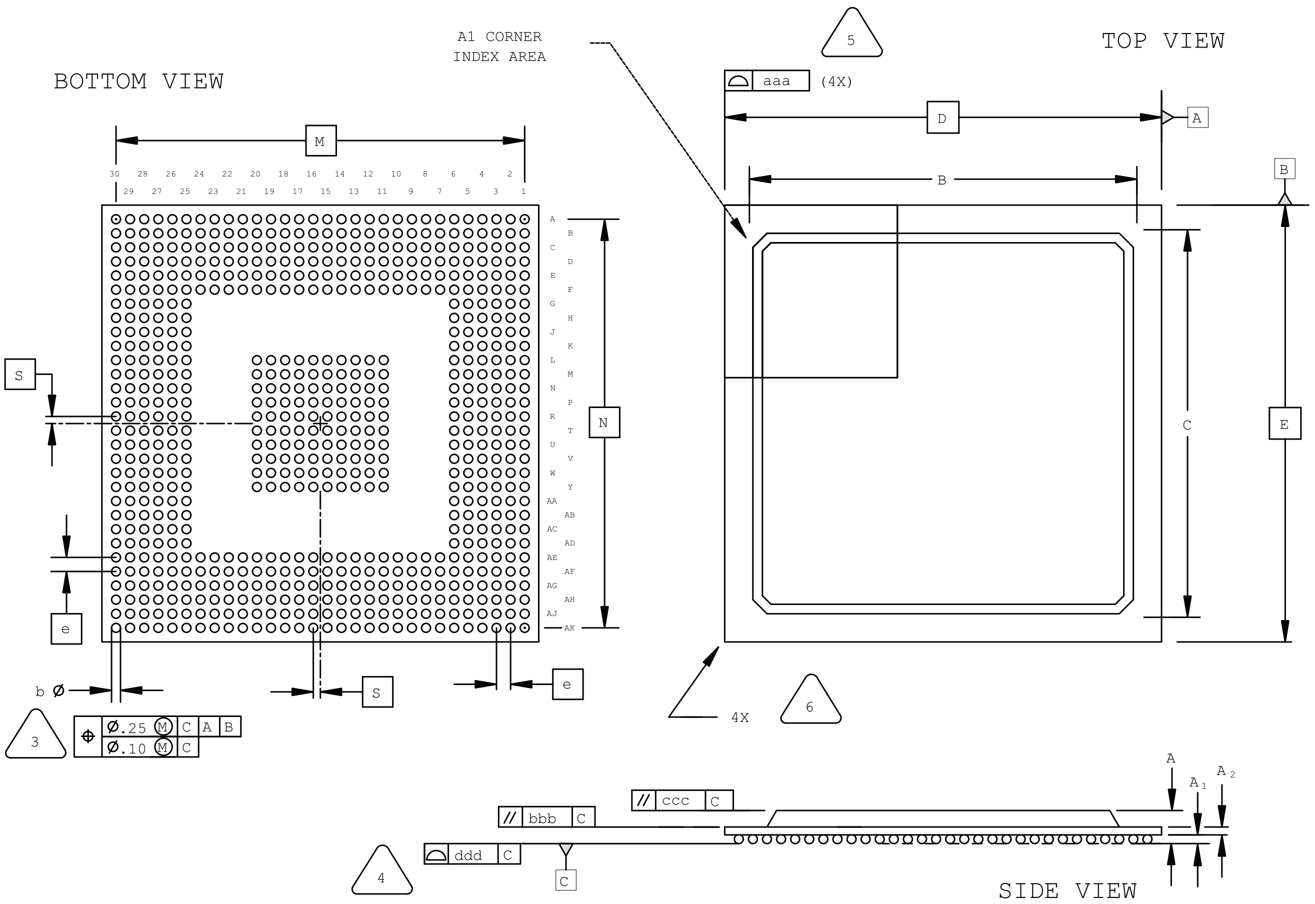
5. BILATERAL TOLERANCE ZONE IS APPLIED TO EACH SIDE OF THE PACKAGE BODY.

6. EXACT SHAPE AND SIZE OF THIS FEATURE IS OPTIONAL.

SYMBOL	MIN.	NOM.	MAX.
A	1.70	2.15	2.60
A1	0.30	0.50	0.70
A2	0.30	0.50	0.70
B/C	23.80	24.80	25.80
D/E	27.00 BSC		
M/N	25.00 BSC		
S	0.50 BSC		
b	0.50	0.60	0.70
e	1.00 BSC		
aaa	-	-	0.20
bbb	-	-	0.25
ccc	-	-	0.35
ddd	-	-	0.20

676-Ball fpBGA Package

Dimensions in Millimeters



NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.

2. ALL DIMENSIONS ARE IN MILLIMETERS.

3 DIMENSION "b" IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER, PARALLEL TO PRIMARY DATUM C

4 PRIMARY DATUM C AND SEATING PLANE ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.

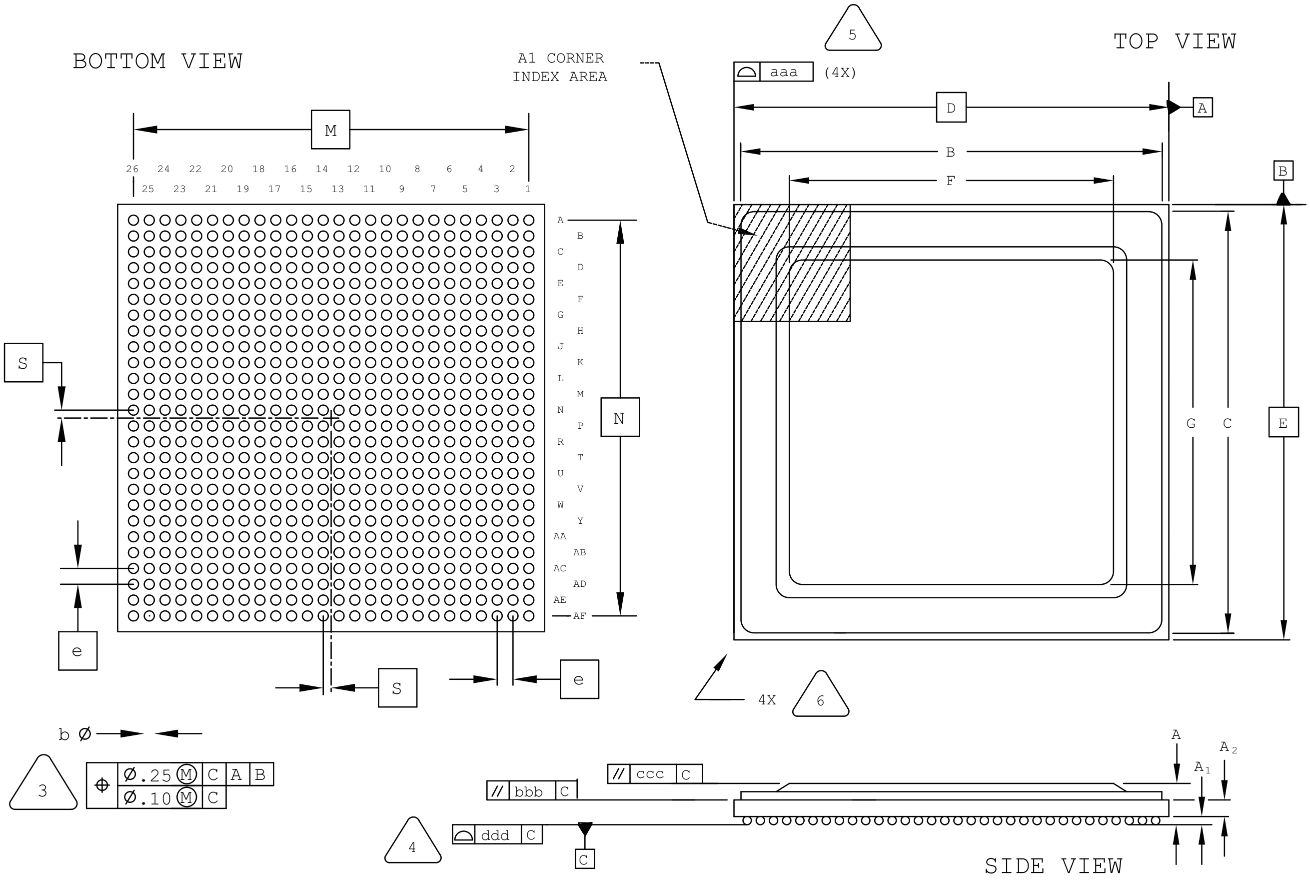
5 BILATERAL TOLERANCE ZONE IS APPLIED TO EACH SIDE OF THE PACKAGE BODY.

6 EXACT SHAPE AND SIZE OF THIS FEATURE IS OPTIONAL.

SYMBOL	MIN.	NOM.	MAX.
A	1.70	2.15	2.60
A1	0.30	0.50	0.70
A2	0.30	0.50	0.70
B/C	25.80	27.55	29.30
D/E	31.00 BSC		
M/N	29.00 BSC		
S	0.50 BSC		
b	0.50	0.60	0.70
e	1.00 BSC		
aaa	-	-	0.20
bbb	-	-	0.25
ccc	-	-	0.35
ddd	-	-	0.20

676-Ball fcBGA Package

Dimensions in Millimeters



NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.

2. ALL DIMENSIONS ARE IN MILLIMETERS.

3 DIMENSION "b" IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER, PARALLEL TO PRIMARY DATUM C

4 PRIMARY DATUM C AND SEATING PLANE ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.

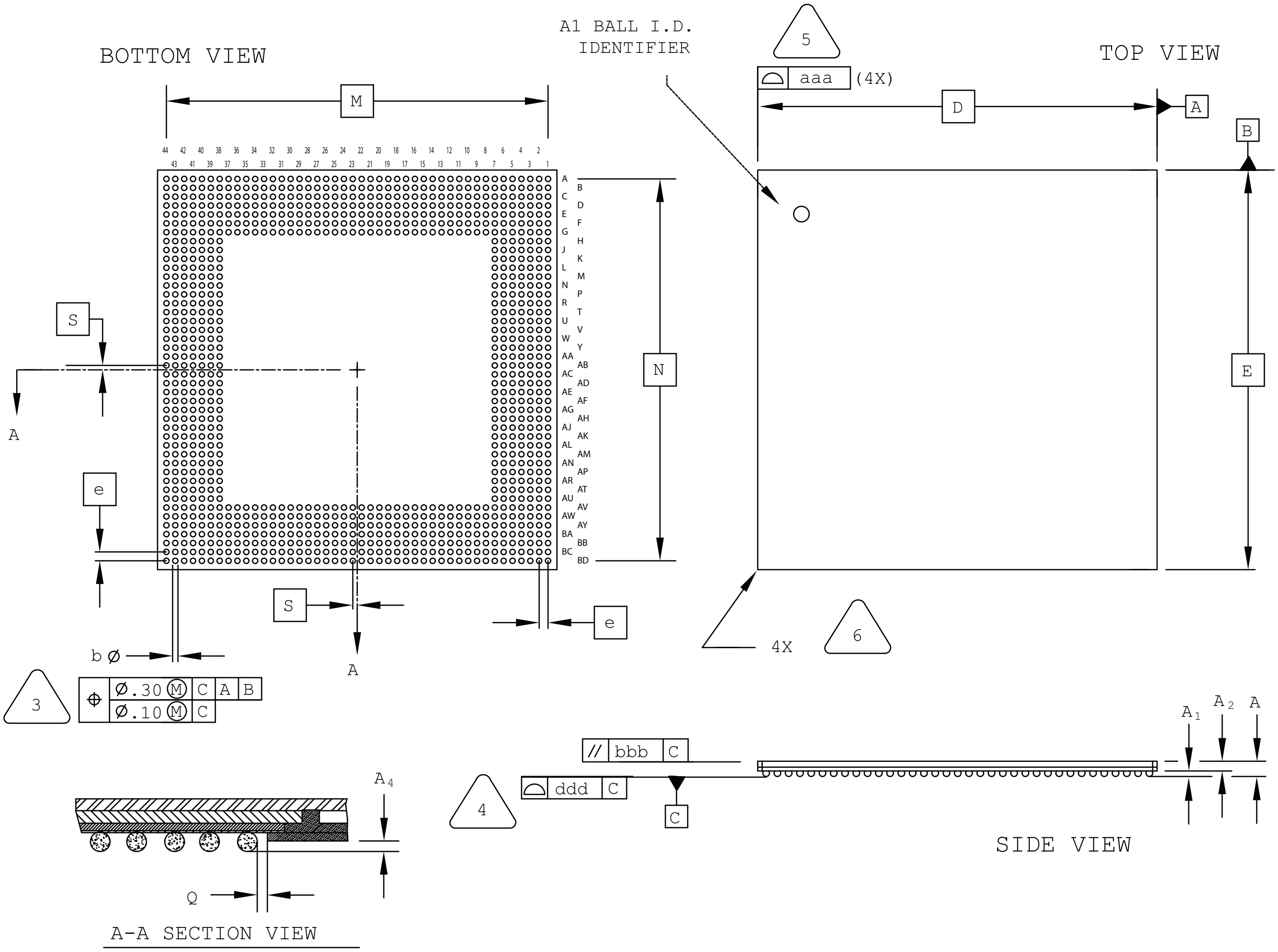
5 BILATERAL TOLERANCE ZONE IS APPLIED TO EACH SIDE OF THE PACKAGE BODY.

6 EXACT SHAPE AND SIZE OF THIS FEATURE IS OPTIONAL.

SYMBOL	MIN.	NOM.	MAX.
A	2.55	2.90	3.25
A1	0.40	0.50	0.60
A2	1.20 REF		
B/C	26.55	26.60	26.65
D/E	27.00 BSC		
F/G	18.55	18.60	18.65
M/N	25.00 BSC		
S	0.50 BSC		
b	0.50	0.60	0.70
e	1.00 BSC		
aaa	-	-	0.20
bbb	-	-	0.25
ccc	-	-	0.35
ddd	-	-	0.20

1036-Ball ftSBGA Package

Dimensions in Millimeters



NOTES: UNLESS OTHERWISE SPECIFIED

1. DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.

2. ALL DIMENSIONS ARE IN MILLIMETERS.

3 DIMENSION "b" IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER, PARALLEL TO PRIMARY DATUM C

4 PRIMARY DATUM C AND SEATING PLANE ARE DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.

5 BILATERAL TOLERANCE ZONE IS APPLIED TO EACH SIDE OF THE PACKAGE BODY.

6 EXACT SHAPE AND SIZE OF THIS FEATURE IS OPTIONAL.

SYMBOL	MIN.	NOM.	MAX.
A	-	-	1.80
A1	0.40	0.55	0.70
A2	0.90	0.98	1.10
D/E	45.00 BSC		
M/N	43.00 BSC		
S	0.50 BSC		
b	0.50	0.65	0.80
e	1.00 BSC		
Q	0.25	-	-
A4	0.10	-	-
aaa	-	-	0.20
bbb	-	-	0.35
ddd	-	-	0.20