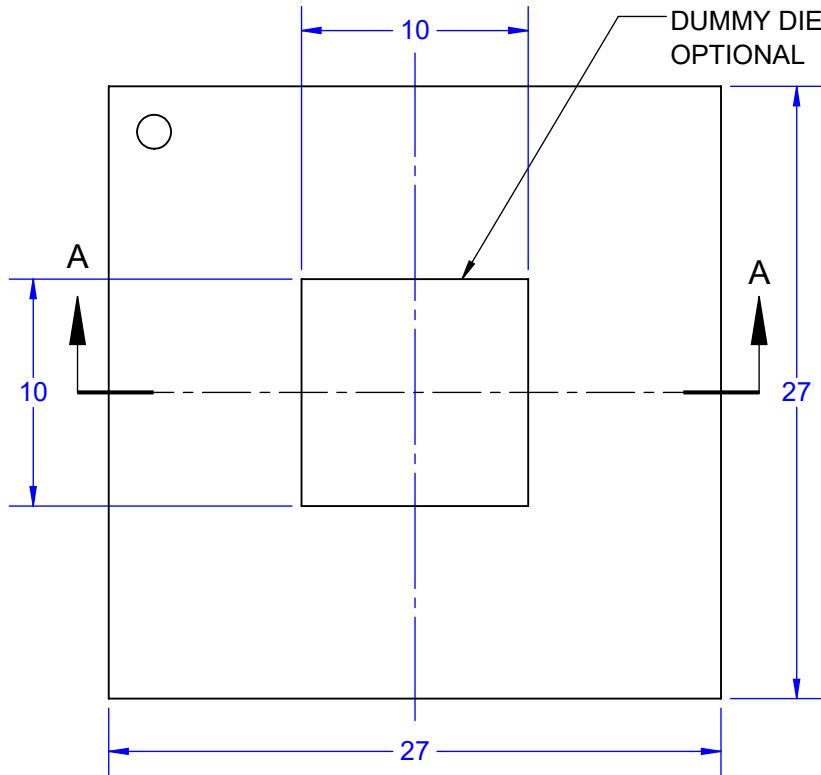
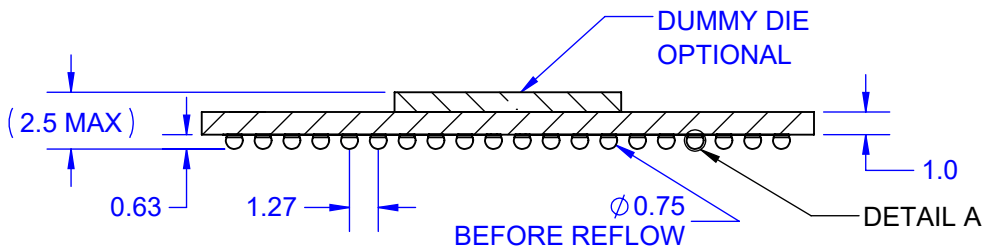
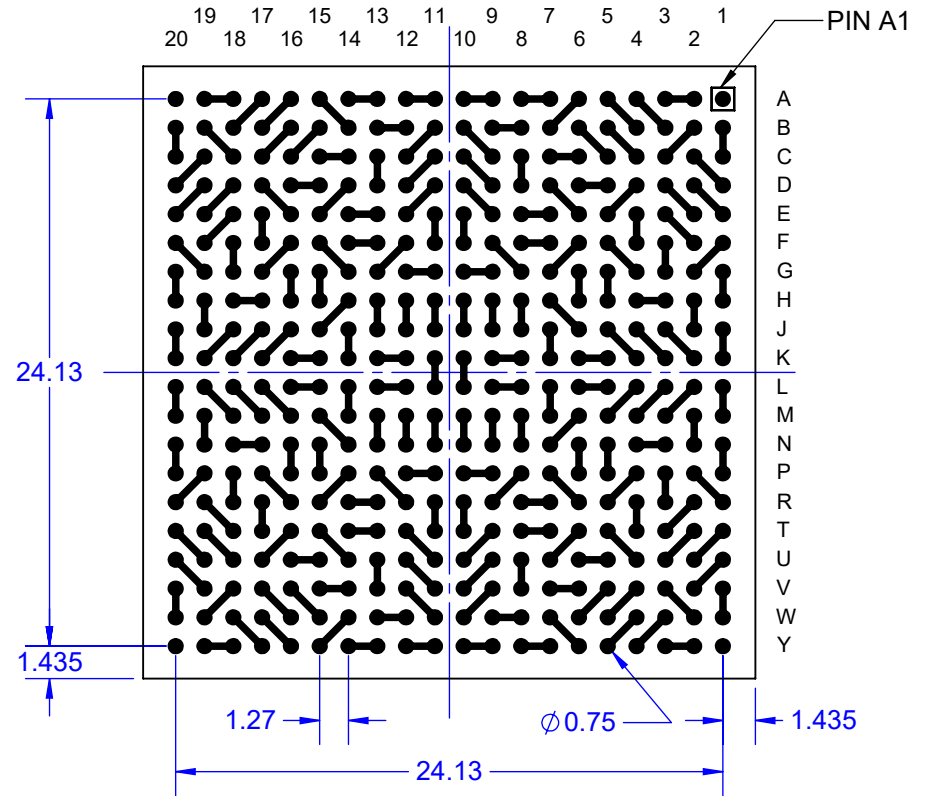


CBGA WITH DIE

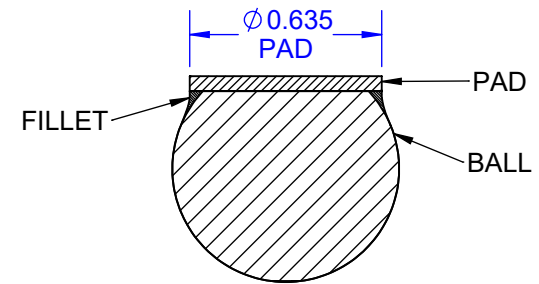
TOP VIEW



BALL VIEW



SECTION A-A
SCALE 3 : 1



DETAIL A

Notes: (Unless Otherwise Specified).

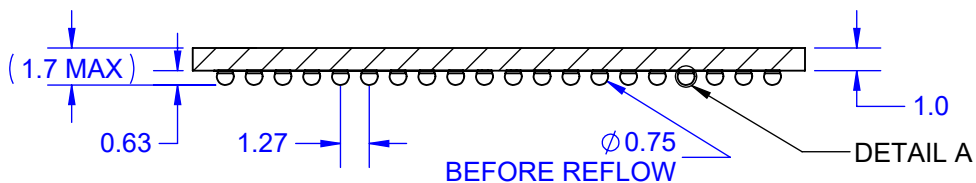
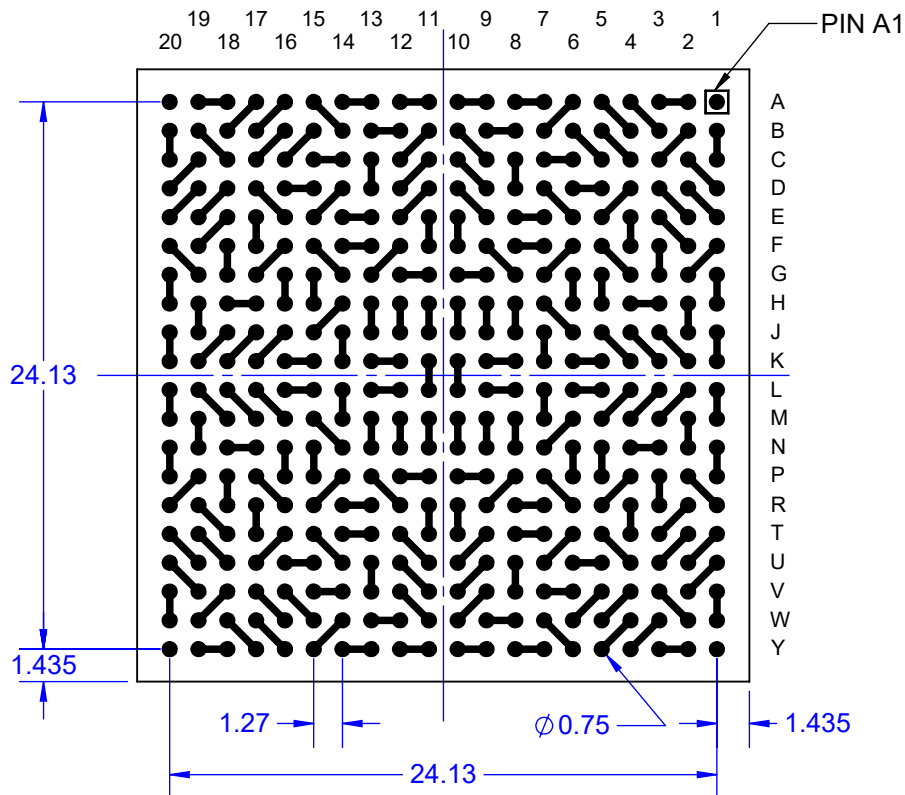
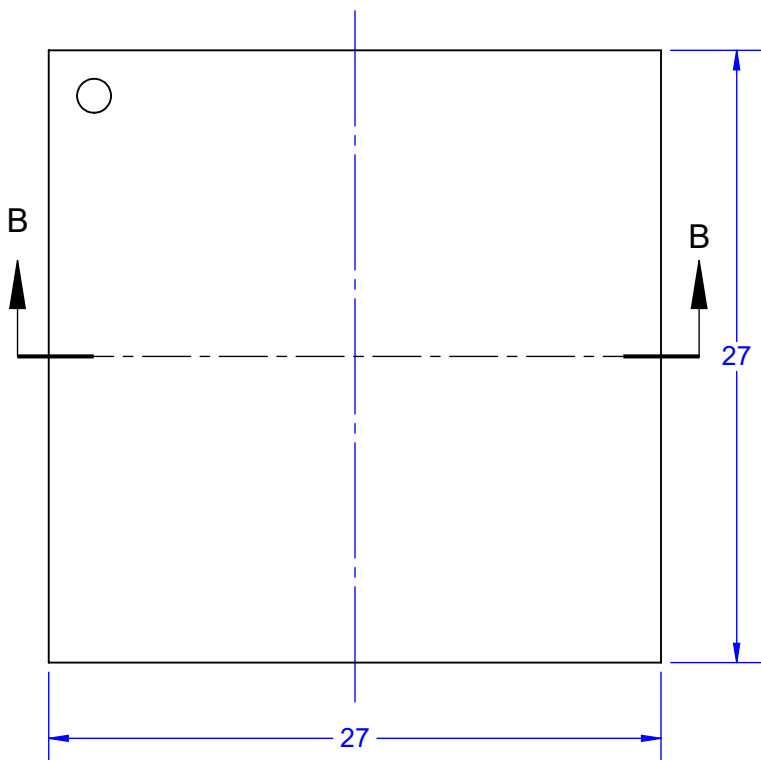
- 1) ALL DIMENSIONS ARE MM.
- 2) SOLDER BALL ALLOY: SEE PART NUMBER CONFIGURATION.
- 3) BALL DIAMETER (BEFORE REFLOW): 0.76mm (30 MIL).
- 4) SOLDER MASK OPENING: 0.635mm (25 MIL).
- 5) SUBSTRATE: ALUMINA CERAMIC.

| | | | | | |
|-------------|------------|--|------|-------------|--------------|
| APPROVALS | DATE | TopLine [®] | | | |
| DRAWN T. Au | 07/24/2022 | | | | |
| ENG M. Hart | 07/24/2022 | TITLE CBGA400T1.27-DC21 CERAMIC BALL GRID ARRAY | | | |
| MFG | | SCALE | SIZE | DRAWING NO. | REV |
| QA | | 6:1 | A | 520217 | A |
| CUST | | DO NOT SCALE DRAWING | | | SHEET 1 OF 6 |
| REVISED | | | | | |

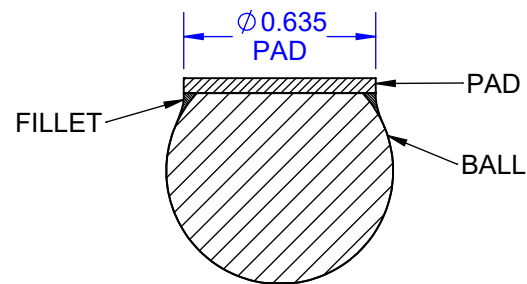
TOP VIEW

CBGA WITHOUT DIE

BALL VIEW



SECTION B-B
SCALE 3 : 1



DETAIL A

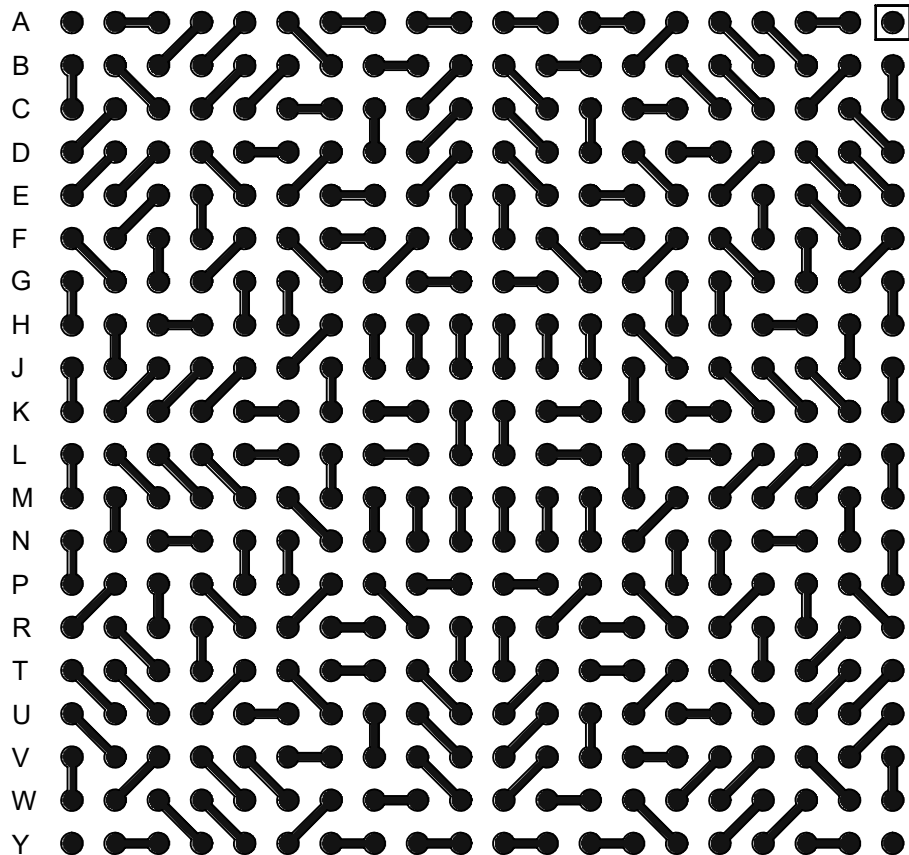
Notes: (Unless Otherwise Specified).

- 1) ALL DIMENSIONS ARE MM.
- 2) SOLDER BALL ALLOY: SEE PART NUMBER CONFIGURATION.
- 3) BALL DIAMETER (BEFORE REFLOW): 0.76mm (30 MIL).
- 4) SOLDER MASK OPENING: 0.635mm (25 MIL).
- 5) SUBSTRATE: ALUMINA CERAMIC.

| | | | | | |
|-------------|------------|--|------|-------------|--------------|
| APPROVALS | DATE | TopLine [®] | | | |
| DRAWN T. Au | 07/24/2022 | | | | |
| ENG M. Hart | 07/24/2022 | TITLE CBGA400T1.27-DC21 CERAMIC BALL GRID ARRAY | | | |
| MFG | | SCALE | SIZE | DRAWING NO. | REV |
| QA | | 6:1 | A | 520217 | A |
| CUST | | DO NOT SCALE DRAWING | | | SHEET 2 OF 6 |
| REVISED | | | | | |

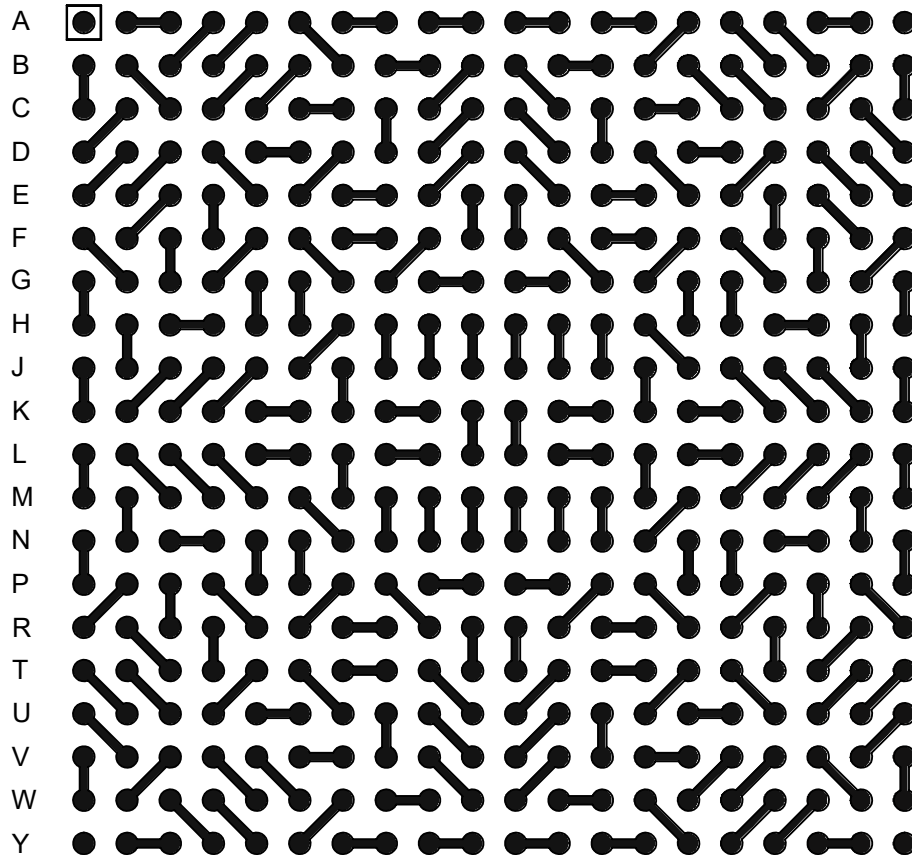
BALL VIEW

20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1



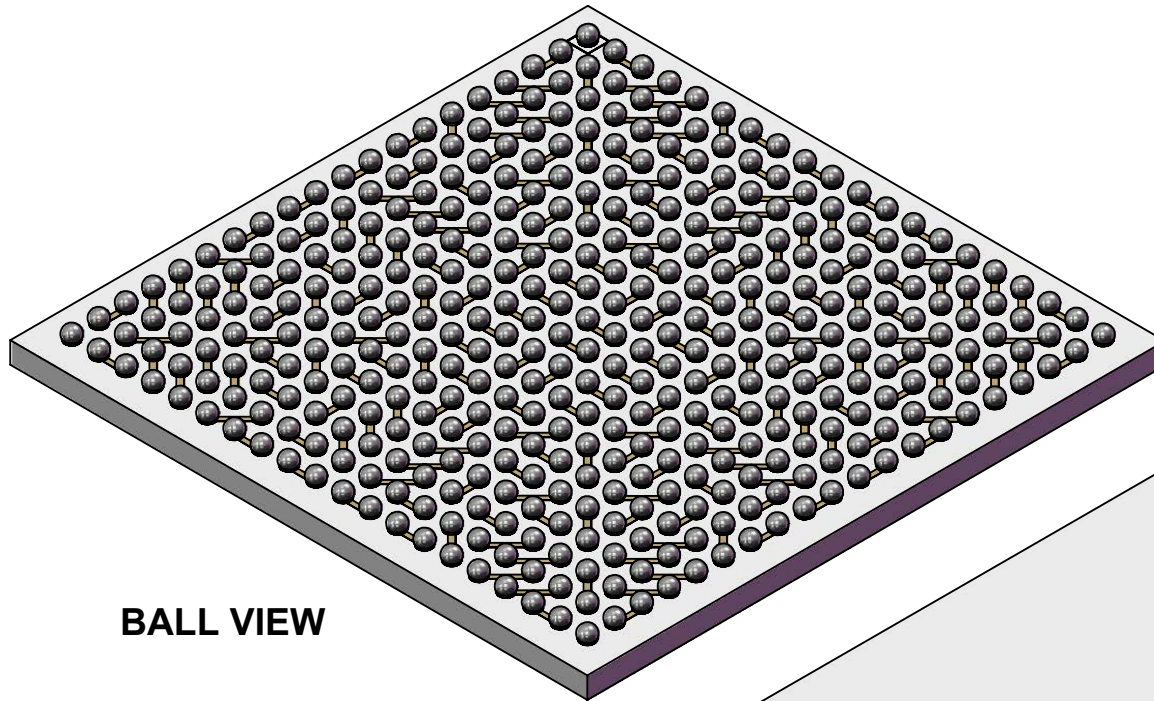
BOTTOM SIDE (TOP X-RAY VIEW)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

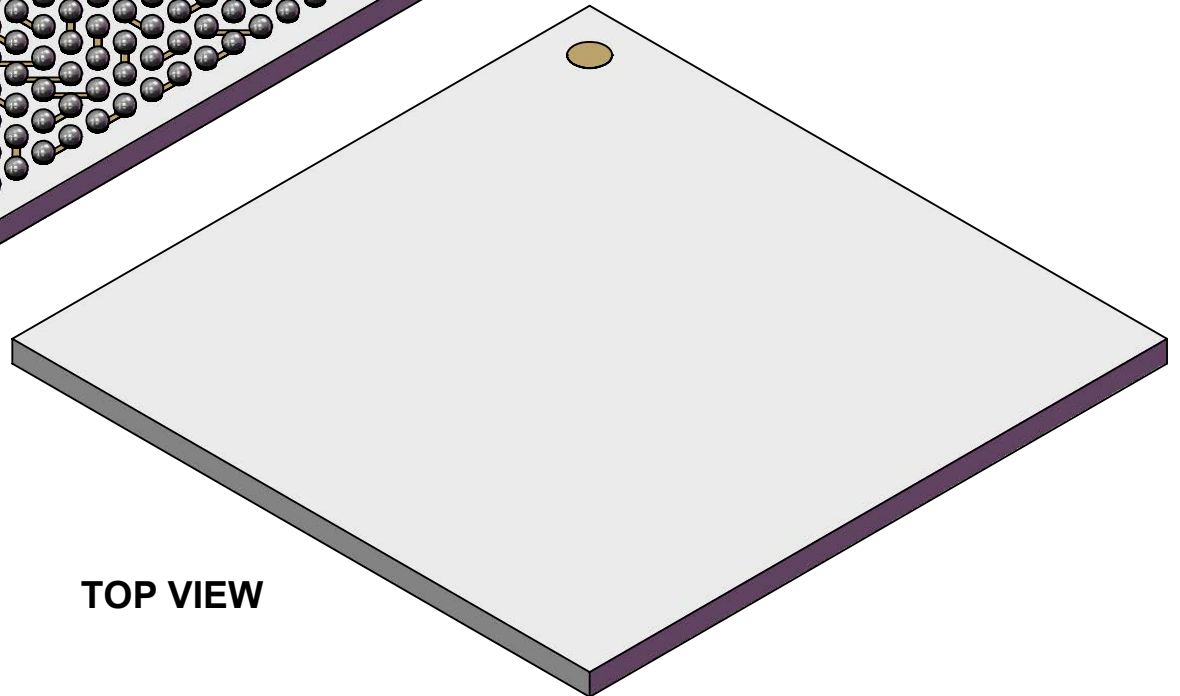


| | | | |
|---|------|-------------|--------------|
| TopLine[®] | | | |
| TITLE CBGA400T1.27-DC21 CERAMIC BALL GRID ARRAY | | | |
| SCALE | SIZE | DRAWING NO. | REV |
| 4.5:1 | A | 520217 | A |
| DO NOT SCALE DRAWING | | | SHEET 3 OF 6 |

MODEL
CBGA WITH BALL
WITHOUT DIE



BALL VIEW



TOP VIEW

TopLine[®]

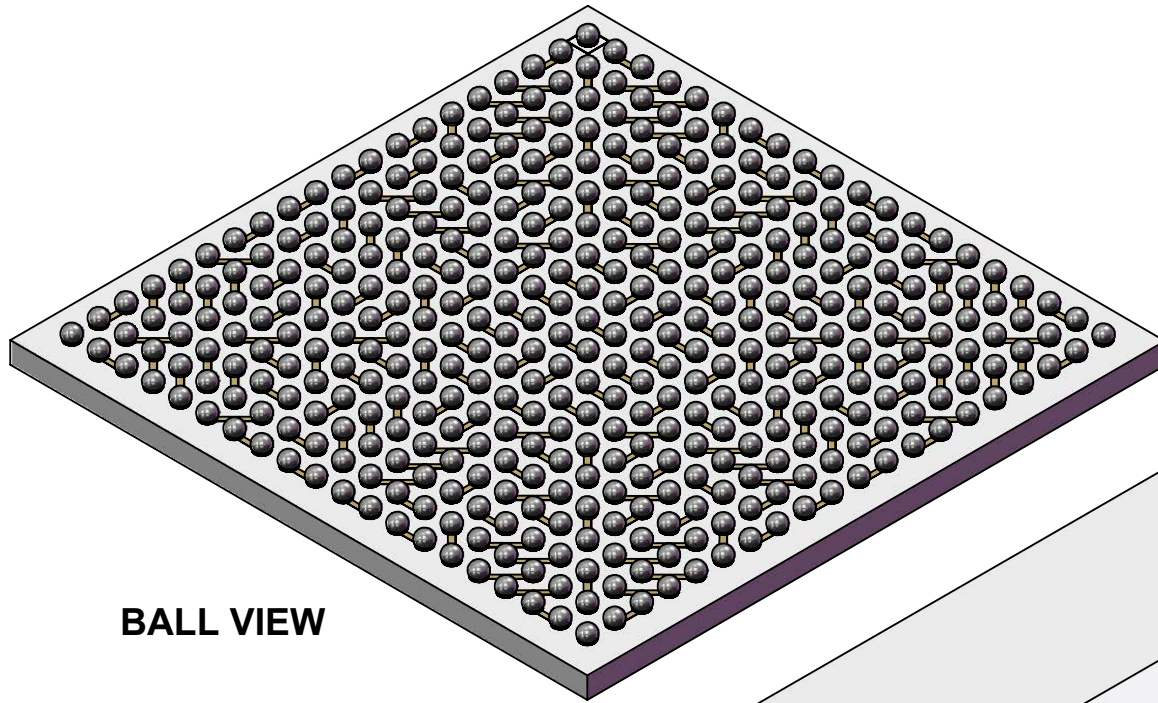
TITLE CBGA400T1.27-DC21
CERAMIC BALL GRID ARRAY

| | | | |
|--------------|-----------|-----------------------|----------|
| SCALE 4:1 | SIZE A | DRAWING NO. 520217 | REV A |
|--------------|-----------|-----------------------|----------|

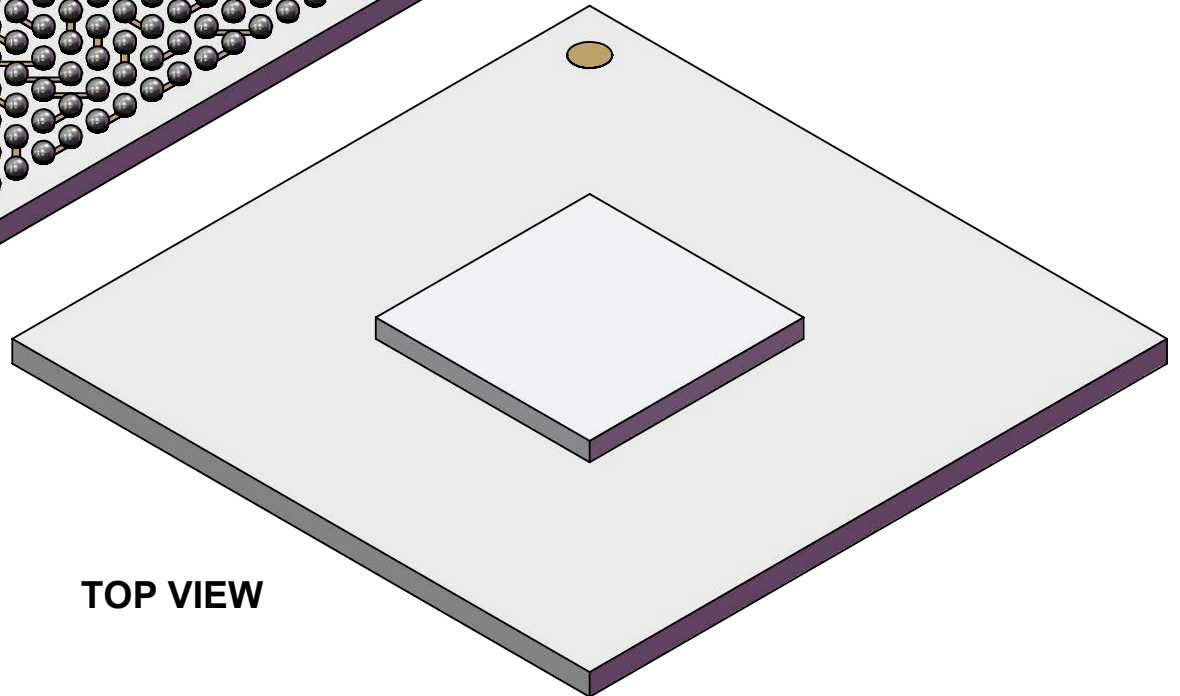
DO NOT SCALE DRAWING

SHEET 4 OF 6

**MODEL
CBGA WITH BALL
WITH DIE**



BALL VIEW



TOP VIEW

TopLine®

TITLE CBGA400T1.27-DC21
CERAMIC BALL GRID ARRAY

| | | | |
|--------------|-----------|-----------------------|----------|
| SCALE 4:1 | SIZE A | DRAWING NO. 520217 | REV A |
|--------------|-----------|-----------------------|----------|

DO NOT SCALE DRAWING

SHEET 5 OF 6

PART NUMBER SYSTEM

CBGA

SERIES

CBGA = CERAMIC
BALL GRID ARRAY

400

BALLS

NBR SOLDER
BALLS/PADS

T

TRAY

T = JEDEC

1.27

PITCH

1.27mm = 0.050"

C

ALLOY

L = Sn62/Pb36/Ag2.0
X = Sn63/Pb37
C = SAC305
Blank = Sn10/Pb90

DC21

DAISY CHAIN

DC21 = SEE PATTERN

D

DIE

D = DUMMY DIE
BLANK = WITHOUT DIE

| PART NUMBER | BALL ALLOY | CODE | LEAD FREE | DIE |
|---------------------|--------------------|--------|-----------|-----|
| CBGA400T1.27-DC21 | Sn10/Pb90 | Sn10 | NO | NO |
| CBGA400T1.27-DC21D | Sn10/Pb90 | Sn10 | NO | YES |
| CBGA400T1.27L-DC21 | Sn62/Pb36/Ag2.0 | Sn62 | NO | NO |
| CBGA400T1.27L-DC21D | Sn62/Pb36/Ag2.0 | Sn62 | NO | YES |
| CBGA400T1.27X-DC21 | Sn63/Pb37 | Sn63 | NO | NO |
| CBGA400T1.27X-DC21D | Sn63/Pb37 | Sn63 | NO | YES |
| CBGA400T1.27C-DC21 | Sn96.5/Ag3.0/Cu0.5 | SAC305 | YES | NO |
| CBGA400T1.27C-DC21D | Sn96.5/Ag3.0/Cu0.5 | SAC305 | YES | YES |

| | | | |
|---|-----------|-----------------------|--------------|
| TopLine[®] | | | |
| TITLE CBGA400T1.27-DC21 CERAMIC BALL GRID ARRAY | | | |
| SCALE NONE | SIZE A | DRAWING NO. 520217 | REV A |
| DO NOT SCALE DRAWING | | | SHEET 6 OF 6 |