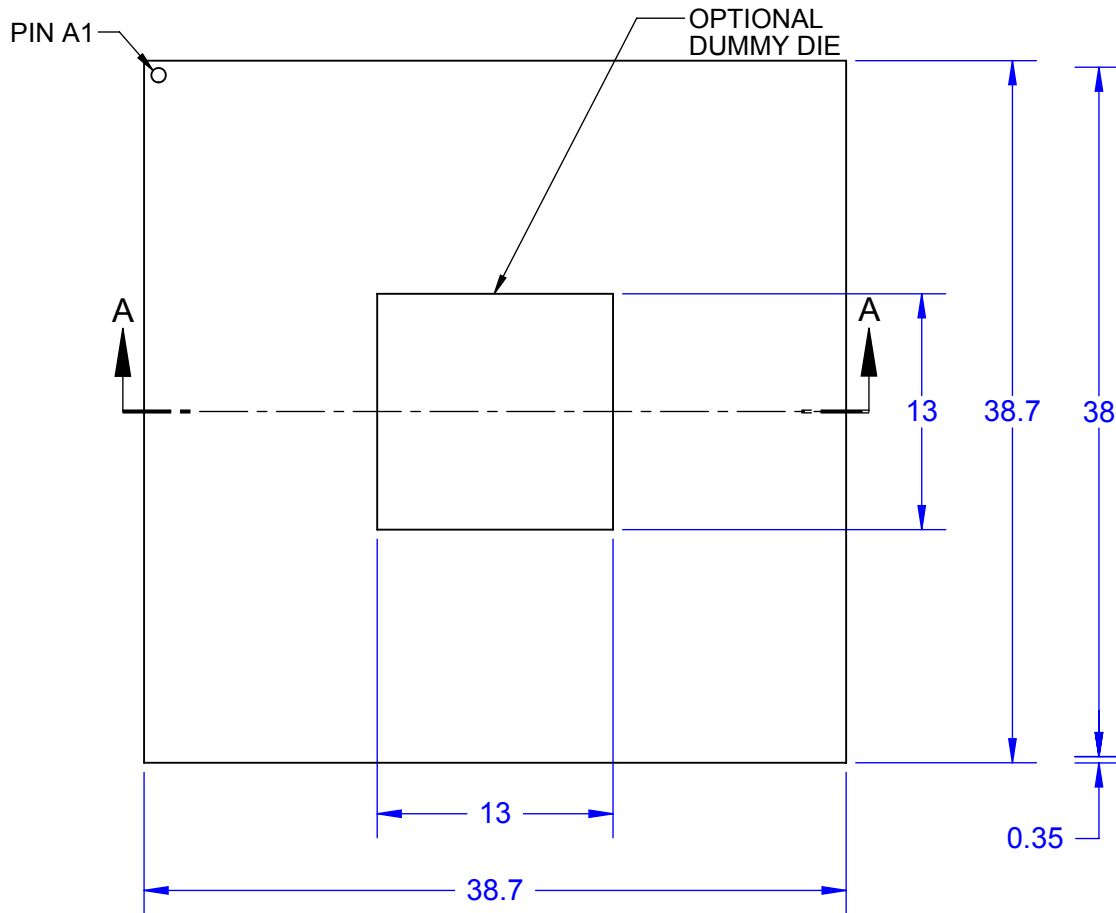
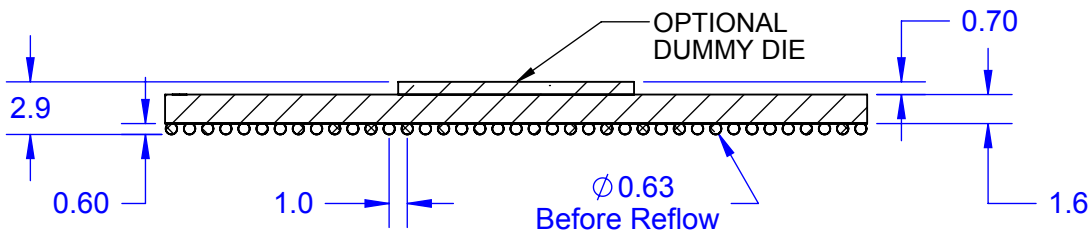
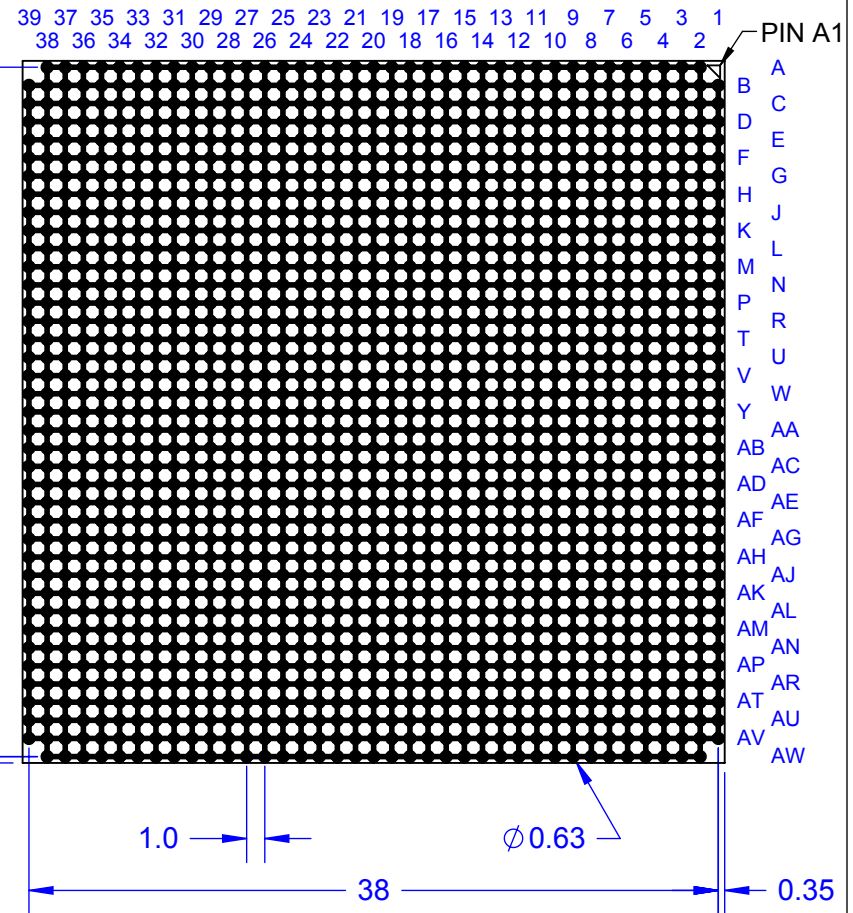


### TOP VIEW



### BALL VIEW




### SECTION A-A

Notes: (Unless Otherwise Specified).

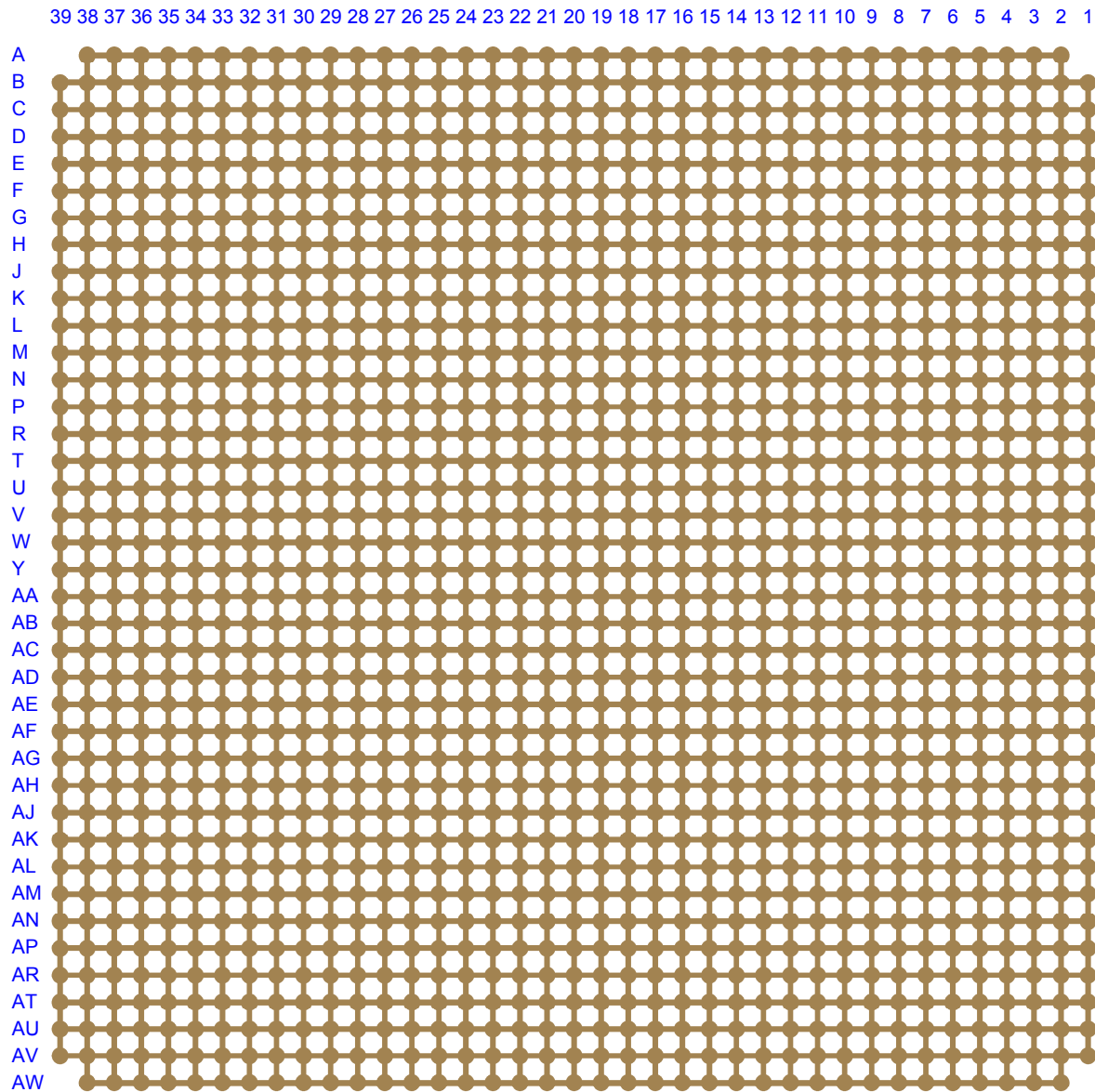
- 1) ALL DIMENSIONS ARE IN MM.
- 2) SOLDER BALL ALLOY: SEE PART NUMBER TABLE.
- 3) BALL DIAMETER (BEFORE REFLOW): 0.635mm (25 MIL).
- 4) SOLDER MASK DEFINED PAD OPENING: 0.508mm (20 MIL).
- 5) PAD Cu DIAMETER: 0.685mm (27 MIL).
- 6) SUBSTRATE MATERIAL: FR4 (ALTERNATE BT).
- 7) DUMMY DIE IS OPTIONAL.
- 8) DAISY CHAIN PATTERN (SEE PAGE 2).
- 9) MSL-3 RECOMMENDED BAKING 24 HOURS @ 125°C TO REMOVE MOISTURE PRIOR SOLDERING TO PC BOARD.

### PART NUMBER TABLE

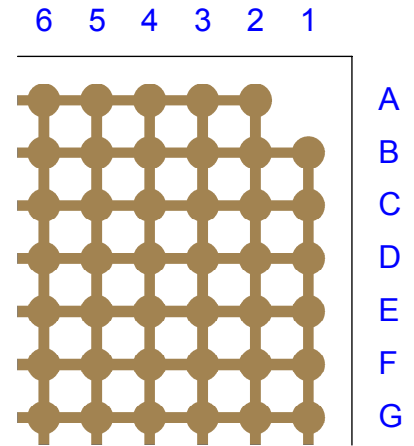
PART NUMBER	BALL ALLOY	Pb-Free	RoHS	Si DIE
LPGA1517T1.0C-BUS	Sn96.5/Ag3.0/Cu0.5	YES	YES	NO
LPGA1517T1.0C-BUS-D	Sn96.5/Ag3.0/Cu0.5	YES	YES	YES
LPGA1517T1.0-BUS	Sn63/Pb37	NO	NO	NO
LPGA1517T1.0-BUS-D	Sn63/Pb37	NO	NO	YES

APPROVALS	DATE				
DRAWN T.Au	11/27/13				
ENG M. Hart	11/27/13	TITLE LPGA1517T1.0-BUS ALL PADS SHORTED			
MFG		SCALE 2.4:1	SIZE A	DRAWING NO. 513901	REV A
QA		DO NOT SCALE DRAWING			SHEET 1 OF 3
CUST					
REVISED					

# BALL VIEW



DETAIL A



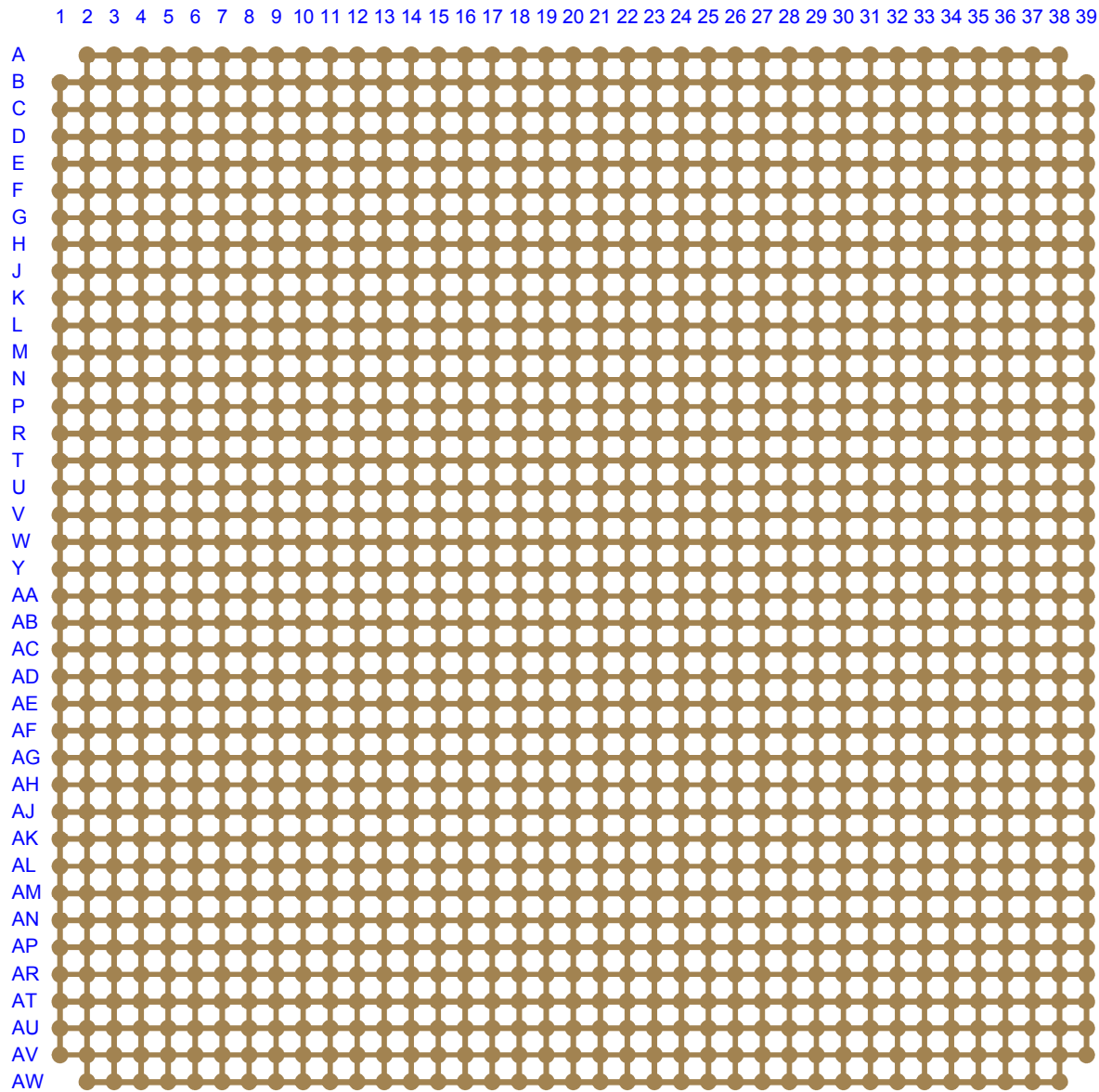
ALL BALLS  
CONNECTED

Notes:

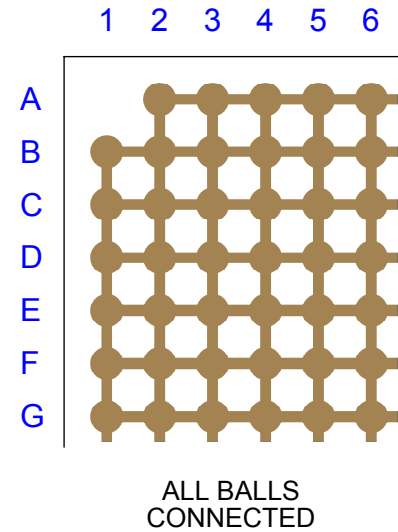
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.685mm (27 MIL).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.204mm (8 MIL).
- 4) SMD (SOLDER MASK DEFINED) PAD OPENING: 0.508mm (20 MIL).

<b>TopLine®</b>			
TITLE		LBGA1517T1.0-BUS ALL PADS SHORTED	
SCALE	SIZE	DRAWING NO.	REV
3.85:1	A	513901	A
DO NOT SCALE DRAWING			SHEET 2 OF 3

# BOTTOM SIDE (TOP X-RAY VIEW)



DETAIL B



**TopLine**<sup>®</sup>

TITLE LBGA1517T1.0-BUS  
ALL PADS SHORTED

SCALE 3.85:1	SIZE A	DRAWING NO. 513901	REV A
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DO NOT SCALE DRAWING

SHEET 3 OF 3