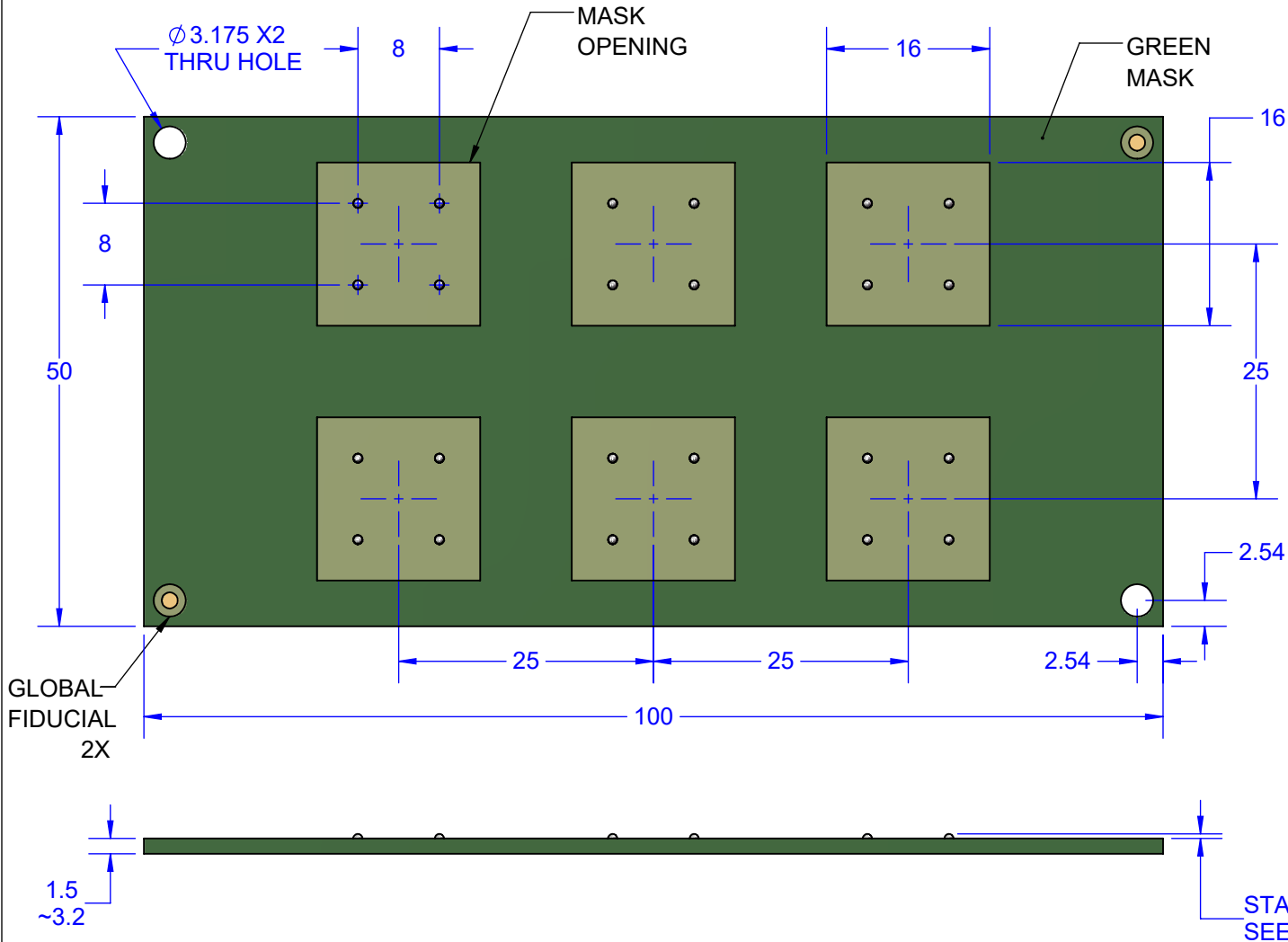
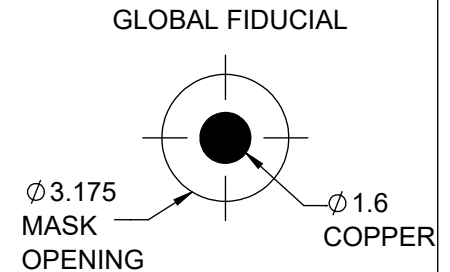


BGA 15mm STAND-OFF BOARD CONTROLLED HEIGHT FOR UNDERFILL



PART NUMBER TABLE *		
REV	STAND-OFF HEIGHT	BOARD PN
A	50µm ± 15µm	999080
B	100µm ± 20µm	999081
C	125µm ± 25µm	999082
D	150µm ± 30µm	999083
E	200µm ± 40µm	999084
F	250µm ± 50µm	999085
G	330µm ± 66µm	999086
H	450µm ± 90µm	999087
OTHER STAND-OFF AVAILABLE		

*DOES NOT INCLUDE GLASS COMPONENTS



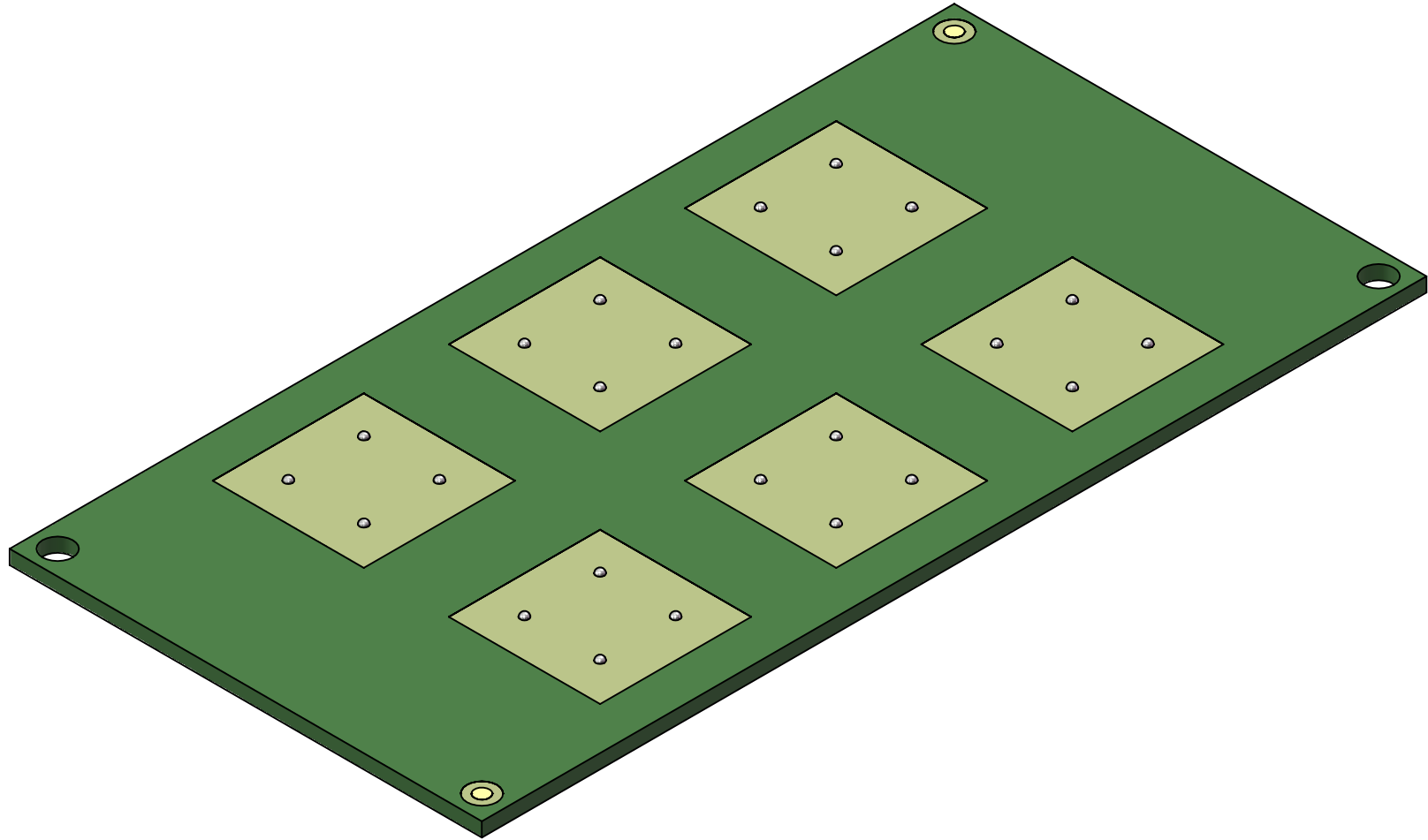
STANDOFF HEIGHT
SEE PART NUMBER TABLE

NOTES: (UNLESS OTHERWISE SPECIFIED).

1. DIMENSIONS mm.
2. STAND-OFF HEIGHT - SEE PART NUMBER TABLE.
3. STAND-OFF MATERIAL: NON-COLLAPSIBLE POSTS.
4. BOARD MATERIAL FR4 WITH GREEN SOLDER MASK.
- 5) BOARDS DO NOT INCLUDE GLASS COMPONENTS.
- 6) SEE PAGE 5 FOR OPTIONAL GLASS COMPONENTS.

APPROVALS		DATE	TopLine®			
DRAWN	T. Au	9/26/2021	TITLE BGA 15mm STAND-OFF BOARD CONTROLLED HEIGHT UNDERFILL			
ENG	M. Hart	9/26/2021				
MFG			SCALE	SIZE	DRAWING NO.	REV
QA			3:2	A	999080	A
CUST			DO NOT SCALE DRAWING			SHEET 1 OF 5
REVISED						

BOARD WITHOUT COMPONENTS



NOTES:

- 1) BOARDS DO NOT INCLUDE GLASS COMPONENTS
- 2) GLASS COMPONENTS ARE AVAILABLE SEPARATELY.
- 3) CUSTOMER TO MOUNT GLASS COMPONENTS ONTO BOARD PRIOR TO UNDERFILL.
- 4) SEE PAGE 5 FOR OPTIONAL THICKNESS GLASS COMPONENTS.

TopLine[®]

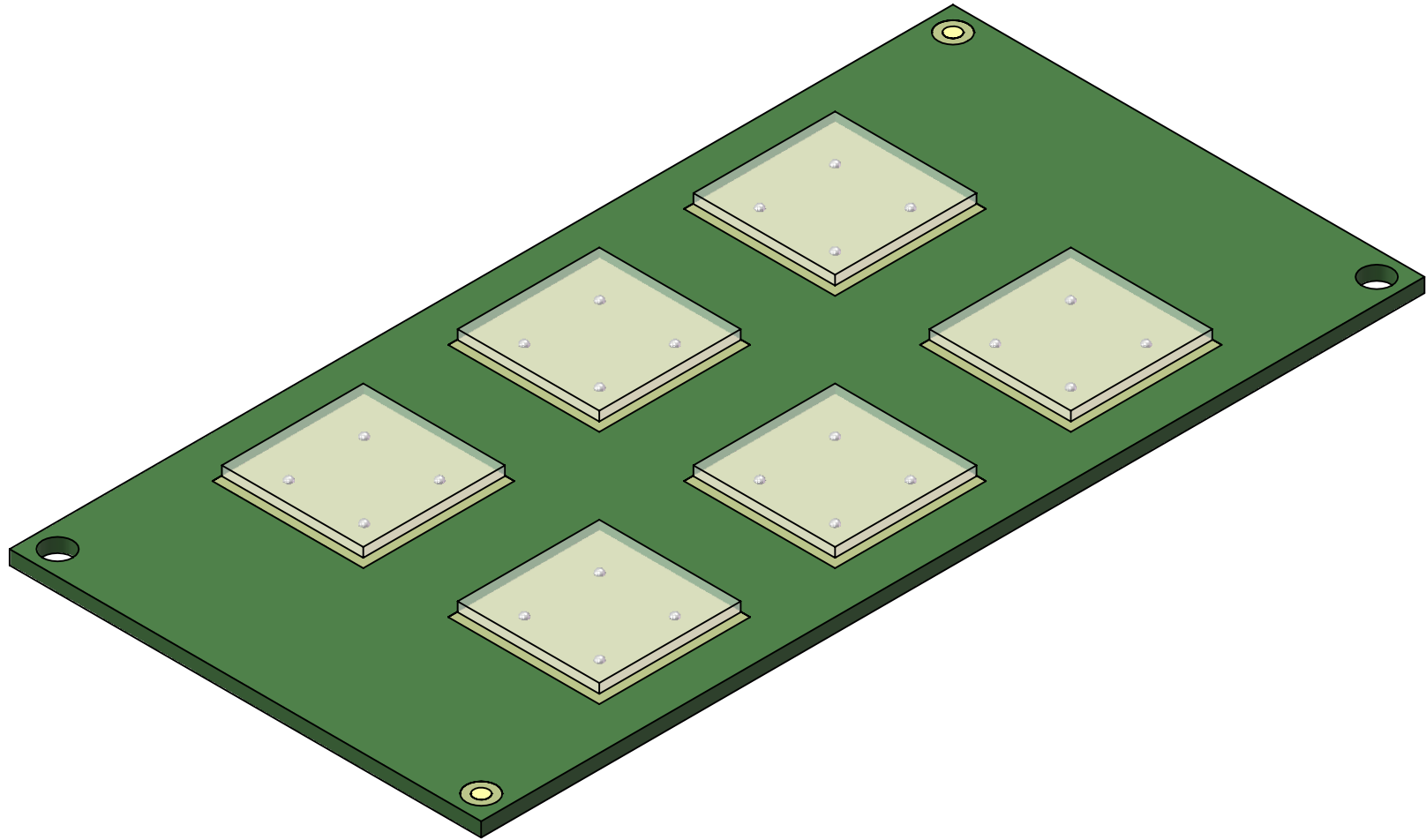
TITLE BGA 15mm STAND-OFF BOARD
CONTROLLED HEIGHT UNDERFILL

SCALE	SIZE	DRAWING NO.	REV
2:1	A	999080	A

DO NOT SCALE DRAWING

SHEET 2 OF 5

**MODEL
GLASS COMPONENTS SEATED ON BUMPS
AFTER MOUNTING TO BOARD**



NOTES:

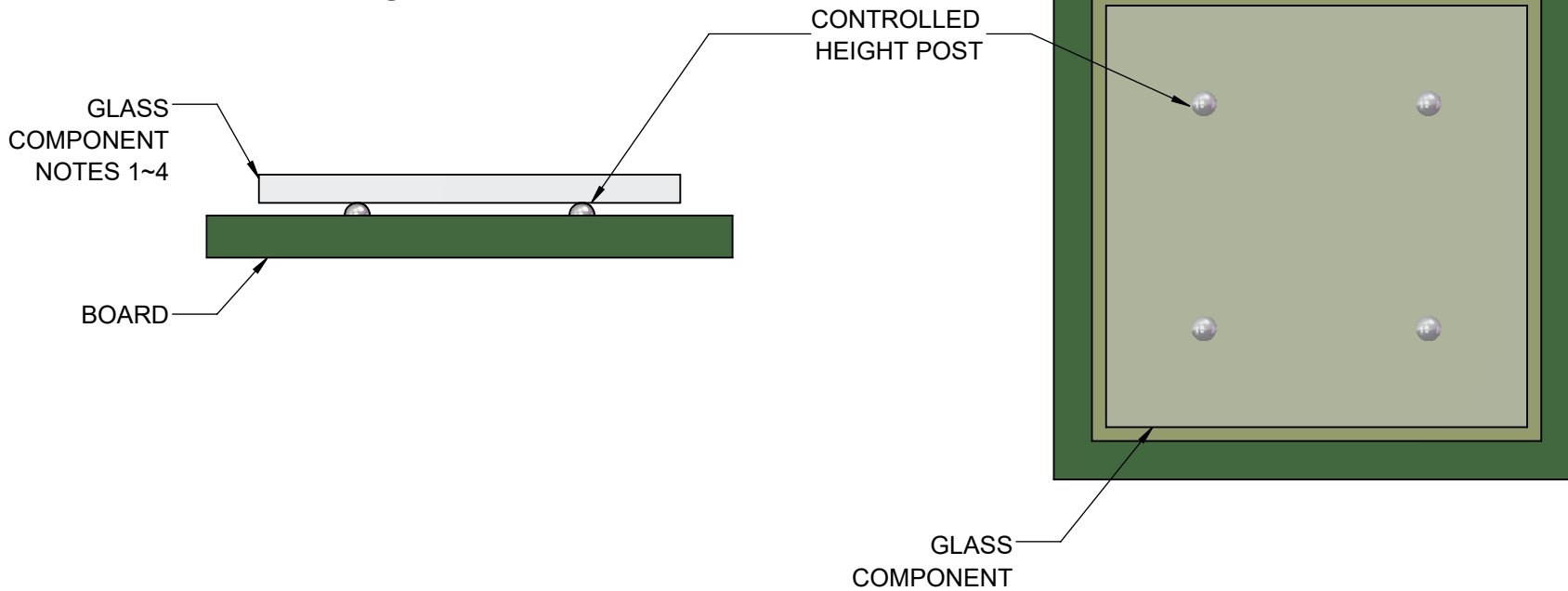
- 1) BOARDS DO NOT INCLUDE GLASS COMPONENTS
- 2) GLASS COMPONENTS ARE AVAILABLE SEPARATELY.
- 3) CUSTOMER TO MOUNT GLASS COMPONENTS ONTO BOARD PRIOR TO UNDERFILL.
- 4) SEE PAGE 5 FOR OPTIONAL THICKNESS GLASS COMPONENTS.

TopLine[®]			
TITLE BGA 15mm STAND-OFF BOARD CONTROLLED HEIGHT UNDERFILL			
SCALE 2:1	SIZE A	DRAWING NO. 999080	REV A
DO NOT SCALE DRAWING			SHEET 3 OF 5

**MODEL
DETAIL STAND-OFF
GLASS COMPONENT MOUNTED ON BUMPS
(BEFORE UNDERFILL)**

TOP VIEW

SIDE VIEW

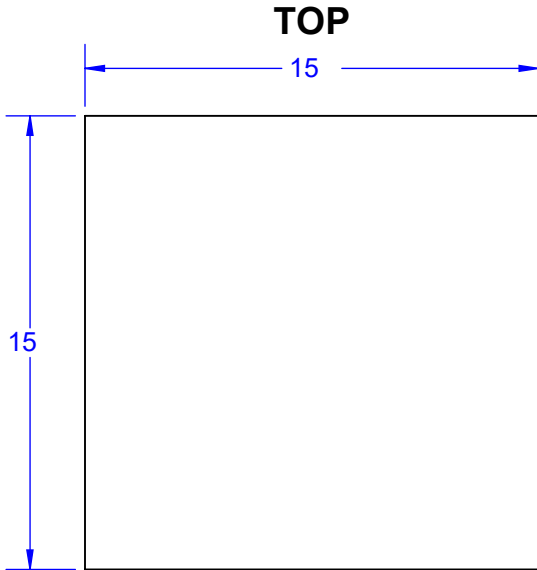


NOTES:

- 1) BOARDS DO NOT INCLUDE GLASS COMPONENTS
- 2) GLASS COMPONENTS ARE AVAILABLE SEPARATELY.
- 3) CUSTOMER TO MOUNT GLASS COMPONENTS ONTO BOARD PRIOR TO UNDERFILL.
- 4) SEE PAGE 5 FOR OPTIONAL THICKNESS GLASS COMPONENTS.

TopLine[®]			
TITLE BGA 15mm STAND-OFF BOARD CONTROLLED HEIGHT UNDERFILL			
SCALE 4:1	SIZE A	DRAWING NO. 999080	REV A
DO NOT SCALE DRAWING		SHEET 4 OF 5	

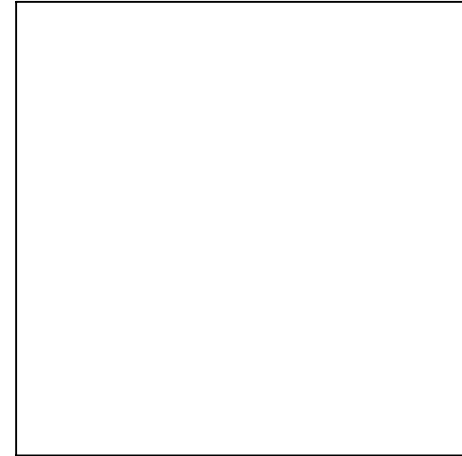
OPTIONAL GLASS COMPONENTS WITHOUT BUMPS



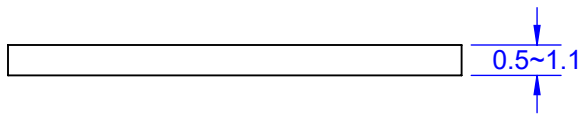
SIDE



BOTTOM



EDGE



GLASS PART NUMBER TABLE

THICKNESS	DESCRIPTION	QTY PER TRAY	GLASS PN
0.50mm	GD-15x15-BG500-P	25 PCS	215150
0.68mm	GD-15x15-BG680-P	25 PCS	215152
1.10mm	GD-15x15-BG1100-P	25 PCS	215158

OTHER THICKNESS AND SIZES AVAILABLE

NOTES: (UNLESS OTHERWISE SPECIFIED).

1. DIMENSIONS mm.
2. COMPONENT MATERIAL: BOROSILICATE GLASS.
3. BUMPS - NONE.
4. STANDARD PACKAGING: 4" WAFFLE TRAY.

TopLine[®]

TITLE BGA 15mm STAND-OFF BOARD
CONTROLLED HEIGHT UNDERFILL

SCALE 4:1	SIZE A	DRAWING NO. 999080	REV A
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DO NOT SCALE DRAWING

SHEET 5 OF 5