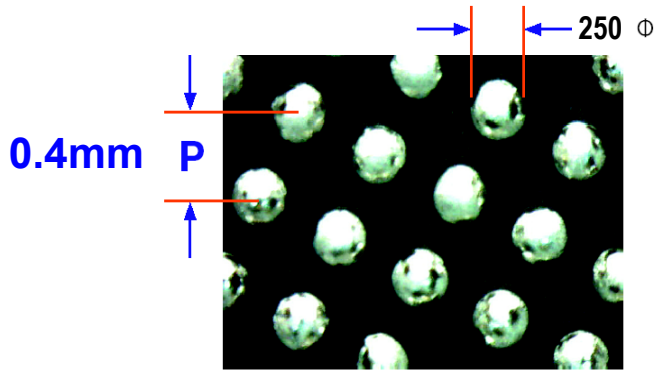
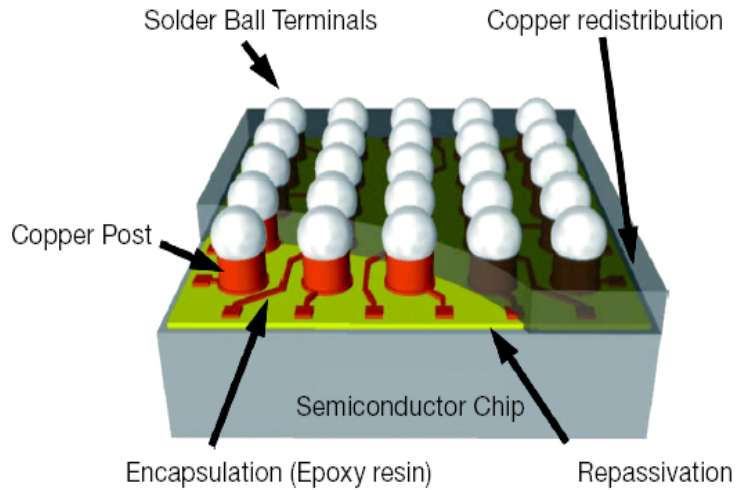
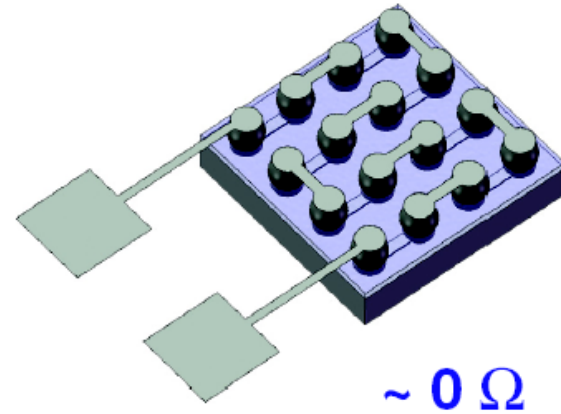


# WLP OutLine Drawings

## 0.4mm Pitch



### Daisy Chain



TOLERANCE UNLESS NOTED		APPROVALS	DATE	<b>TopLine</b> <sup>®</sup>			
X.X	+/- 0.3						
X.XX	+/- 0.03	DRAWN J. Hines	12/30/2010	TITLE WLP16T.4C-DC048D			
X.XXX	+/- 0.003	ENG		16-BALL P=0.4mm (TEG0408)			
ANGLES	+/- 0.5°	MFG		SCALE	SIZE	DRAWING NO.	REV
ALL DIMENSIONS IN		QA		35:1	A	540482	A
INCHES <input type="checkbox"/> MILLIMETERS <input checked="" type="checkbox"/>		CUST		DO NOT SCALE DRAWING		SHEET 1 OF 2	
THIRD ANGLE PROJECTION		REVISED					

## WLP Daisy Chain (Full Array)

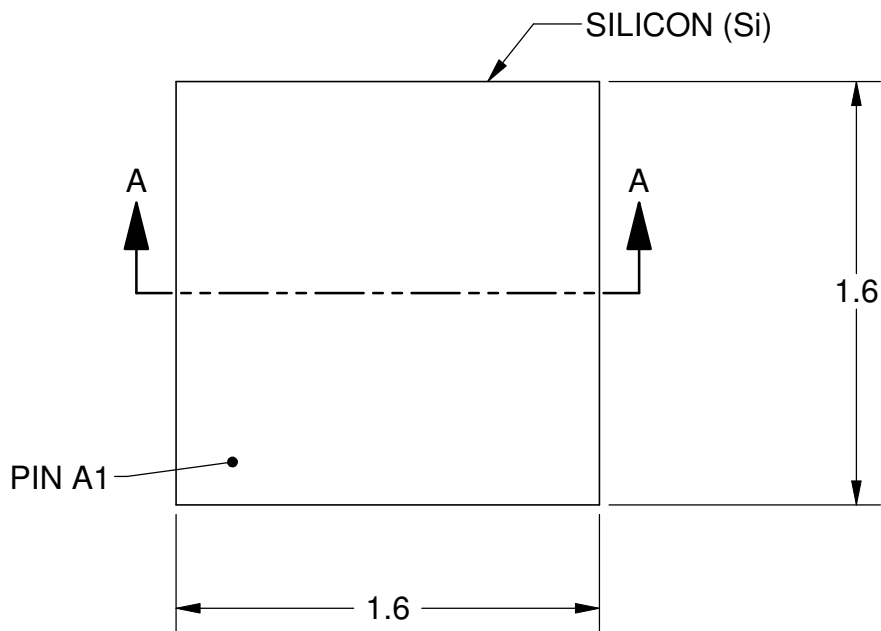
Ball Count	Ball Matrix	Daisy Chain	Body Size (mm) P=0.4mm	Page
16	4x4	DC048	1.6mm	3~4
36	6x6	DC067	2.4mm	5~6
64	8x8	DC088	3.2mm	7~8
100	10x10	DC108	4.0mm	9~10
144	12x12	DC127	4.8mm	11~12
196	14x14	DC148	5.6mm	13~14
256	16x16	DC168	6.4mm	15~16
400	20x20	DC208	8.0mm	17~18
676	26x26	DC260	10.4mm	19~20
900	30x30	DC307	12mm	21~22



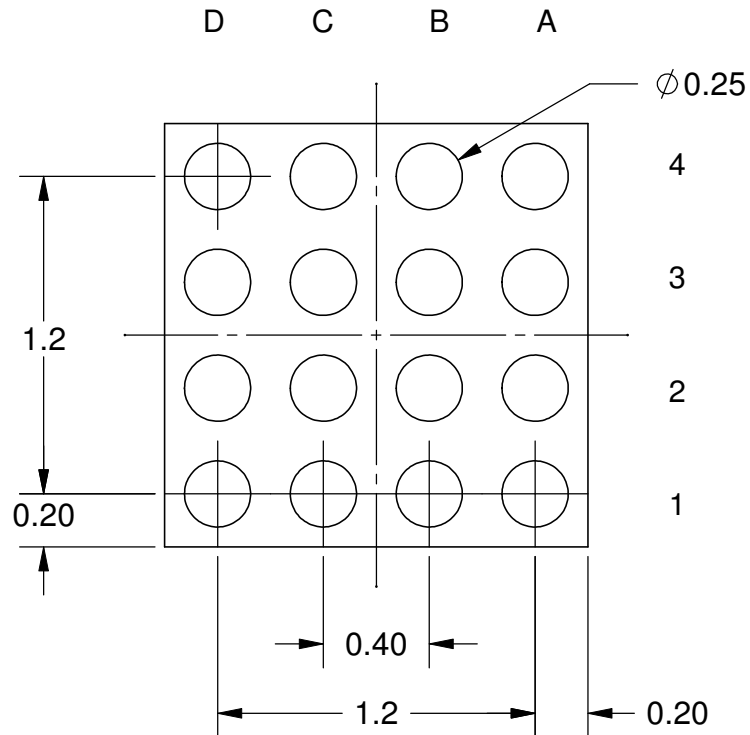
Contact: [Sales@TopLine.tv](mailto:Sales@TopLine.tv)  
Tel 1-800-776-9888

More Details:  
[www.topline.tv/WLP.html](http://www.topline.tv/WLP.html)

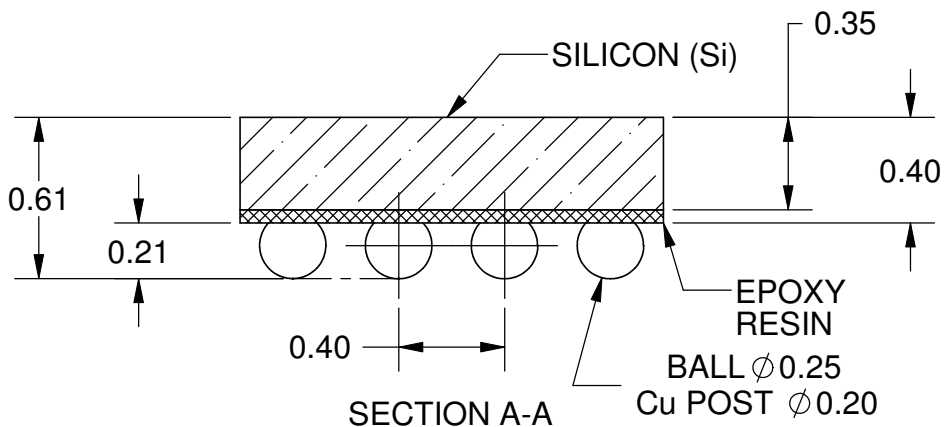
TOP VIEW



BALL VIEW



- Notes: (Unless Otherwise Specified).  
 1) ALL DIMENSIONS ARE IN MM.  
 2) SOLDER BALL ALLOY:  
 STANDARD: SAC305 (Sn96.5/Ag3.0/Cu0.5).  
 SPECIAL: LF35 (Sn98.3/Ag1.2/Cu0.5).  
 3) BALL DIAMETER (BEFORE REFLOW): 0.25mm.  
 4) NON-SOLDER MASK DEFINED PAD.  
 5) PAD Cu DIAMETER: 0.20mm.  
 6) SUBSTRATE MATERIAL: Si (SILICON).  
 7) DAISY CHAIN PATTERN (SEE PAGE 2).



SECTION A-A

BALL  $\phi 0.25$   
 Cu POST  $\phi 0.20$

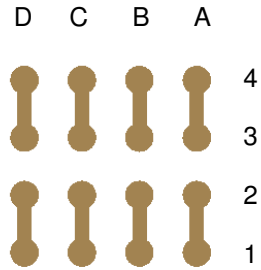
PART NUMBER TABLE

PART NUMBER	BALL ALLOY	Pb-FREE	RoHS	Si DIE
WLP16T.4C-DC048D	Sn96.5/Ag3.0/Cu0.5	YES	YES	YES
WLP16T.4C1-DC048D	Sn98.3/Ag1.2/Cu0.5	YES	YES	YES

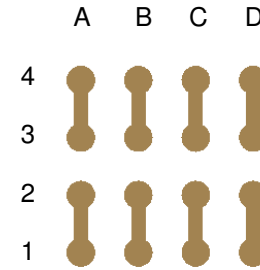
TOLERANCE UNLESS NOTED		APPROVALS		DATE						
X.X	+/- 0.3	DRAWN J. Hines		12/30/2010						TITLE
X.XX	+/- 0.03	ENG				WLP16T.4C-DC048D				
X.XXX	+/- 0.003	MFG				16-BALL P=0.4mm (TEG0408)				
ANGLES +/- 0.5°		QA		SCALE		SIZE		DRAWING NO.		REV
ALL DIMENSIONS IN		CUST		35:1		A		540482		A
INCHES <input type="checkbox"/> MILLIMETERS <input checked="" type="checkbox"/>		REVISED				DO NOT SCALE DRAWING		SHEET 1 OF 2		

# DAISY CHAIN PATTERN

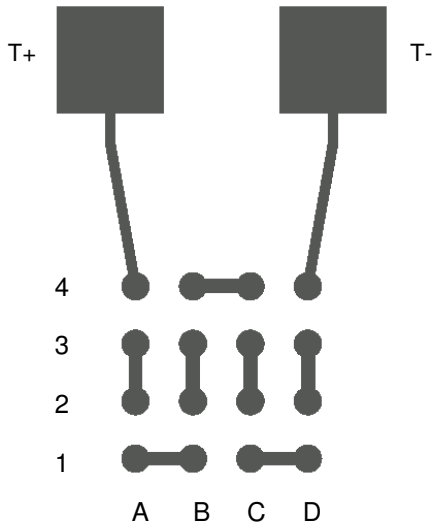
BALL VIEW



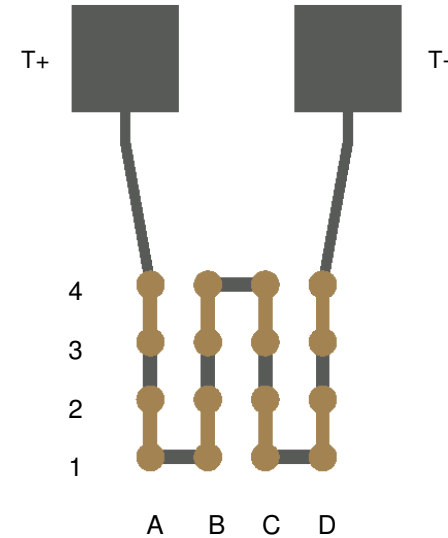
BOTTOM SIDE  
(TOP X-RAY VIEW)



TOP VIEW



AFTER MOUNTING  
TO TEST BOARD  
(TOP X-RAY VIEW)



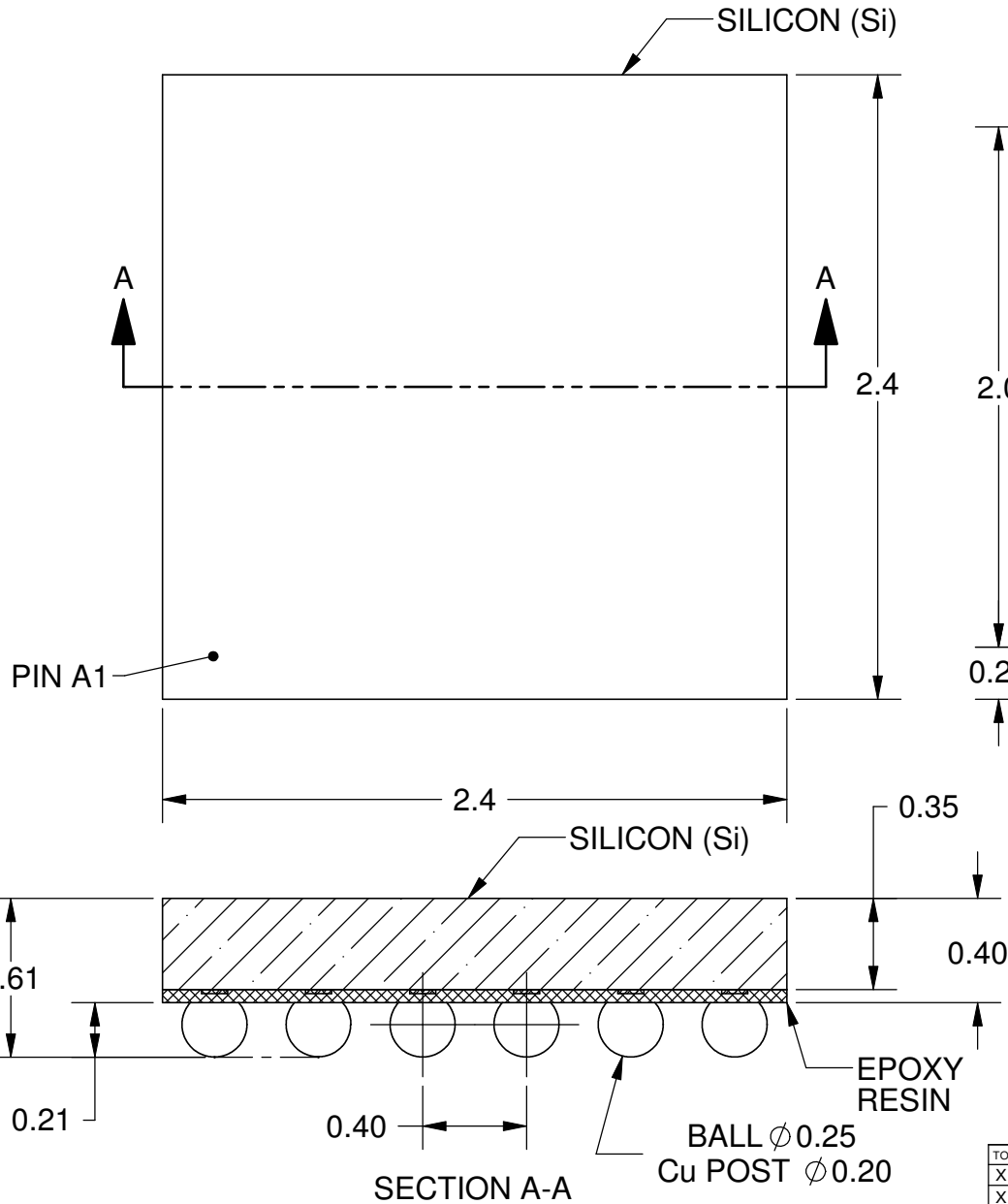
TEST VEHICLE BOARD

Notes:

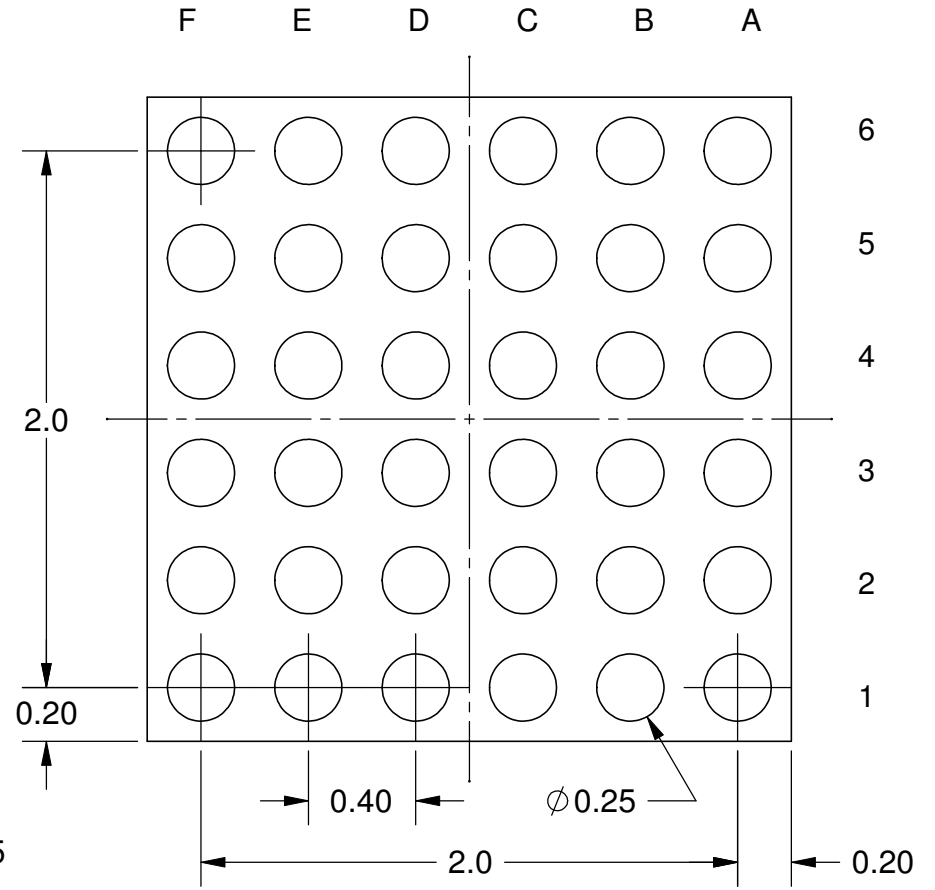
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.20mm (7.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

<b>TopLine</b> ®			
TITLE    WLP16T.4C-DC048D 16-BALL P=0.4mm (TEG0408)			
SCALE 19:1	SIZE A	DRAWING NO. 540482	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	

TOP VIEW




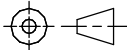
BALL VIEW



Notes: (Unless Otherwise Specified).

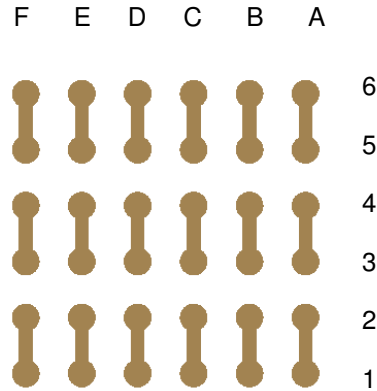
- 1) ALL DIMENSIONS ARE IN MM.
- 2) SOLDER BALL ALLOY:  
STANDARD: SAC305 (Sn96.5/Ag3.0/Cu0.5).  
SPECIAL: LF35 (Sn98.3/Ag1.2/Cu0.5).
- 3) BALL DIAMETER (BEFORE REFLOW): 0.25mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.20mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

PART NUMBER TABLE				
PART NUMBER	BALL ALLOY	Pb-FREE	RoHS	Si DIE
WLP36T.4C-DC067D	Sn96.5/Ag3.0/Cu0.5	YES	YES	YES
WLP36T.4C1-DC067D	Sn98.3/Ag1.2/Cu0.5	YES	YES	YES

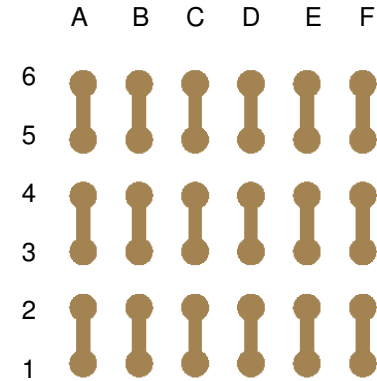
TOLERANCE UNLESS NOTED		APPROVALS		DATE				
X.X	+/- 0.3	DRAWN J. Hines		12/30/2010				
X.XX	+/- 0.03	ENG			TITLE			
X.XXX	+/- 0.003	MFG			WLP36T.4C-DC067D			
ANGLES +/- 0.5°		THIRD ANGLE PROJECTION			36-BALL P=0.4mm (TEG0408)			
ALL DIMENSIONS IN		<input type="checkbox"/> INCHES <input checked="" type="checkbox"/> MILLIMETERS			SCALE	SIZE	DRAWING NO.	REV
					35.5:1	A	540682	A
		REVISED			DO NOT SCALE DRAWING			SHEET 1 OF 2

### DAISY CHAIN PATTERN

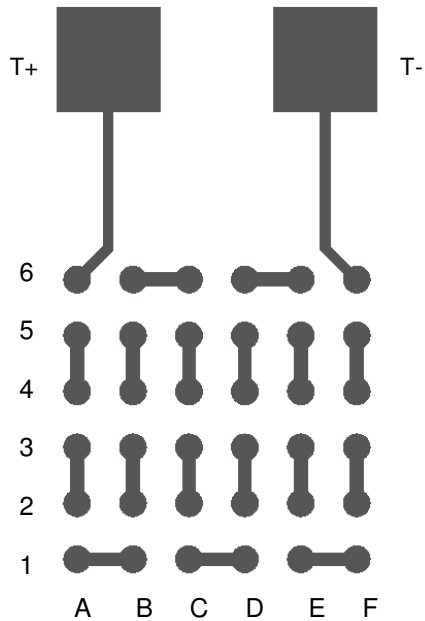
BALL VIEW



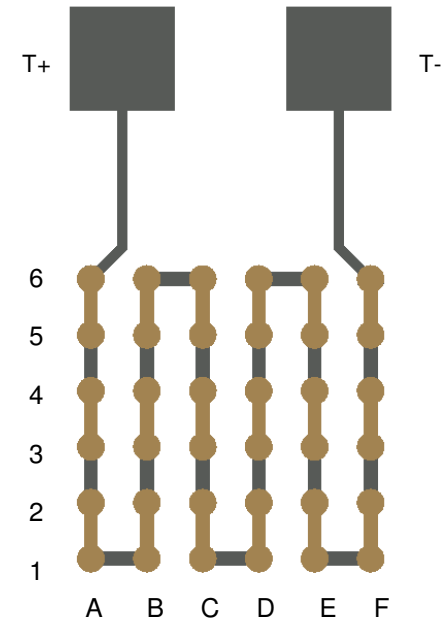
BOTTOM SIDE  
(TOP X-RAY VIEW)



TOP VIEW



AFTER MOUNTING  
TO TEST BOARD  
(TOP X-RAY VIEW)



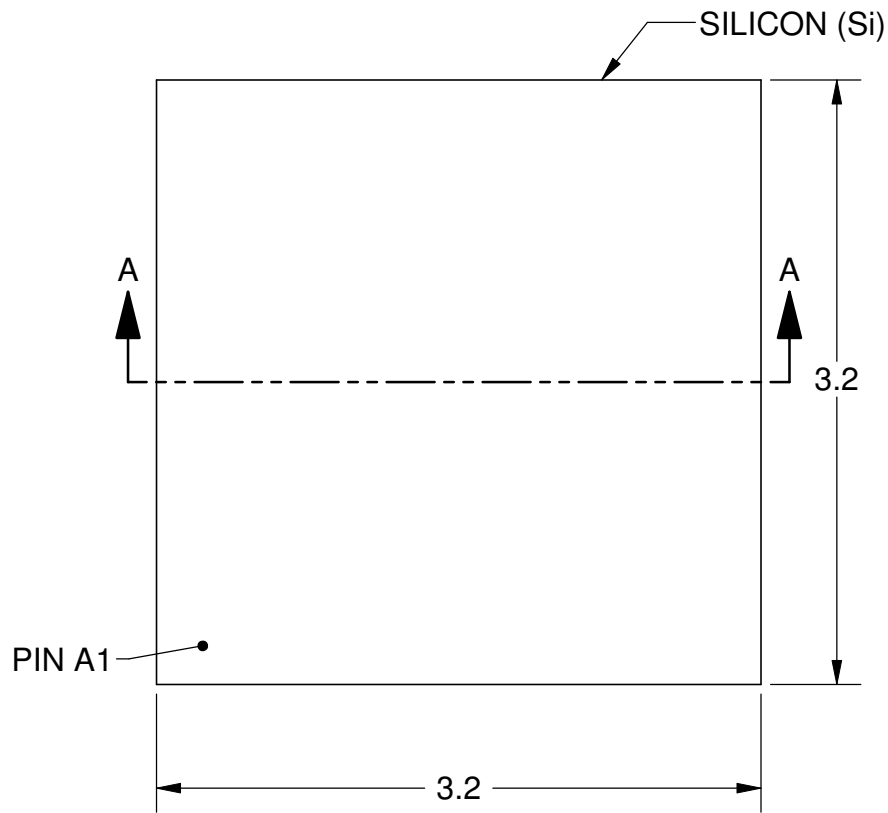
TEST VEHICLE BOARD

Notes:

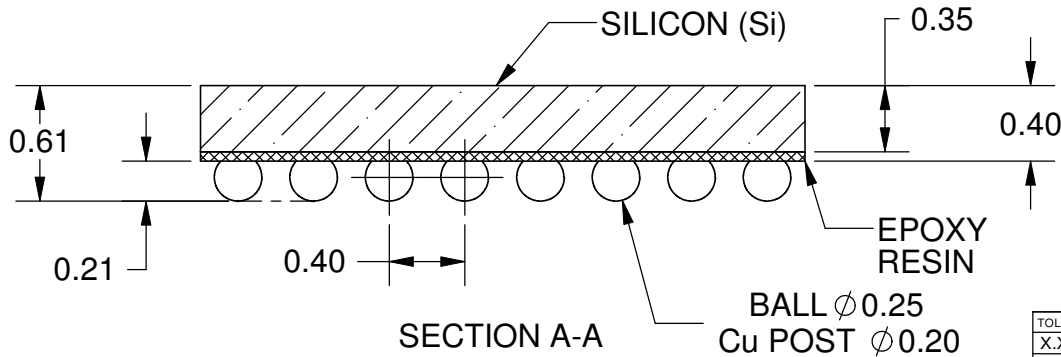
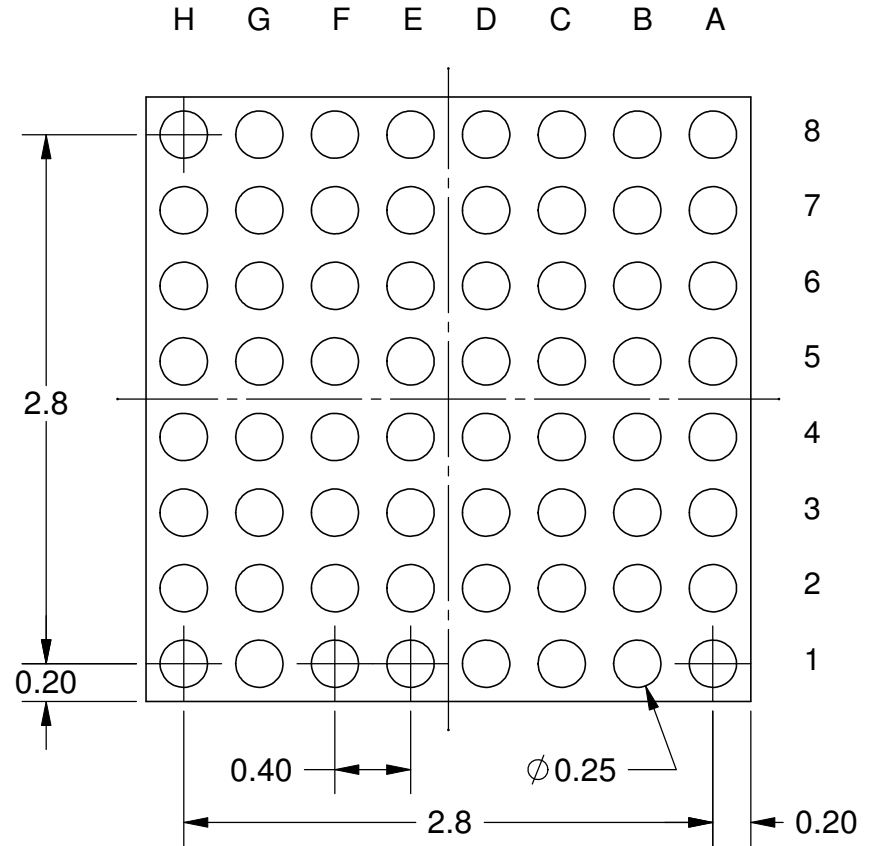
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.20mm (7.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

<b>TopLine</b> ®			
TITLE WLP36T.4C-DC067D 36-BALL P=0.4mm (TEG0408)			
SCALE 18.5:1	SIZE A	DRAWING NO. 540682	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	

TOP VIEW




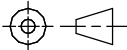
BALL VIEW



Notes: (Unless Otherwise Specified).

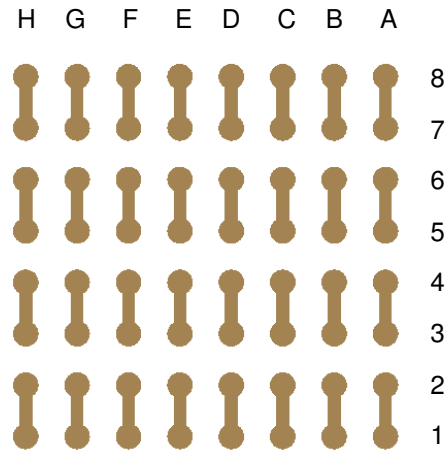
- 1) ALL DIMENSIONS ARE IN MM.
- 2) SOLDER BALL ALLOY:  
STANDARD: SAC305 (Sn96.5/Ag3.0/Cu0.5).  
SPECIAL: LF35 (Sn98.3/Ag1.2/Cu0.5).
- 3) BALL DIAMETER (BEFORE REFLOW): 0.25mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.20mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

PART NUMBER TABLE				
PART NUMBER	BALL ALLOY	Pb-FREE	RoHS	Si DIE
WLP64T.4C-DC088D	Sn96.5/Ag3.0/Cu0.5	YES	YES	YES
WLP64T.4C1-DC088D	Sn98.3/Ag1.2/Cu0.5	YES	YES	YES

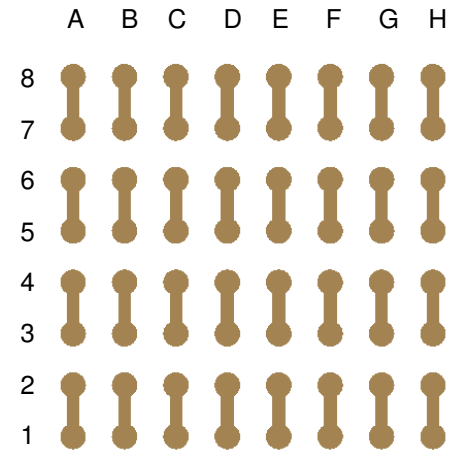
TOLERANCE UNLESS NOTED		APPROVALS		DATE				
X.X	+/- 0.3	DRAWN J. Hines		12/30/2010				
X.XX	+/- 0.03	ENG			TITLE			
X.XXX	+/- 0.003	MFG			WLP64T.4C-DC088D			
ANGLES +/- 0.5°		THIRD ANGLE PROJECTION			64-BALL P=0.4mm (TEG0408)			
ALL DIMENSIONS IN					SCALE	SIZE	DRAWING NO.	REV
<input type="checkbox"/> INCHES <input checked="" type="checkbox"/> MILLIMETERS		QA	CUST	REVISED	25:1	A	540882	A
DO NOT SCALE DRAWING							SHEET 1 OF 2	

# DAISY CHAIN PATTERN

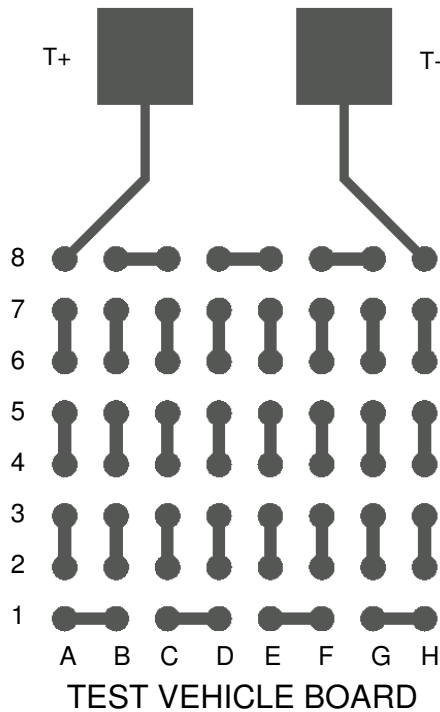
BALL VIEW



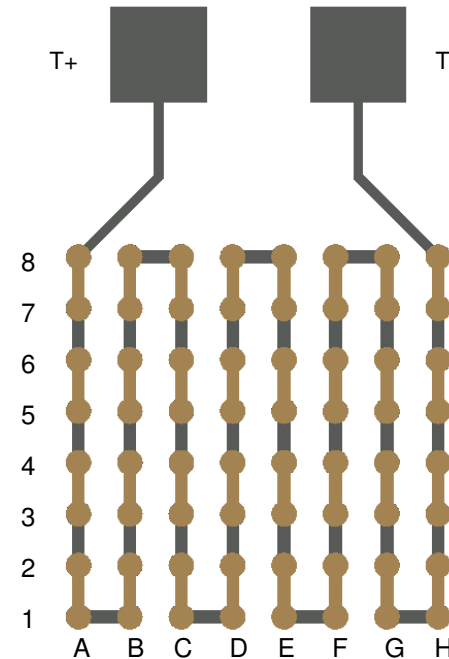
BOTTOM SIDE  
(TOP X-RAY VIEW)



TOP VIEW



AFTER MOUNTING  
TO TEST BOARD  
(TOP X-RAY VIEW)



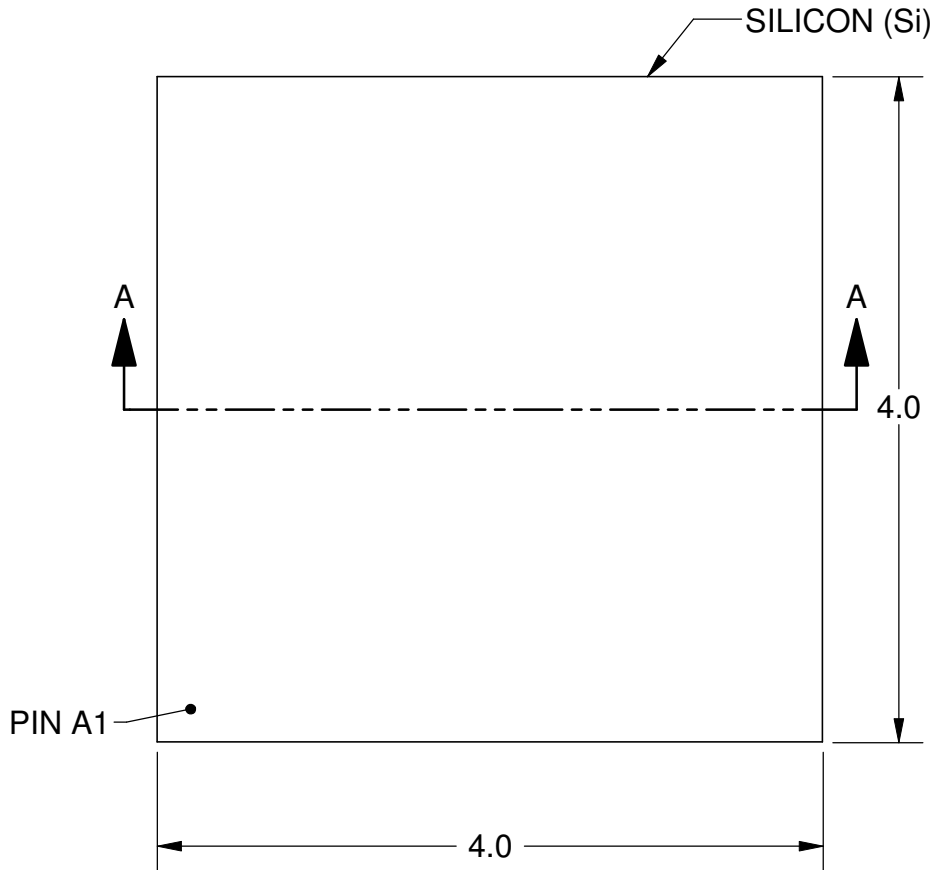
**Notes:**

- 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 0.25mm (9.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

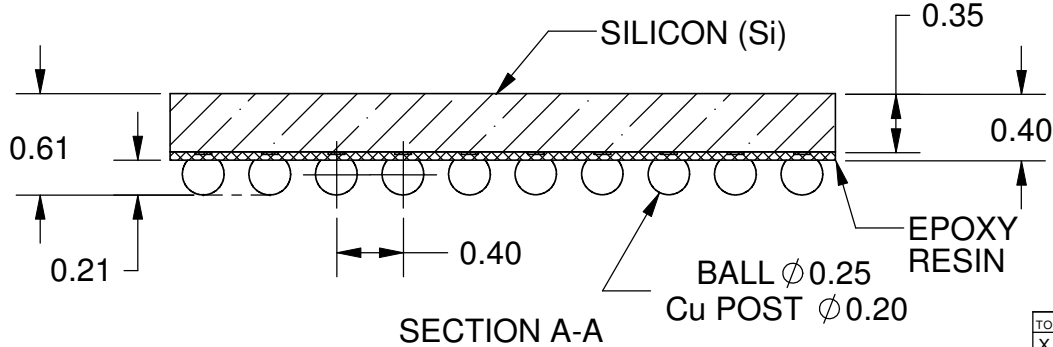
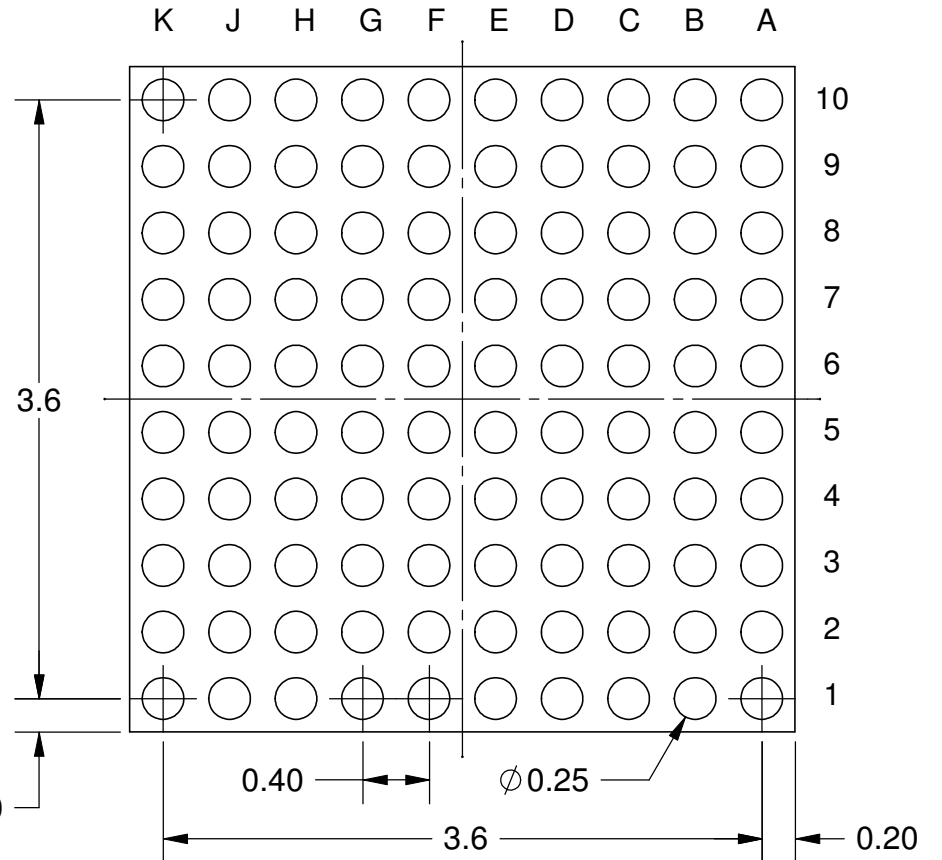
<b>TopLine</b> ®			
TITLE WLP64T.4C-DC088D 64-BALL P=0.4mm (TEG0408)			
SCALE 17:1	SIZE A	DRAWING NO. 540882	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	



TOP VIEW




BALL VIEW



Notes: (Unless Otherwise Specified).

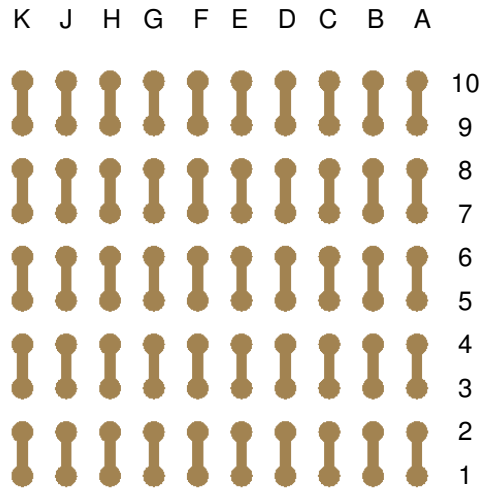
- 1) ALL DIMENSIONS ARE IN MM.
- 2) SOLDER BALL ALLOY:  
STANDARD: SAC305 (Sn96.5/Ag3.0/Cu0.5).  
SPECIAL: LF35 (Sn98.3/Ag1.2/Cu0.5).
- 3) BALL DIAMETER (BEFORE REFLOW): 0.25mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.20mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

PART NUMBER TABLE				
PART NUMBER	BALL ALLOY	Pb-FREE	RoHS	Si DIE
WLP100T.4C-DC108D	Sn96.5/Ag3.0/Cu0.5	YES	YES	YES
WLP100T.4C1-DC108D	Sn98.3/Ag1.2/Cu0.5	YES	YES	YES

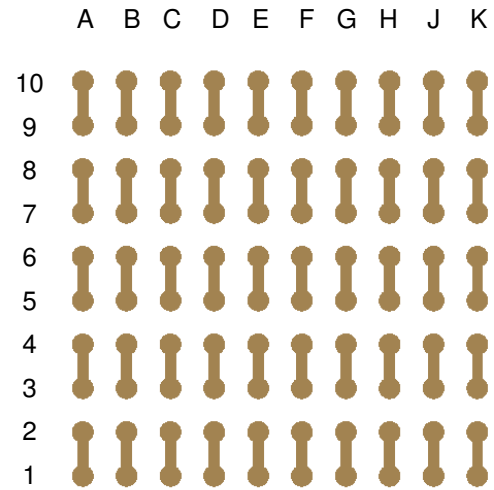
TOLERANCE UNLESS NOTED		APPROVALS		DATE						
X.X	+/- 0.3	DRAWN J. Hines		12/30/2010						
X.XX	+/- 0.03	ENG				TITLE				
X.XXX	+/- 0.003	MFG				WLP100T.4C-DC108D				
ANGLES	+/- 0.5°	THIRD ANGLE PROJECTION				100-BALL P=0.4mm (TEG0408)				
ALL DIMENSIONS IN		QA		SCALE		SIZE		DRAWING NO.		REV
INCHES <input type="checkbox"/> MILLIMETERS <input checked="" type="checkbox"/>		CUST		22:1		A		541082		A
		REVISED				DO NOT SCALE DRAWING		SHEET 1 OF 2		

# DAISY CHAIN PATTERN

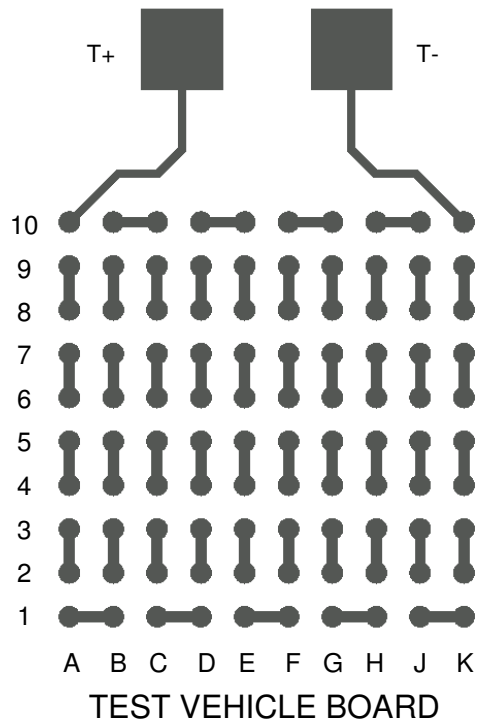
BALL VIEW



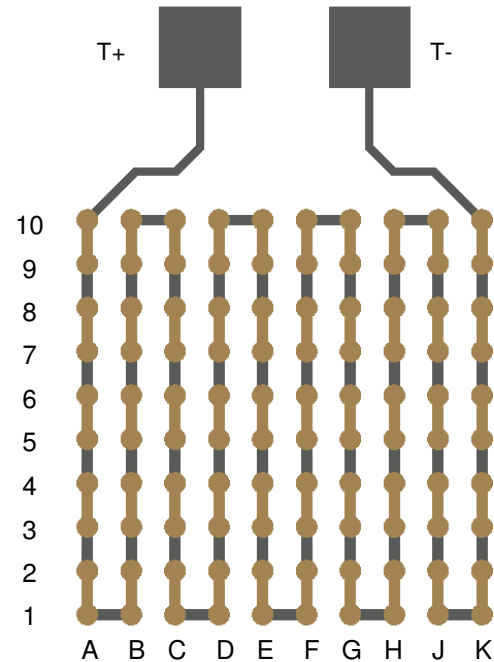
BOTTOM SIDE  
(TOP X-RAY VIEW)



TOP VIEW



AFTER MOUNTING  
TO TEST BOARD  
(TOP X-RAY VIEW)

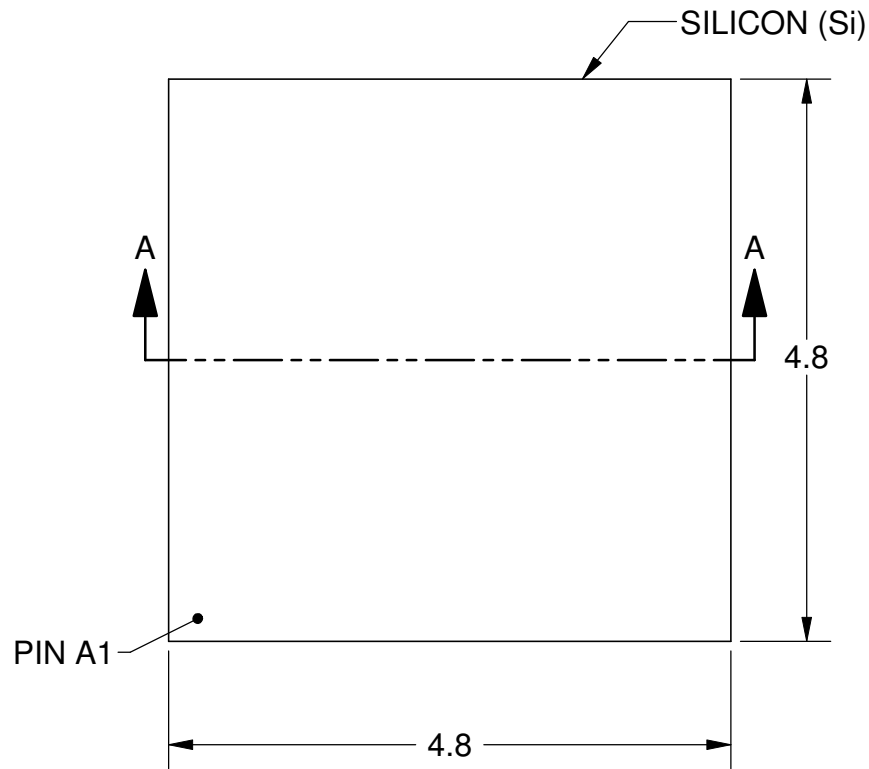


**Notes:**

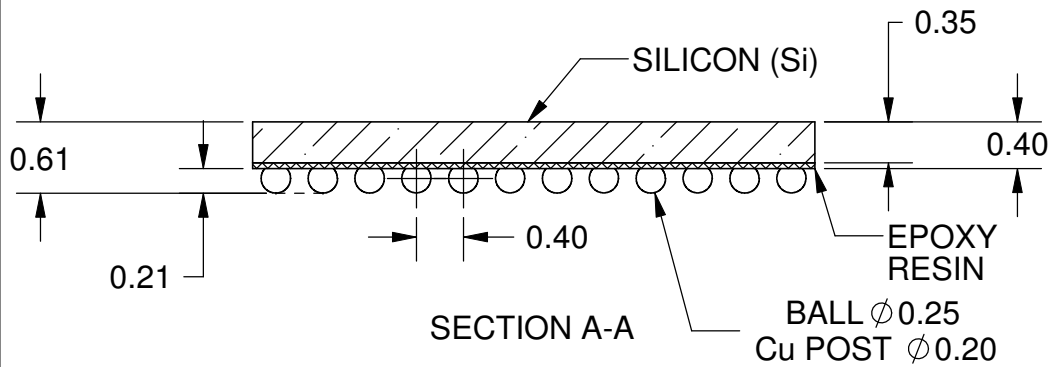
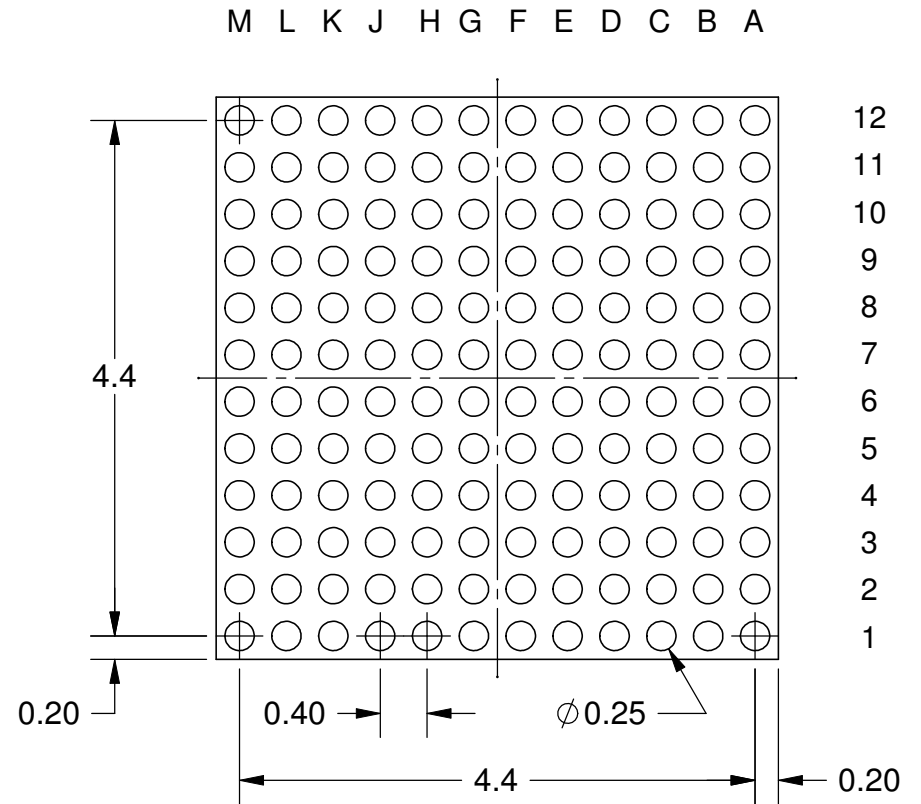
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.20mm (7.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

<b>TopLine</b> ®			
TITLE WLP100T.4C-DC108D 100-BALL P=0.4mm (TEG0408)			
SCALE 14.5:1	SIZE A	DRAWING NO. 541082	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	

TOP VIEW



BALL VIEW



Notes: (Unless Otherwise Specified).

- 1) ALL DIMENSIONS ARE IN MM.
- 2) SOLDER BALL ALLOY:  
STANDARD: SAC305 (Sn96.5/Ag3.0/Cu0.5).  
SPECIAL: LF35 (Sn98.3/Ag1.2/Cu0.5).
- 3) BALL DIAMETER (BEFORE REFLOW): 0.25mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.20mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

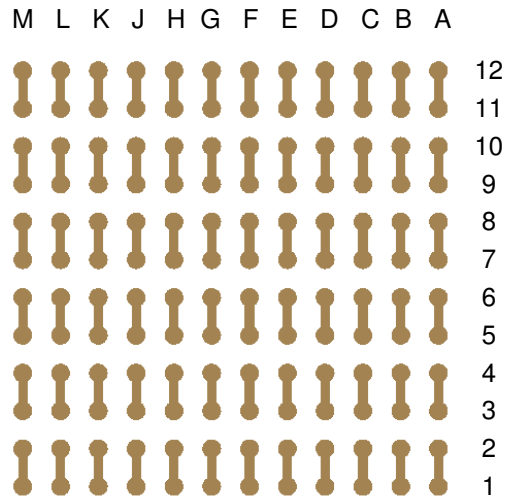
PART NUMBER TABLE

PART NUMBER	BALL ALLOY	Pb-FREE	RoHS	Si DIE
WLP144T.4C-DC127D	Sn96.5/Ag3.0/Cu0.5	YES	YES	YES
WLP144T.4C1-DC127D	Sn98.3/Ag1.2/Cu0.5	YES	YES	YES

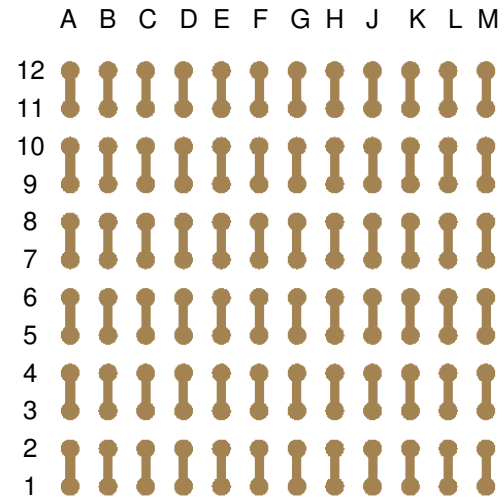
TOLERANCE UNLESS NOTED		APPROVALS		DATE	<b>TopLine</b> <sup>®</sup>			
X.X	+/- 0.3	DRAWN J. Hines		12/30/2010				
X.XX	+/- 0.03	ENG			TITLE WLP144T.4C-DC127D			
X.XXX	+/- 0.003	MFG			144-BALL P=0.4mm (TEG0408)			
ANGLES +/- 0.5°		THIRD ANGLE PROJECTION			SCALE	SIZE	DRAWING NO.	REV
ALL DIMENSIONS IN		<input type="checkbox"/> INCHES <input checked="" type="checkbox"/> MILLIMETERS			15.5:1	A	541272	A
					DO NOT SCALE DRAWING		SHEET 1 OF 2	

# DAISY CHAIN PATTERN

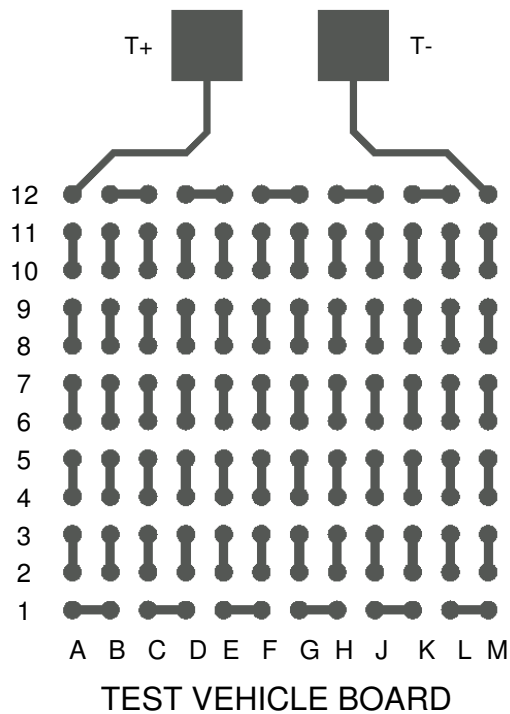
BALL VIEW



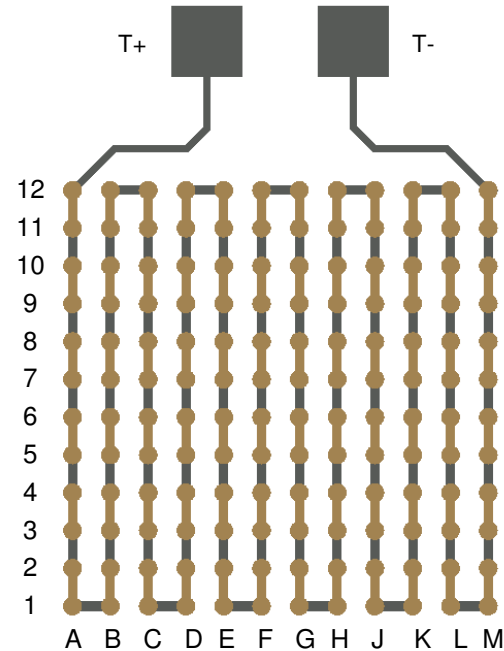
BOTTOM SIDE  
(TOP X-RAY VIEW)



TOP VIEW



AFTER MOUNTING  
TO TEST BOARD  
(TOP X-RAY VIEW)

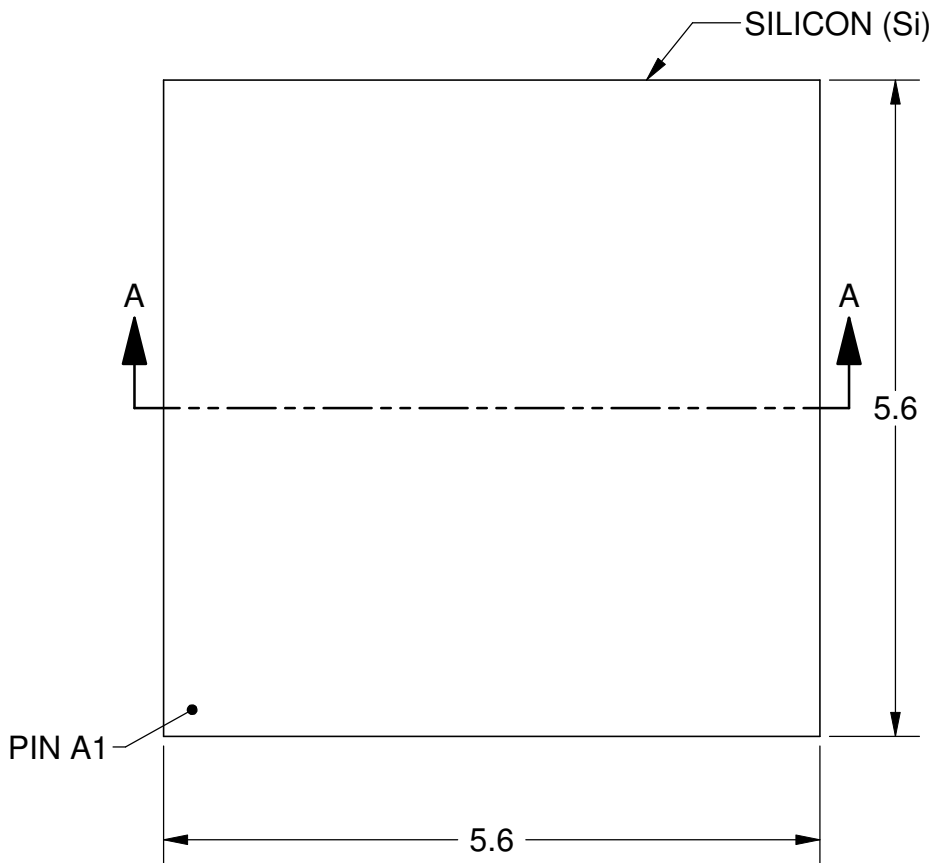


**Notes:**

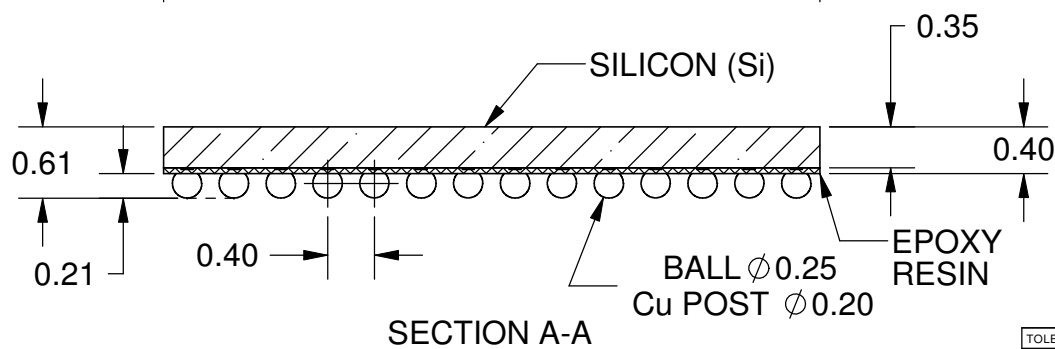
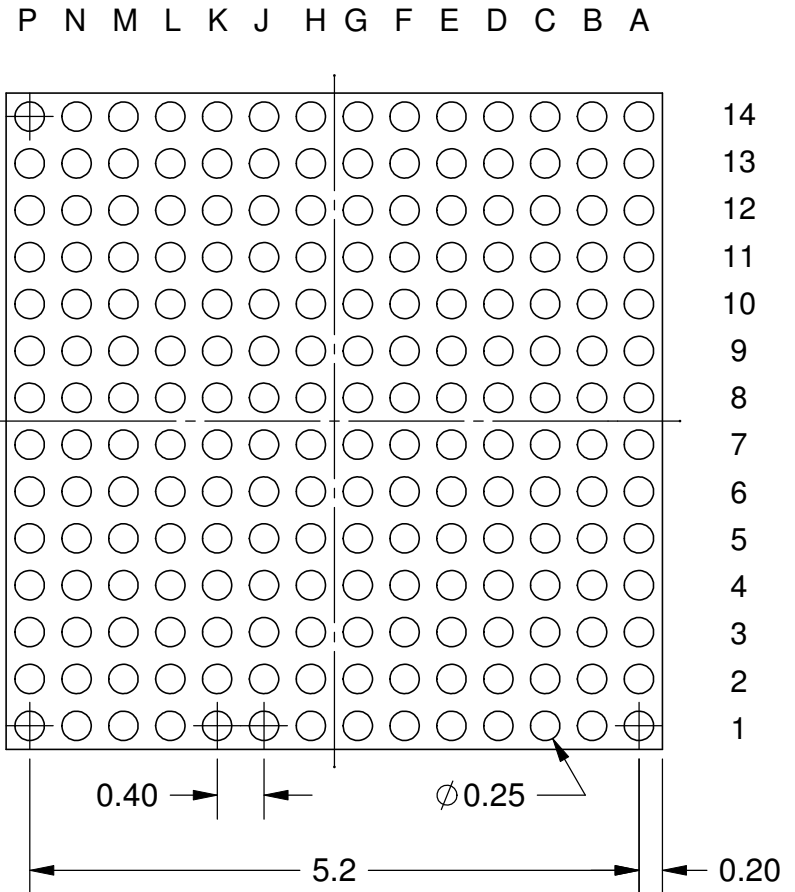
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.20mm (7.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

<b>TopLine</b> ®			
TITLE    WLP144T.4C-DC127D 144-BALL P=0.4mm (TEG0408)			
SCALE	SIZE	DRAWING NO.	REV
12.5:1	A	541272	A
DO NOT SCALE DRAWING			SHEET 2 OF 2

TOP VIEW



BALL VIEW


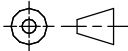


Notes: (Unless Otherwise Specified).

- 1) ALL DIMENSIONS ARE IN MM.
- 2) SOLDER BALL ALLOY:  
STANDARD: SAC305 (Sn96.5/Ag3.0/Cu0.5).  
SPECIAL: LF35 (Sn98.3/Ag1.2/Cu0.5).
- 3) BALL DIAMETER (BEFORE REFLOW): 0.25mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.20mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

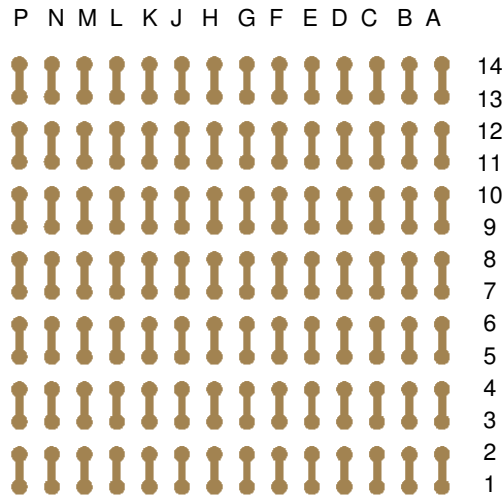
PART NUMBER TABLE

PART NUMBER	BALL ALLOY	Pb-FREE	RoHS	Si DIE
WLP196T.4C-DC148D	Sn96.5/Ag3.0/Cu0.5	YES	YES	YES
WLP196T.4C1-DC148D	Sn98.3/Ag1.2/Cu0.5	YES	YES	YES

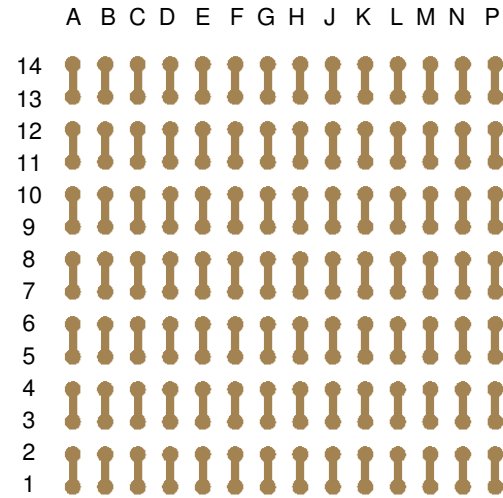
TOLERANCE UNLESS NOTED		APPROVALS		DATE				
X.X	+/- 0.3	DRAWN J. Hines		12/30/2010				
X.XX	+/- 0.03				196-BALL P=0.4mm (TEG0408)			
X.XXX	+/- 0.003				SCALE 15.5:1			
ANGLES +/- 0.5°		ENG			SIZE A	DRAWING NO. 541482		REV A
ALL DIMENSIONS IN		MFG			CUST			
<input type="checkbox"/> INCHES <input checked="" type="checkbox"/> MILLIMETERS		QA			REVISED			
THIRD ANGLE PROJECTION					DO NOT SCALE DRAWING		SHEET 1 OF 2	

# DAISY CHAIN PATTERN

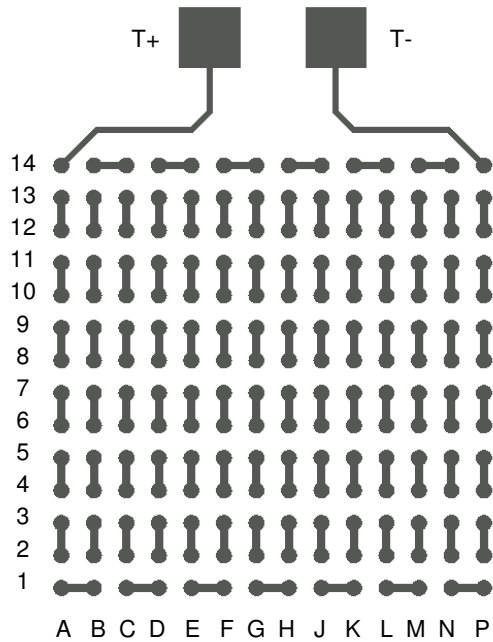
BALL VIEW



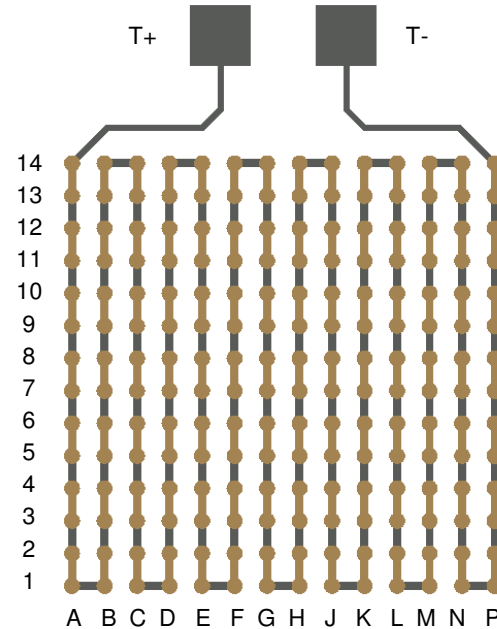
BOTTOM SIDE  
(TOP X-RAY VIEW)



TOP VIEW



AFTER MOUNTING  
TO TEST BOARD  
(TOP X-RAY VIEW)



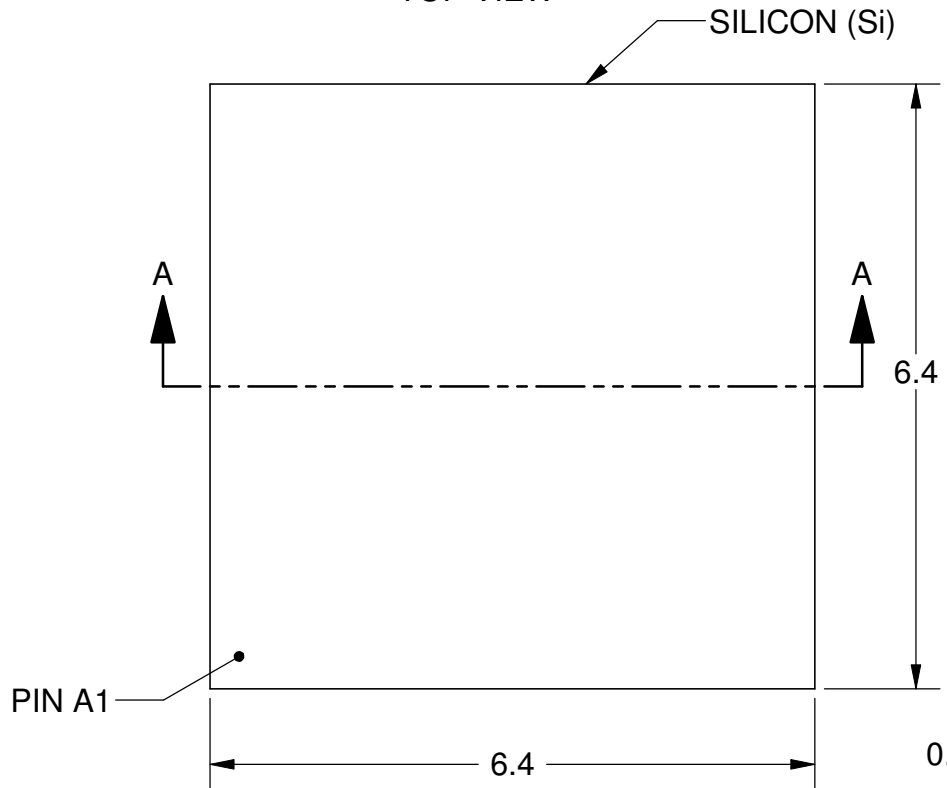
TEST VEHICLE BOARD

**Notes:**

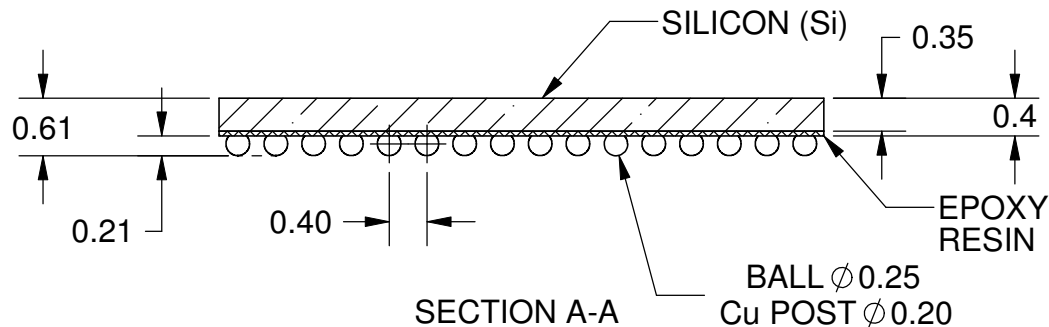
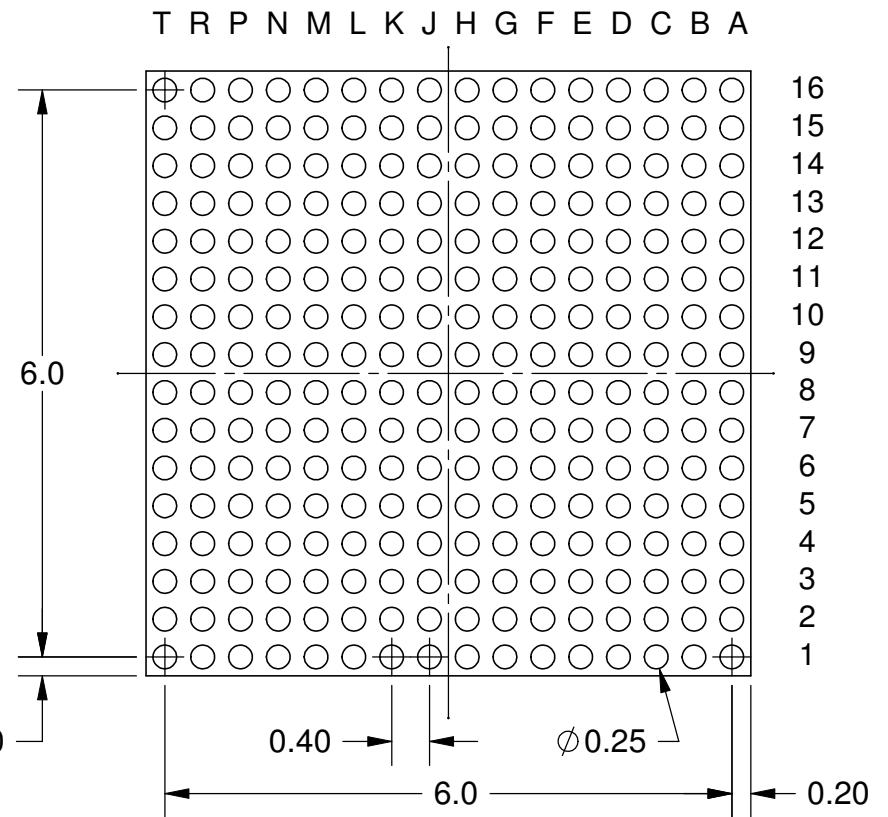
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.20mm (7.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

<b>TopLine</b> ®			
TITLE WLP196T.4C-DC148D 196-BALL P=0.4mm (TEG0408)			
SCALE 10.75:1	SIZE A	DRAWING NO. 541482	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	

TOP VIEW




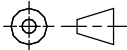
BALL VIEW



Notes: (Unless Otherwise Specified).

- 1) ALL DIMENSIONS ARE IN MM.
- 2) SOLDER BALL ALLOY:  
STANDARD: SAC305 (Sn96.5/Ag3.0/Cu0.5).  
SPECIAL: LF35 (Sn98.3/Ag1.2/Cu0.5).
- 3) BALL DIAMETER (BEFORE REFLOW): 0.25mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.20mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

PART NUMBER TABLE				
PART NUMBER	BALL ALLOY	Pb-FREE	RoHS	Si DIE
WLP256T.4C-DC168D	Sn96.5/Ag3.0/Cu0.5	YES	YES	YES
WLP256T.4C1-DC168D	Sn98.3/Ag1.2/Cu0.5	YES	YES	YES

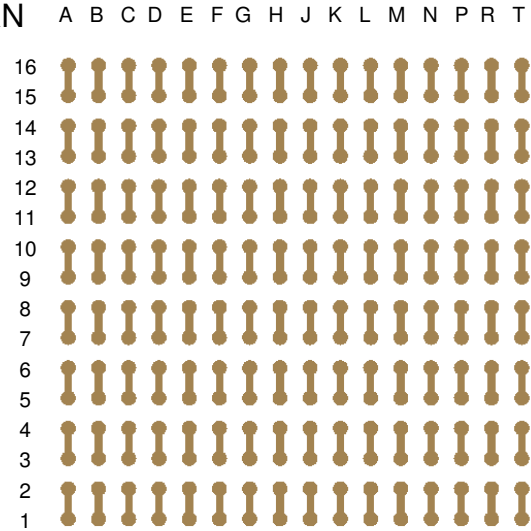
TOLERANCE UNLESS NOTED		APPROVALS		DATE				
X.X	+/- 0.3	DRAWN J. Hines		12/28/2010				
X.XX	+/- 0.03	ENG			TITLE WLP256T.4C-DC168D			
X.XXX	+/- 0.003	MFG			256-BALL P=0.4mm (TEG0408)			
ANGLES +/- 0.5°		THIRD ANGLE PROJECTION			SCALE	SIZE	DRAWING NO.	REV
ALL DIMENSIONS IN					12.5:1	A	541682	A
<input type="checkbox"/> INCHES <input checked="" type="checkbox"/> MILLIMETERS		REVISED			DO NOT SCALE DRAWING			SHEET 1 OF 2

BALL VIEW

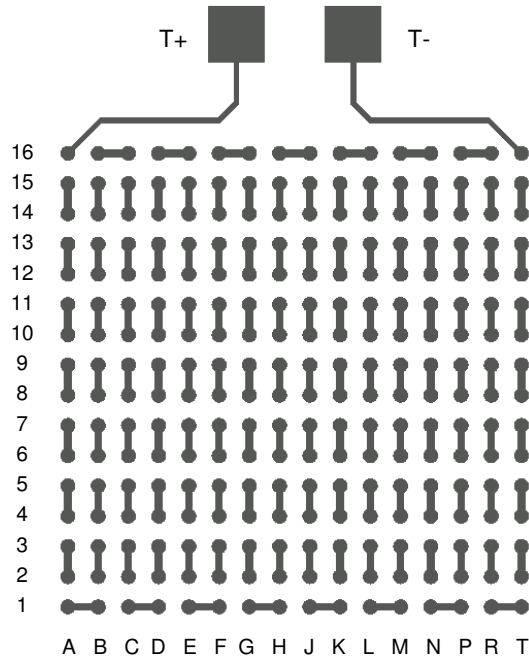


DAISY CHAIN PATTERN

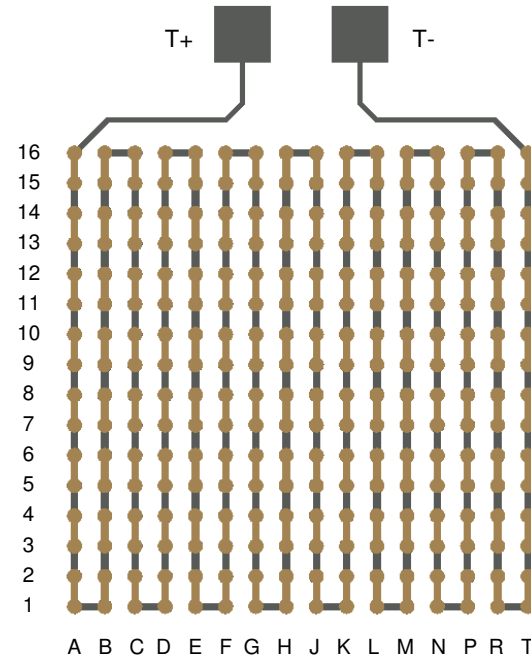
BOTTOM SIDE  
(TOP X-RAY VIEW)



TOP VIEW



AFTER MOUNTING  
TO TEST BOARD  
(TOP X-RAY VIEW)



TEST VEHICLE BOARD

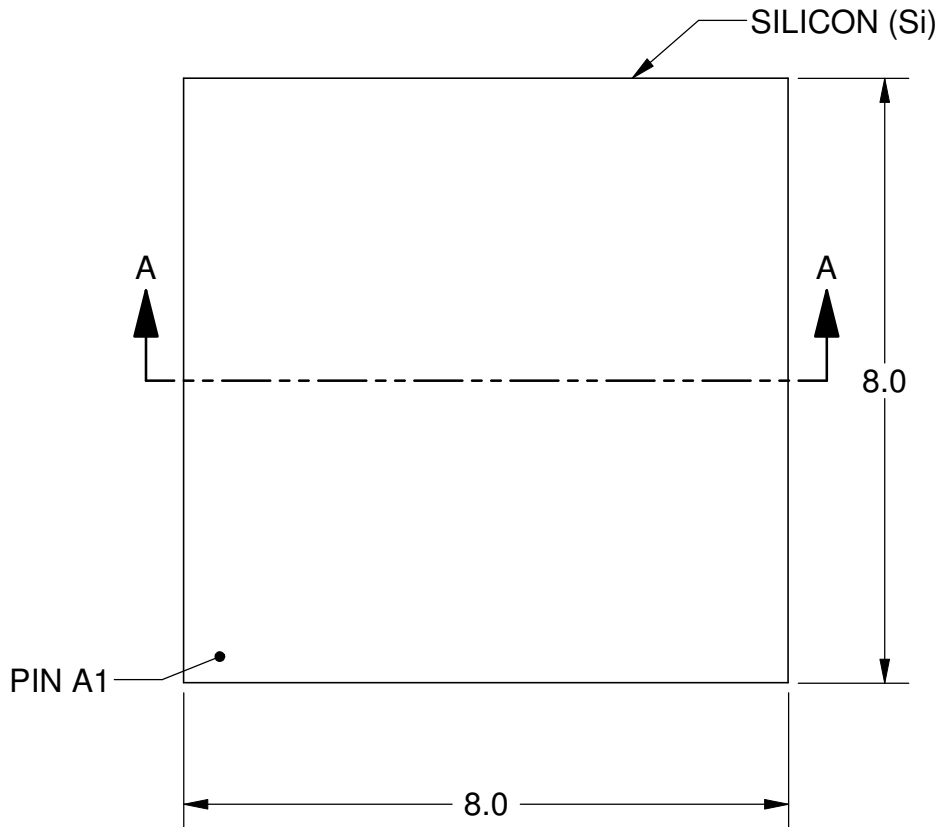
Notes:

- 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 0.20mm (7.9mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

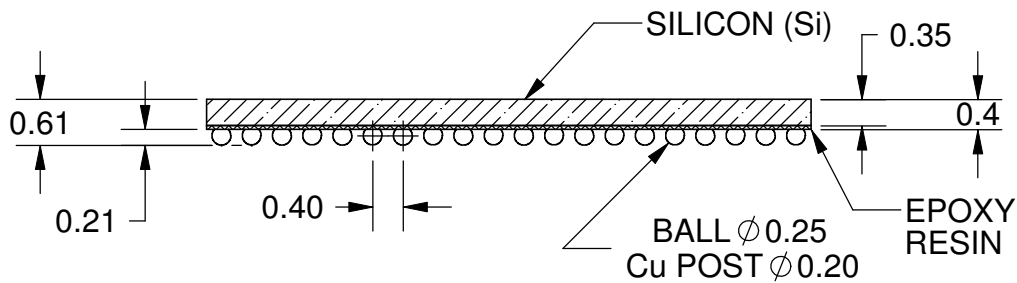
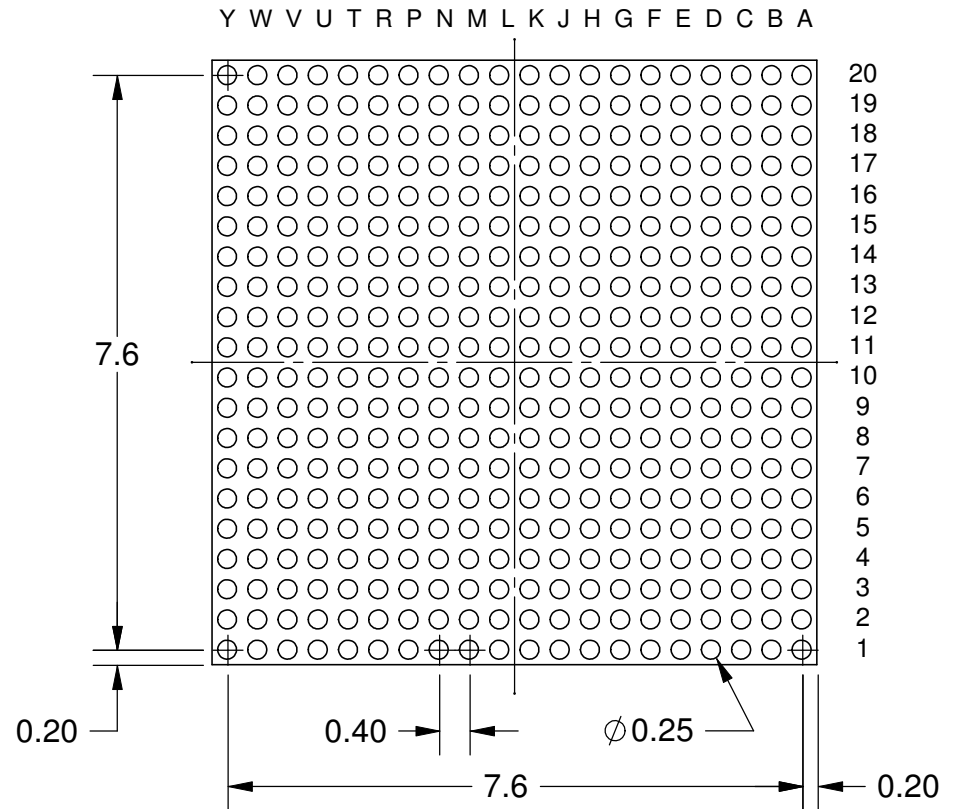
<b>TopLine</b> ®			
TITLE WLP256T.4C-DC168D 256-BALL P=0.4mm (TEG0408)			
SCALE 10:1	SIZE A	DRAWING NO. 541682	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	



TOP VIEW



BALL VIEW




SECTION A-A

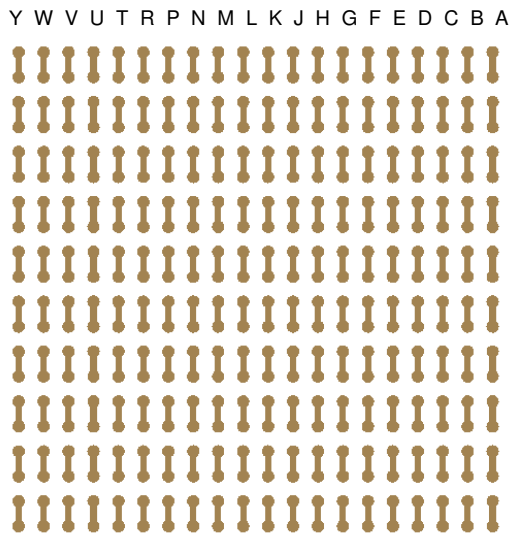
Notes: (Unless Otherwise Specified).

- 1) ALL DIMENSIONS ARE IN MM.
- 2) SOLDER BALL ALLOY:  
STANDARD: SAC305 (Sn96.5/Ag3.0/Cu0.5).  
SPECIAL: LF35 (Sn98.3/Ag1.2/Cu0.5).
- 3) BALL DIAMETER (BEFORE REFLOW): 0.25mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.20mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

PART NUMBER TABLE				
PART NUMBER	BALL ALLOY	Pb-FREE	RoHS	Si DIE
WLP400T.4C-DC208D	Sn96.5/Ag3.0/Cu0.5	YES	YES	YES
WLP400T.4C1-DC208D	Sn98.3/Ag1.2/Cu0.5	YES	YES	YES

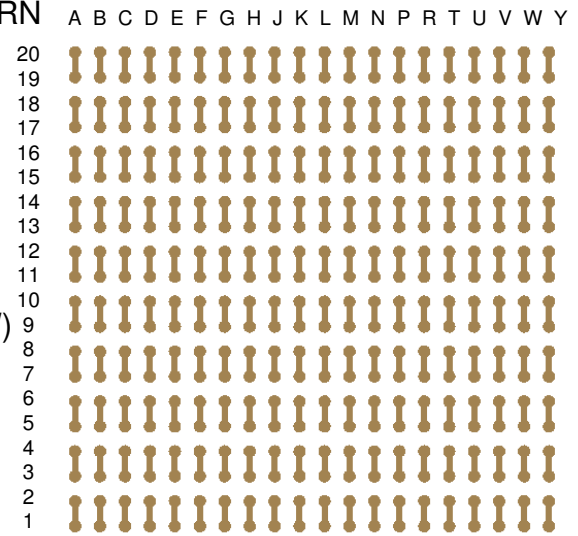
TOLERANCE UNLESS NOTED		APPROVALS		DATE				
X.X	+/- 0.3	DRAWN J. Hines		12/28/2010				
X.XX	+/- 0.03	ENG			TITLE			
X.XXX	+/- 0.003	MFG			WLP400T.4C-DC208D			
ANGLES +/- 0.5°		THIRD ANGLE PROJECTION			400-BALL P=0.4mm (TEG0408)			
ALL DIMENSIONS IN		QA			SCALE	SIZE	DRAWING NO.	REV
INCHES <input type="checkbox"/> MILLIMETERS <input checked="" type="checkbox"/>		CUST			10:1	A	542082	A
		REVISED			DO NOT SCALE DRAWING			SHEET 1 OF 2

BALL VIEW

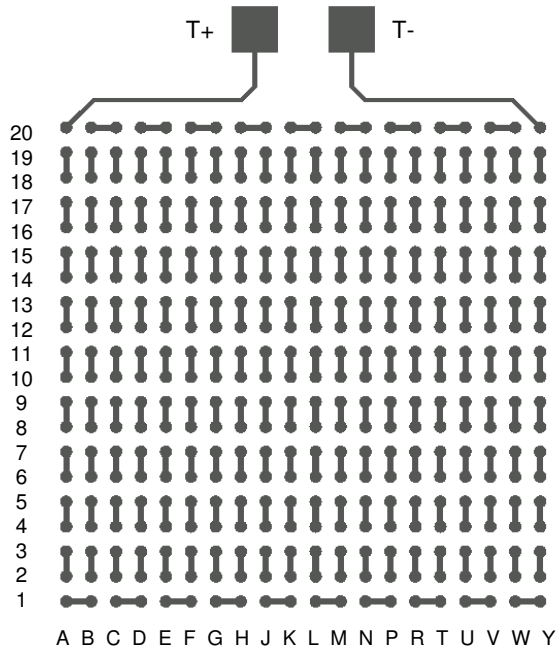


DAISY CHAIN PATTERN

BOTTOM SIDE  
(TOP X-RAY VIEW)

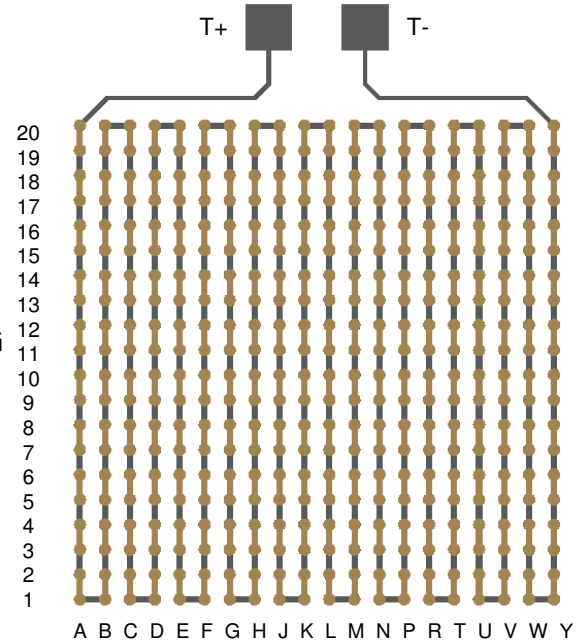


TOP VIEW



TEST VEHICLE BOARD

AFTER MOUNTING  
TO TEST BOARD  
(TOP X-RAY VIEW)

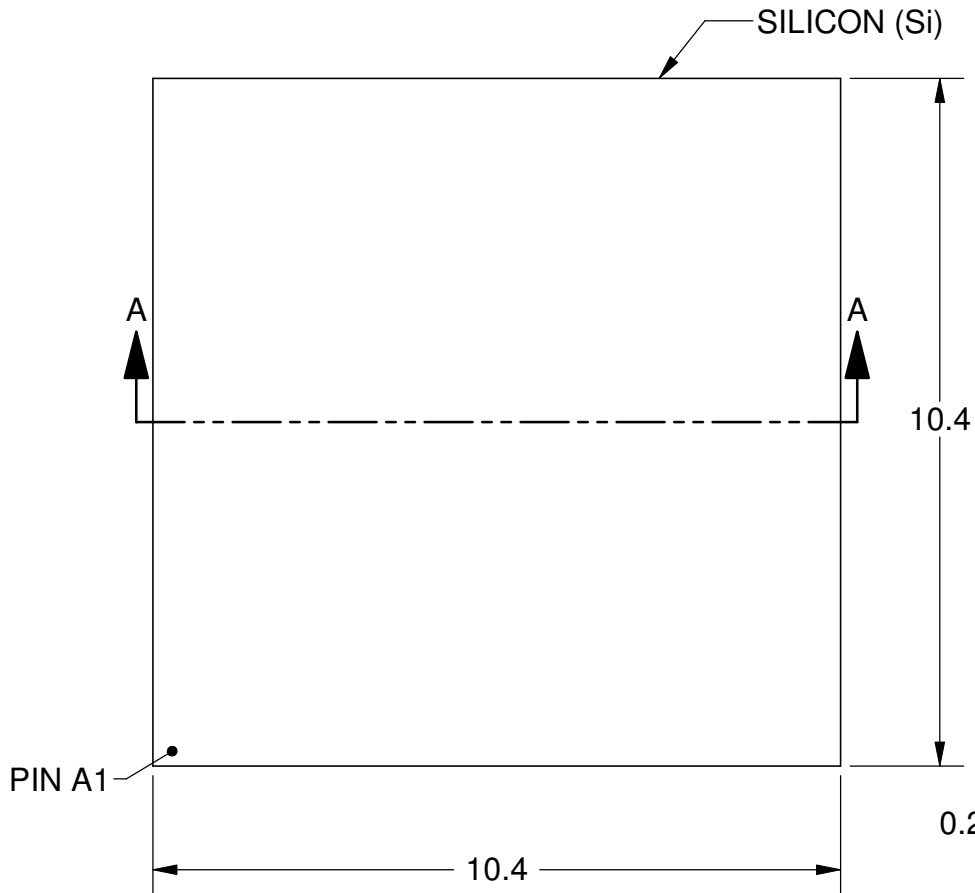


Notes:

- 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 0.20mm (7.9mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

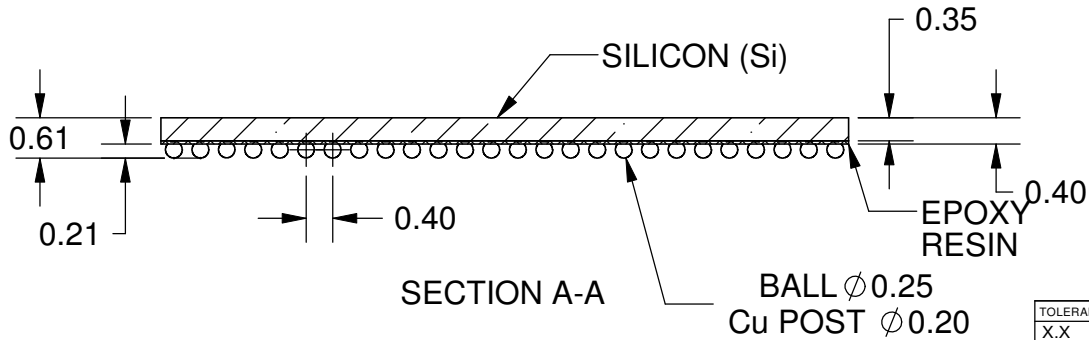
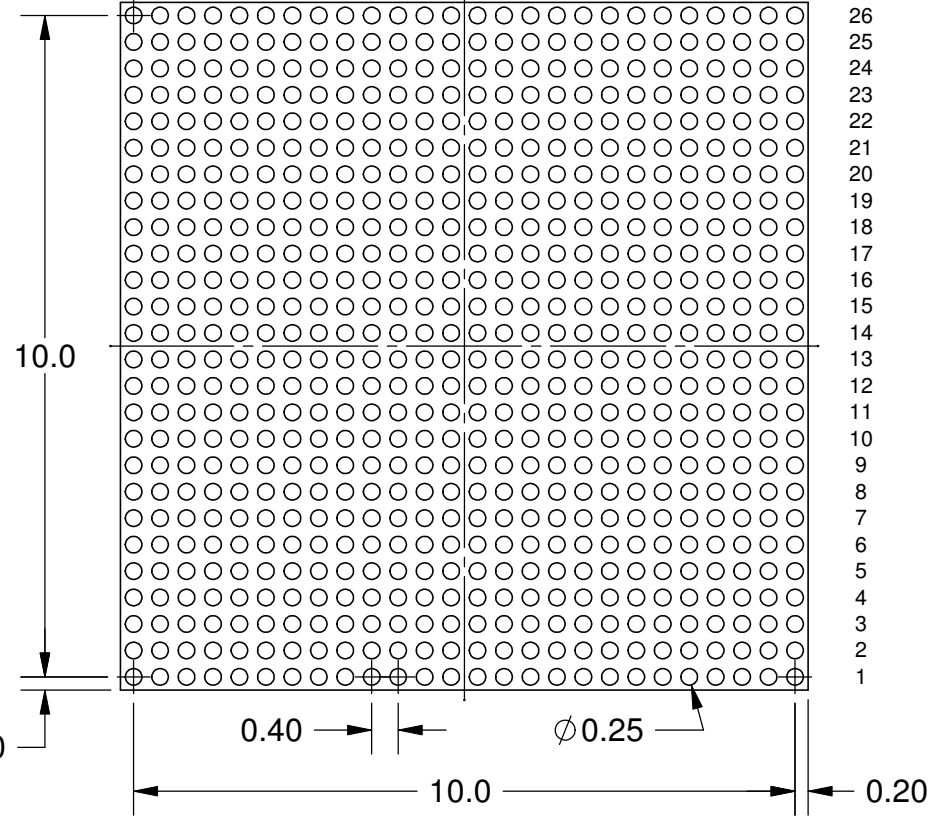
<b>TopLine</b> ®			
TITLE    WLP400T.4C-DC208D 400-BALL P=0.4mm (TEG0408)			
SCALE	SIZE	DRAWING NO.	REV
8.25:1	A	542082	A
DO NOT SCALE DRAWING			SHEET 2 OF 2

TOP VIEW



BALL VIEW

AF AD AB YW V U T R P N M L K J H G F E D C B A  
AE AC AA



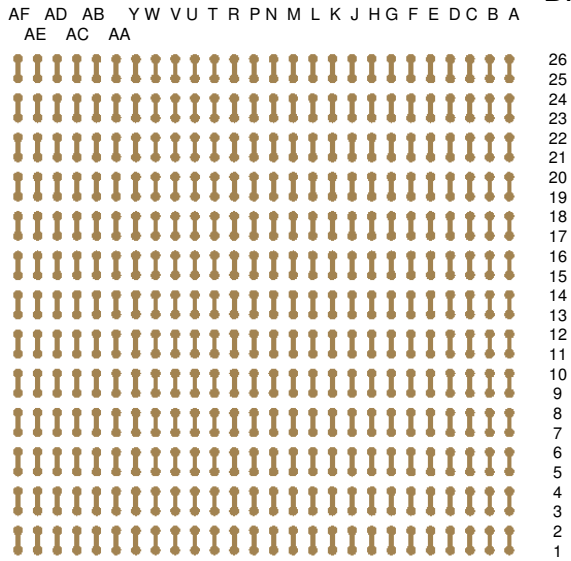
Notes: (Unless Otherwise Specified).

- 1) ALL DIMENSIONS ARE IN MM.
- 2) SOLDER BALL ALLOY:  
STANDARD: SAC305 (Sn96.5/Ag3.0/Cu0.5).  
SPECIAL: LF35 (Sn98.3/Ag1.2/Cu0.5).
- 3) BALL DIAMETER (BEFORE REFLOW): 0.25mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.20mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

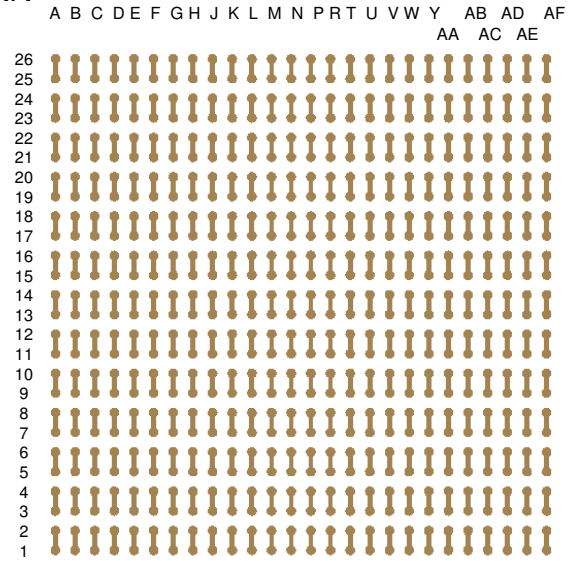
PART NUMBER TABLE				
PART NUMBER	BALL ALLOY	Pb-FREE	RoHS	Si DIE
WLP676T.4C-DC260D	Sn96.5/Ag3.0/Cu0.5	YES	YES	YES
WLP676T.4C1-DC260D	Sn98.3/Ag1.2/Cu0.5	YES	YES	YES

TOLERANCE UNLESS NOTED		APPROVALS		DATE	<b>TopLine</b> <sup>®</sup>			
X.X	+/- 0.3	DRAWN J. Hines		12/30/2010				
X.XX	+/- 0.03	ENG			TITLE WLP676T.4C-DC260D			
X.XXX	+/- 0.003	MFG			676-BALL P=0.4mm (TEG0408)			
ANGLES +/- 0.5°		THIRD ANGLE PROJECTION			SCALE	SIZE	DRAWING NO.	REV
ALL DIMENSIONS IN		<input type="checkbox"/> INCHES <input checked="" type="checkbox"/> MILLIMETERS			8.75:1	A	542602	A
					DO NOT SCALE DRAWING			SHEET 1 OF 2

BALL VIEW

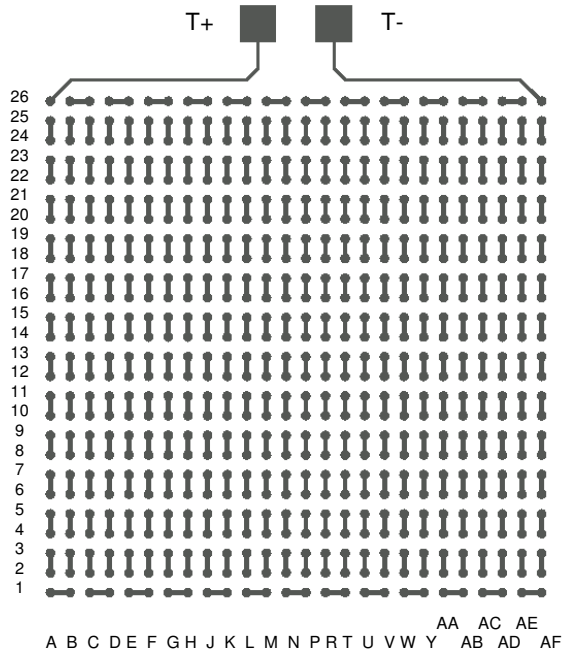


DAISY CHAIN PATTERN

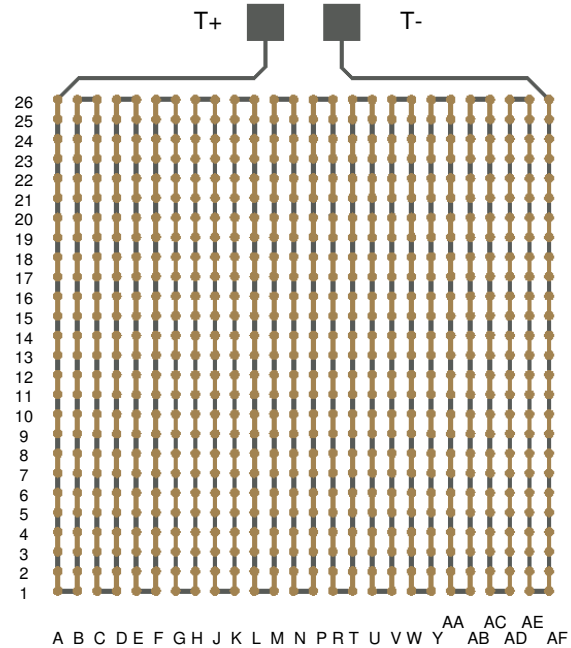


BOTTOM SIDE  
(TOP X-RAY VIEW)

TOP VIEW



AFTER MOUNTING  
TO TEST BOARD  
(TOP X-RAY VIEW)



TEST VEHICLE BOARD

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 0.20mm (7.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

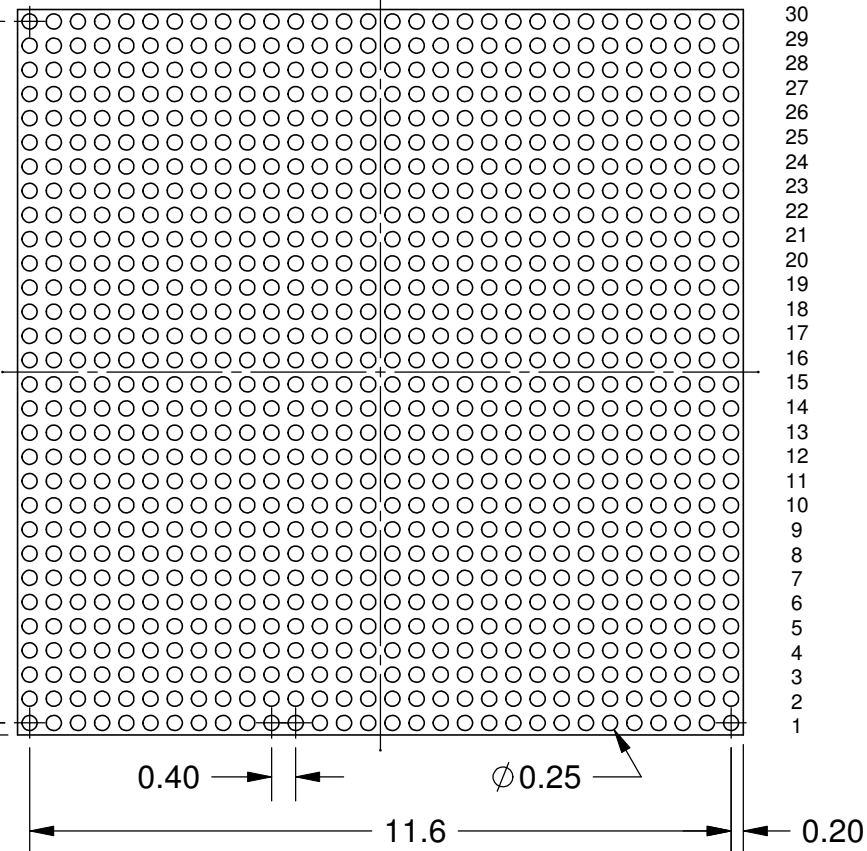
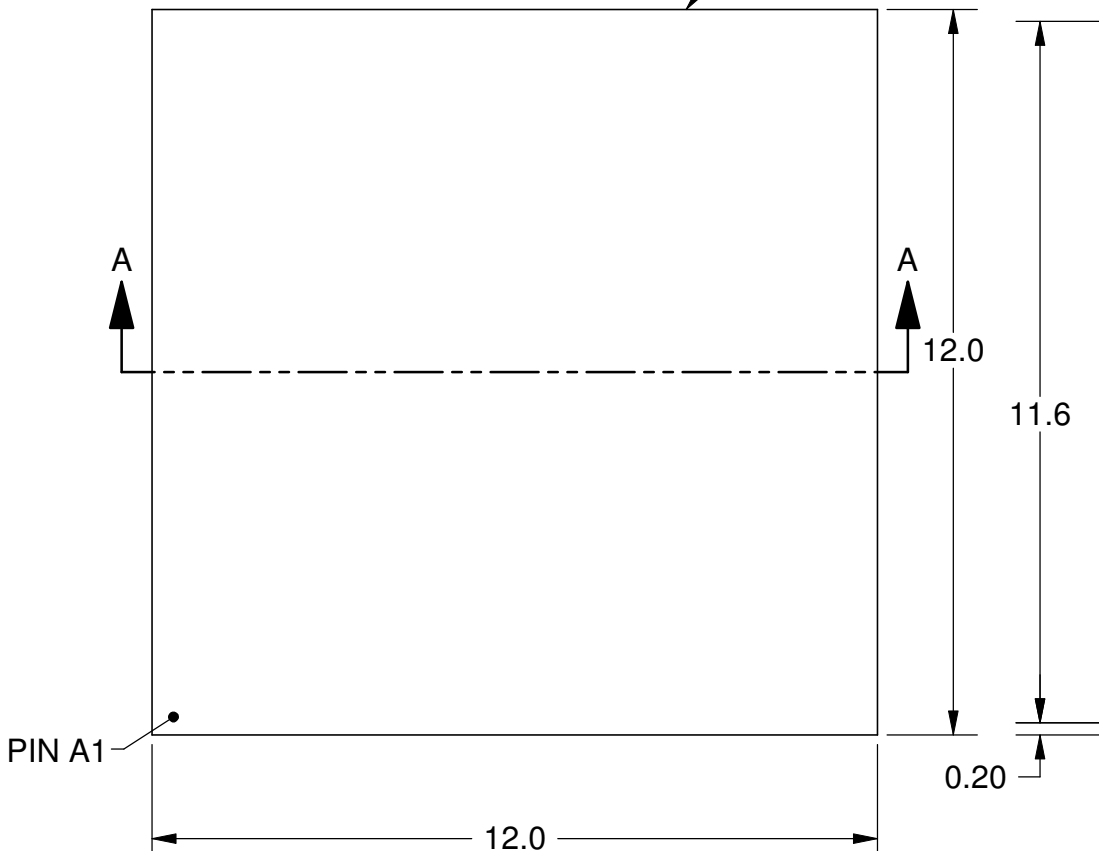
<b>TopLine</b> ®			
TITLE WLP676T.4C-DC260D 676-BALL P=0.4mm (TEG0408)			
SCALE 6.5:1	SIZE A	DRAWING NO. 542602	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	

TOP VIEW

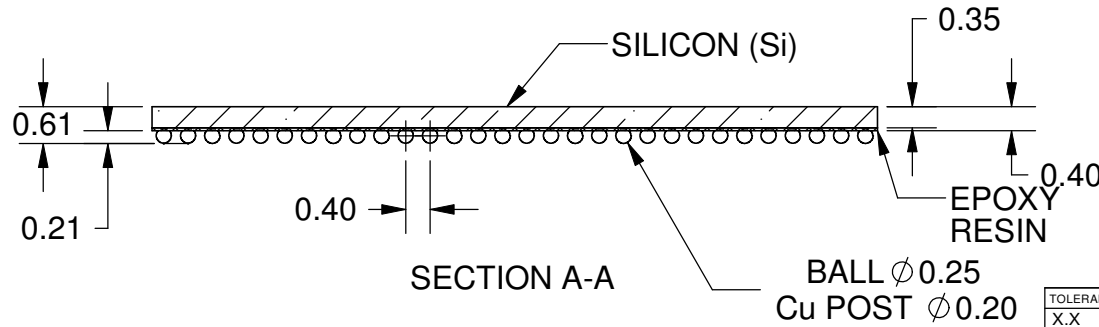
BALL VIEW

SILICON (Si)

AK AH AF AD AB YW VU TR PNML K J H G F E D C B A  
AJ AG AE AC AA



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- Notes: (Unless Otherwise Specified).  
 1) ALL DIMENSIONS ARE IN MM.  
 2) SOLDER BALL ALLOY:  
 STANDARD: SAC305 (Sn96.5/Ag3.0/Cu0.5).  
 SPECIAL: LF35 (Sn98.3/Ag1.2/Cu0.5).  
 3) BALL DIAMETER (BEFORE REFLOW): 0.25mm.  
 4) NON-SOLDER MASK DEFINED PAD.  
 5) PAD Cu DIAMETER: 0.20mm.  
 6) SUBSTRATE MATERIAL: Si (SILICON).  
 7) DAISY CHAIN PATTERN (SEE PAGE 2).

PART NUMBER TABLE				
PART NUMBER	BALL ALLOY	Pb-FREE	RoHS	Si DIE
WLP900T.4C-DC307D	Sn96.5/Ag3.0/Cu0.5	YES	YES	YES
WLP900T.4C1-DC307D	Sn98.3/Ag1.2/Cu0.5	YES	YES	YES

TOLERANCE UNLESS NOTED		APPROVALS		DATE
X.X	+/- 0.3	DRAWN J. Hines		12/30/2010
X.XX	+/- 0.03			
X.XXX	+/- 0.003			
ANGLES +/- 0.5°		ENG		TITLE
ALL DIMENSIONS IN		MFG		
<input type="checkbox"/> INCHES <input checked="" type="checkbox"/> MILLIMETERS		QA		SCALE
THIRD ANGLE PROJECTION		CUST		
		REVISED		SIZE

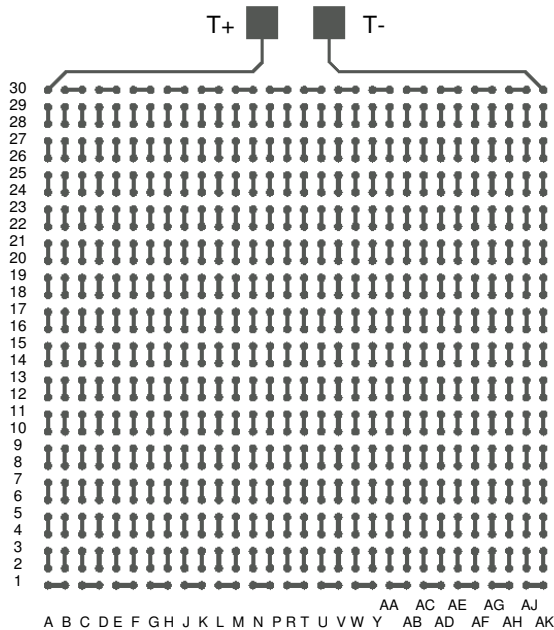
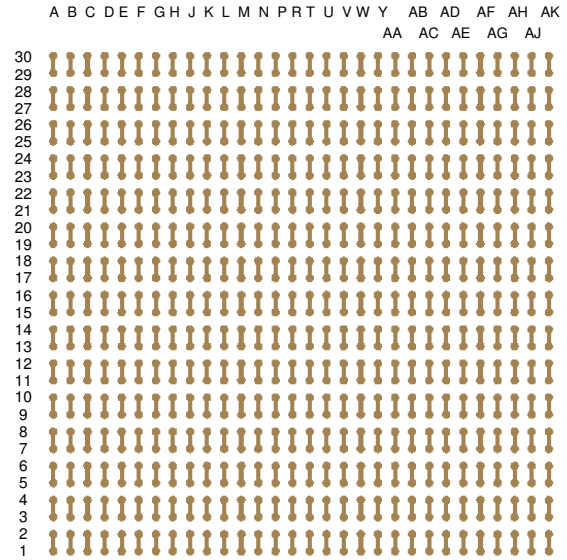
<b>TopLine</b> ®			
TITLE WLP900T.4C-DC307D 900-BALL P=0.4mm (TEG0408)			
SCALE	SIZE	DRAWING NO.	REV
8:1	A	543072	A
DO NOT SCALE DRAWING			SHEET 1 OF 2

# DAISY CHAIN PATTERN



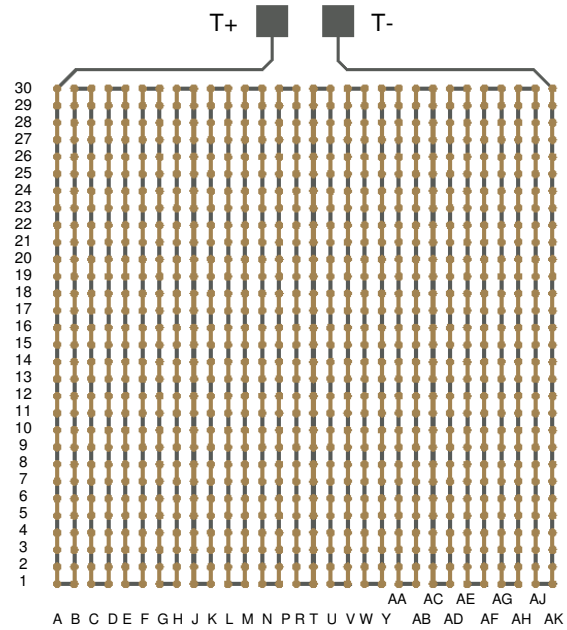
BALL VIEW

BOTTOM SIDE  
(TOP X-RAY VIEW)



TOP VIEW

AFTER MOUNTING  
TO TEST BOARD  
(TOP X-RAY VIEW)



## TEST VEHICLE BOARD

**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 0.20mm (7.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

<b>TopLine</b> ®			
TITLE WLP900T.4C-DC307D 900-BALL P=0.4mm (TEG0408)			
SCALE 5.65:1	SIZE A	DRAWING NO. 543072	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	