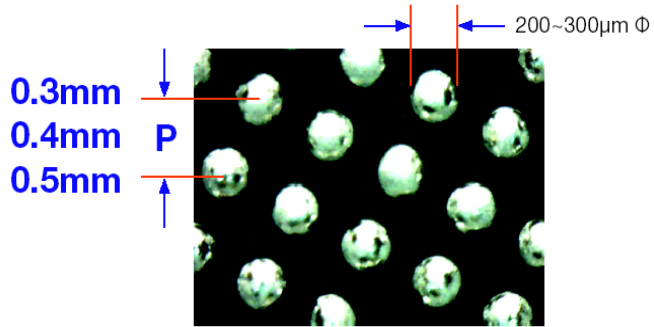
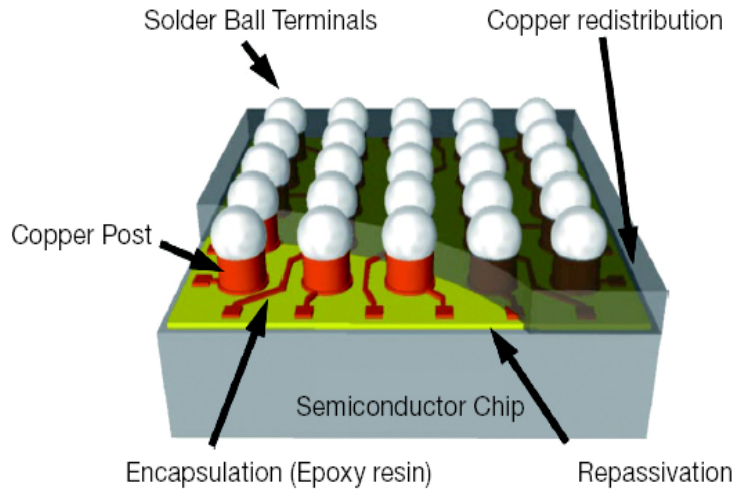
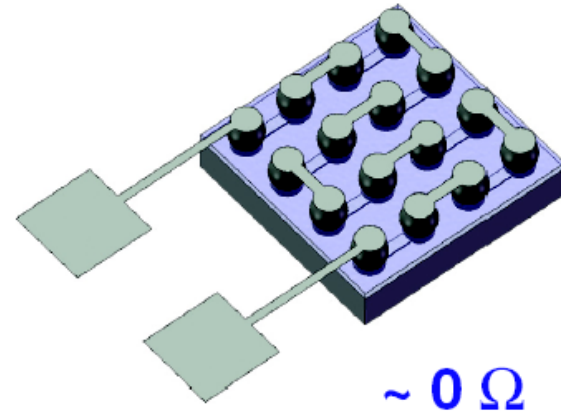


WLP OutLine Drawings

16 ~ 900 Balls



Daisy Chain



| | | | | | | | |
|------------------------|-----------|----------------|------------|-----------------------------|------|-------------|--------------|
| TOLERANCE UNLESS NOTED | | APPROVALS | DATE | TopLine [®] | | | |
| XX | +/- 0.3 | DRAWN J. Hines | 12/28/2010 | | | | |
| X.XX | +/- 0.03 | | | WLP16T.3C-DC048D | | | |
| X.XXX | +/- 0.003 | ENG | | 16-BALL P=0.3mm (TEG0306) | | | |
| ANGLES | +/- 0.5° | MFG | | SCALE | SIZE | DRAWING NO. | REV |
| ALL DIMENSIONS IN | | QA | | 50:1 | A | 530482 | A |
| INCHES | | CUST | | DO NOT SCALE DRAWING | | | SHEET 1 OF 2 |
| | | REVISED | | | | | |



WLP Daisy Chain (Full Array)

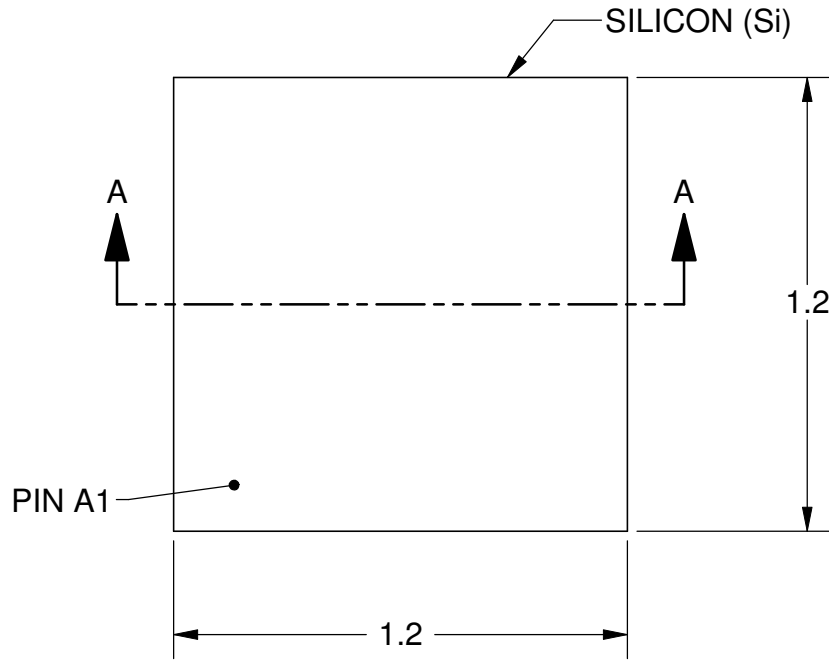
| Ball Count | Ball Matrix | Daisy Chain | Body Size (mm) | | | Page |
|------------|-------------|-------------|----------------|---------|---------|-------|
| | | | P=0.3mm | P=0.4mm | P=0.5mm | |
| 16 | 4x4 | DC048 | 1.2mm | 1.6mm | 2.0mm | 3~8 |
| 36 | 6x6 | DC067 | 1.8mm | 2.4mm | 3.0mm | 9~14 |
| 64 | 8x8 | DC088 | 2.4mm | 3.2mm | 4.0mm | 15~20 |
| 100 | 10x10 | DC108 | 3.0mm | 4.0mm | 5.0mm | 21~26 |
| 144 | 12x12 | DC127 | 3.6mm | 4.8mm | 6.0mm | 27~32 |
| 196 | 14x14 | DC148 | 4.2mm | 5.6mm | 7.0mm | 33~38 |
| 256 | 16x16 | DC168 | 4.8mm | 6.4mm | 8.0mm | 39~44 |
| 400 | 20x20 | DC208 | 6.0mm | 8.0mm | 10mm | 45~50 |
| 676 | 26x26 | DC260 | 7.8mm | 10.4mm | 13mm | 51~56 |
| 900 | 30x30 | DC307 | 9.0mm | 12mm | 15mm | 57~62 |



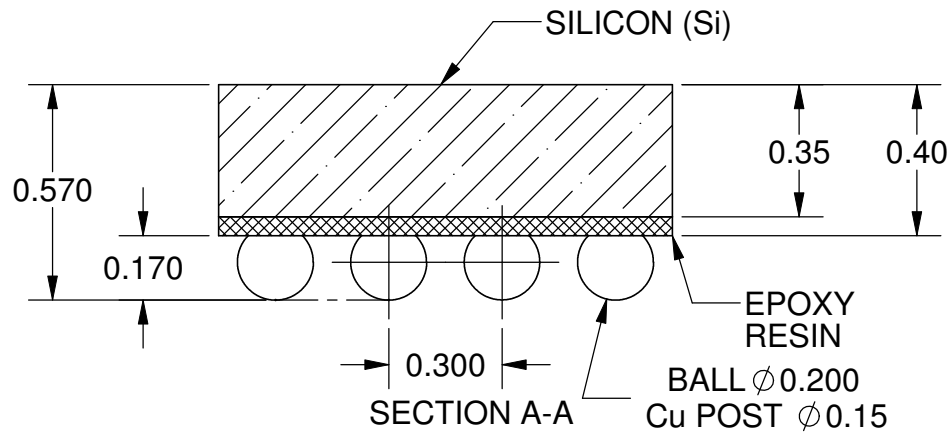
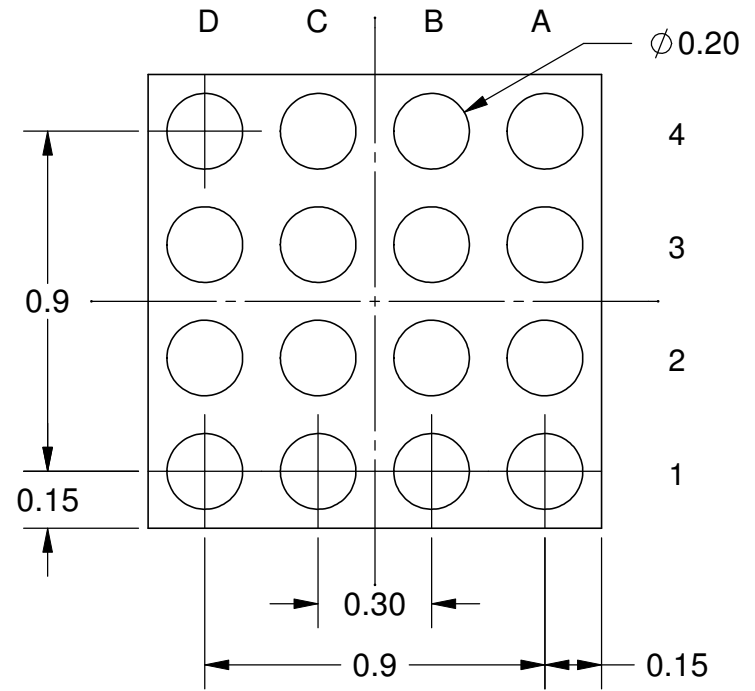
Contact: Sales@TopLine.tv
Tel 1-800-776-9888

More Details:
www.topline.tv/WLP.html

TOP VIEW




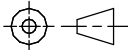
BALL VIEW



Notes: (Unless Otherwise Specified).

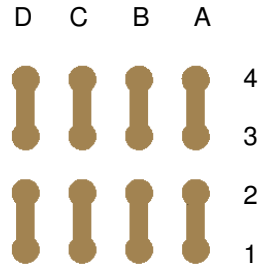
- 1) ALL DIMENSIONS ARE IN MM.
- 2) SOLDER BALL ALLOY:
STANDARD: SAC305 (Sn96.5/Ag3.0/Cu0.5).
SPECIAL: LF35 (Sn98.3/Ag1.2/Cu0.5).
- 3) BALL DIAMETER (BEFORE REFLOW): 0.20mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.15mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

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

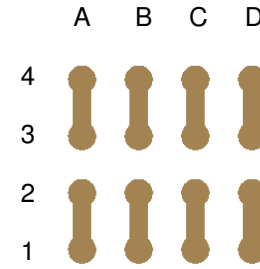
| | | | | | | | | |
|---|-----------|---|--|----------------------|---|--------------|-------------|-----|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE |  | | | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/28/2010 | | | | |
| X.XX | +/- 0.03 | ENG | | | TITLE | | | |
| X.XXX | +/- 0.003 | MFG | | | WLP16T.3C-DC048D | | | |
| ANGLES +/- 0.5° | | QA | | | 16-BALL P=0.3mm (TEG0306) | | | |
| ALL DIMENSIONS IN | | CUST | | | SCALE | SIZE | DRAWING NO. | REV |
| <input type="checkbox"/> INCHES <input checked="" type="checkbox"/> MILLIMETERS | | REVISED | | | 50:1 | A | 530482 | A |
| THIRD ANGLE PROJECTION | |  | | DO NOT SCALE DRAWING | | SHEET 1 OF 2 | | |

DAISY CHAIN PATTERN

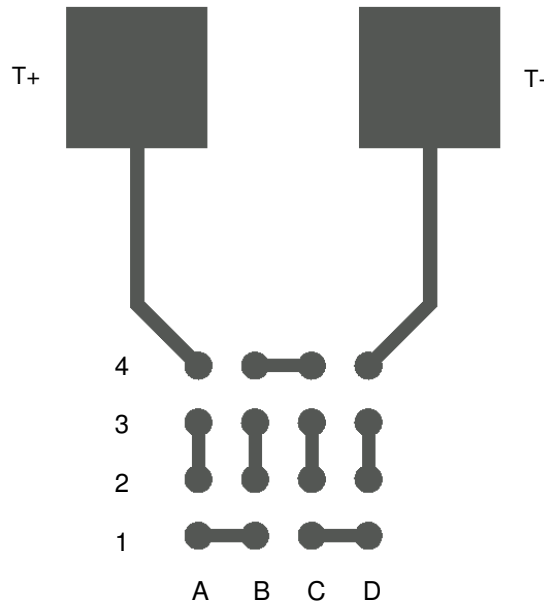
BALL VIEW



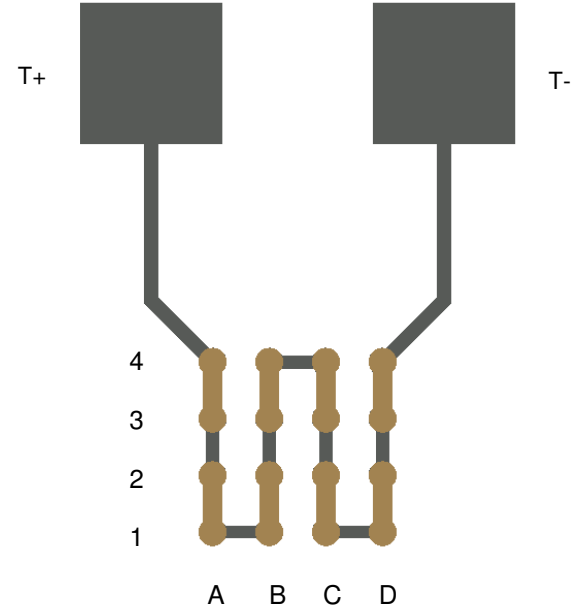
BOTTOM SIDE
(TOP X-RAY VIEW)



TOP VIEW



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



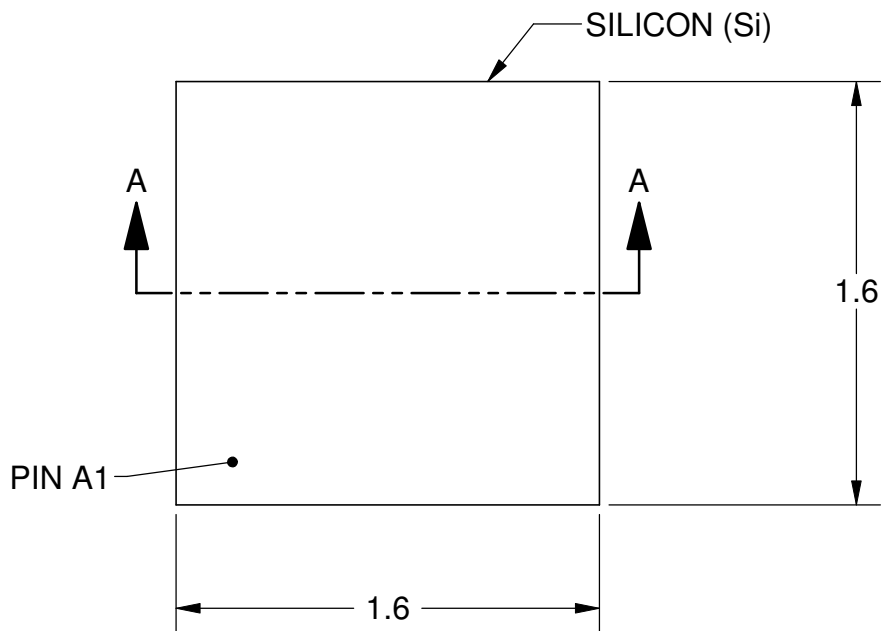
TEST VEHICLE BOARD

Notes:

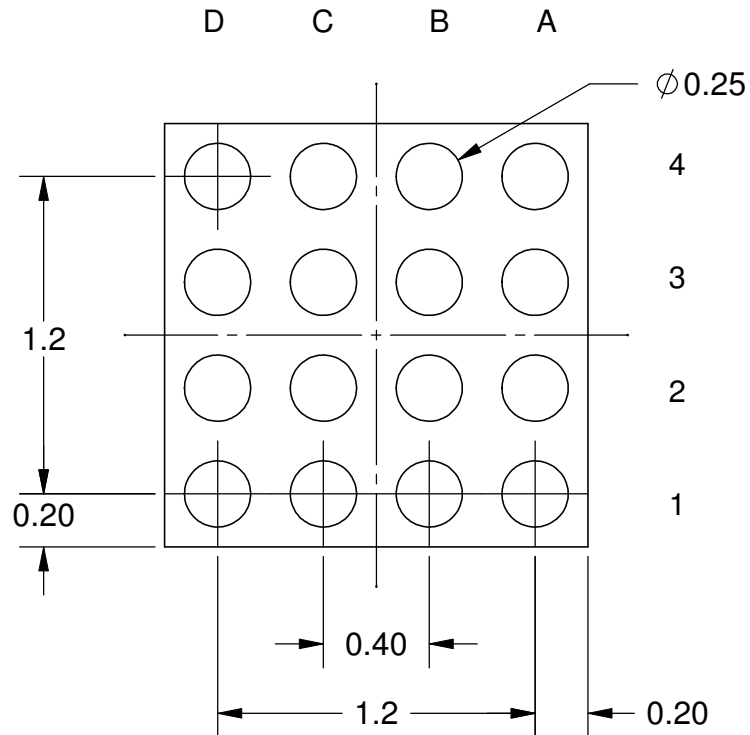
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.15mm (5.9mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.07mm (3mil).

| | | | |
|--|-----------|-----------------------|----------|
| TopLine ® | | | |
| TITLE WLP16T.3C-DC048D 16-BALL P=0.3mm (TEG0306) | | | |
| SCALE 25:1 | SIZE A | DRAWING NO. 530482 | REV A |
| DO NOT SCALE DRAWING | | SHEET 2 OF 2 | |

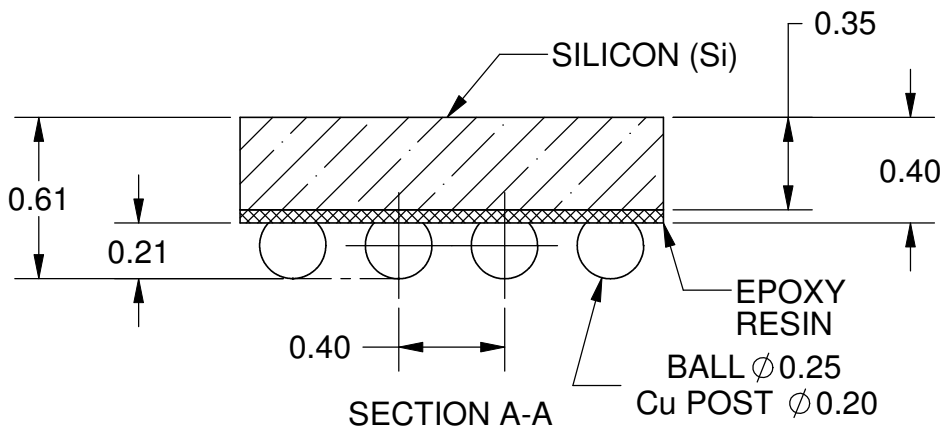
TOP VIEW



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).




SECTION A-A

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

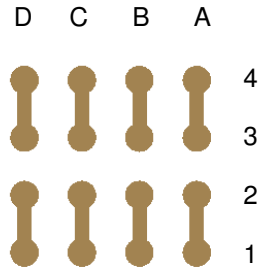
PART NUMBER TABLE

| 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 |

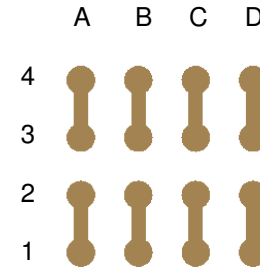
| | | | | | | | | | | | | | |
|---|-----------|------------------------|--|------------|--|---|--|------|--|--------------|--|-----|--|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE | |  | | | | | | | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/30/2010 | | | | | | | | | |
| X.XX | +/- 0.03 | ENG | |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

DAISY CHAIN PATTERN

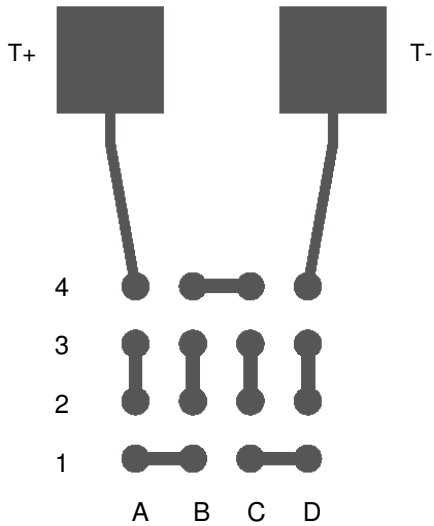
BALL VIEW



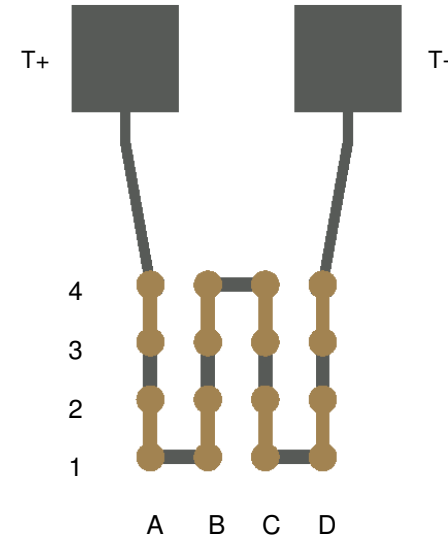
BOTTOM SIDE
(TOP X-RAY VIEW)



TOP VIEW



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



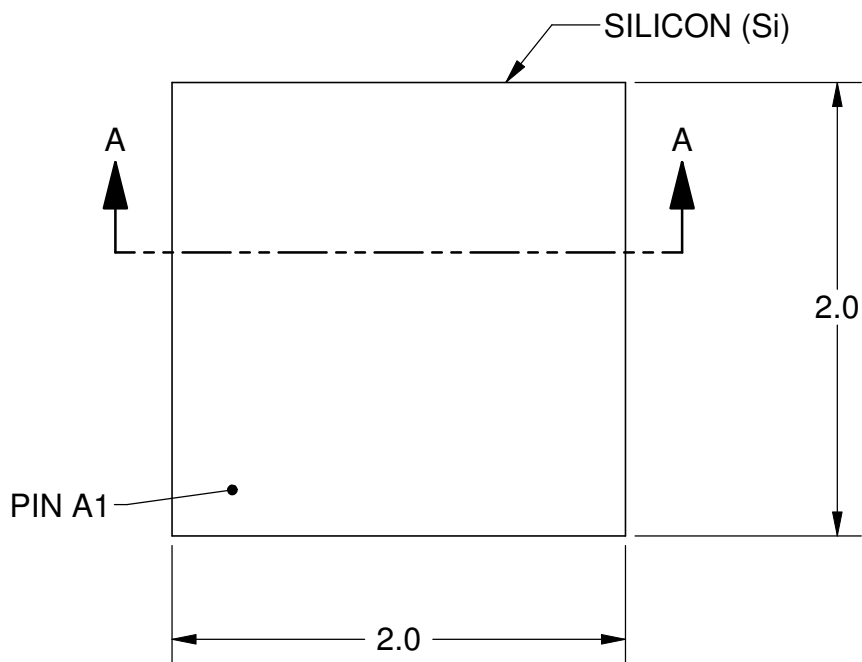
TEST VEHICLE BOARD

Notes:

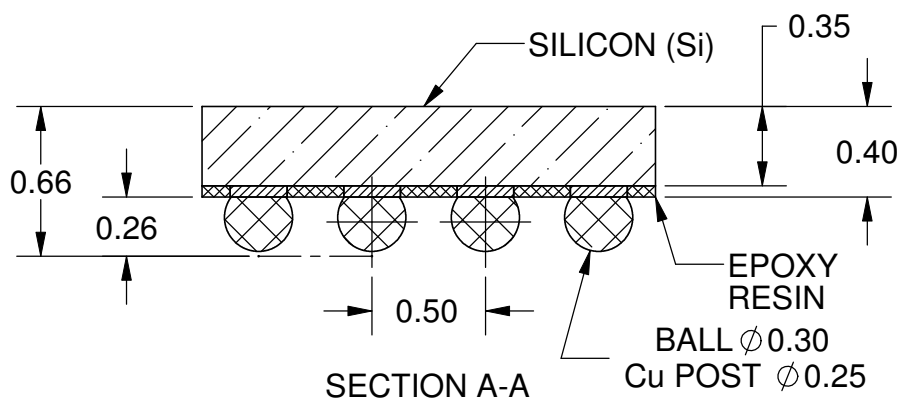
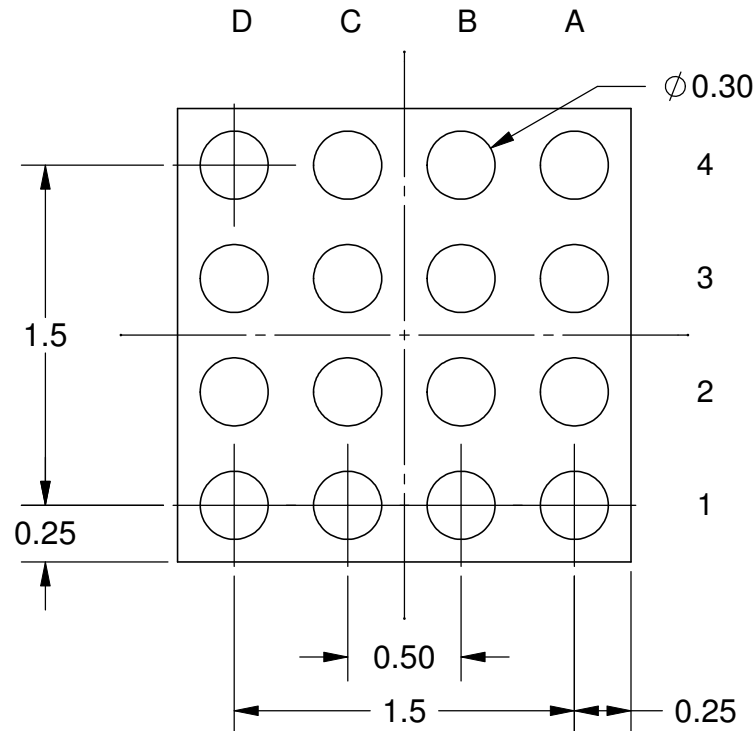
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.20mm (7.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

| | | | |
|--|-----------|-----------------------|----------|
| TopLine ® | | | |
| 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




SECTION A-A

BALL $\phi 0.30$
Cu POST $\phi 0.25$

Notes: (Unless Otherwise Specified).

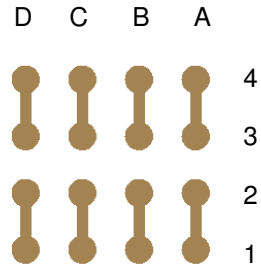
- 1) ALL DIMENSIONS ARE IN MM.
- 2) SOLDER BALL ALLOY:
STANDARD: SAC305 (Sn96.5/Ag3.0/Cu0.5).
SPECIAL: LF35 (Sn98.3/Ag1.2/Cu0.5).
- 3) BALL DIAMETER (BEFORE REFLOW): 0.30mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.25mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

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

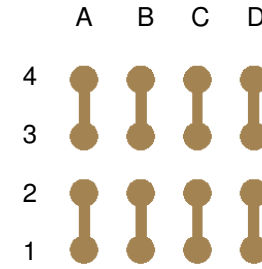
| | | | | | | | | |
|---|-----------|------------------------|--|------------|---|------|-------------|--------------|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE |  | | | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/28/2010 | | | | |
| X.XX | +/- 0.03 | ENG | | | TITLE | | | |
| X.XXX | +/- 0.003 | MFG | | | WLP16T.5C-DC048D | | | |
| ANGLES +/- 0.5° | | THIRD ANGLE PROJECTION | | | 16-BALL P=0.5mm (TEG0510) | | | |
| ALL DIMENSIONS IN | | QA | | | SCALE | SIZE | DRAWING NO. | REV |
| INCHES <input type="checkbox"/> MILLIMETERS <input checked="" type="checkbox"/> | | CUST | | | 30:1 | A | 550482 | A |
| | | REVISED | | | DO NOT SCALE DRAWING | | | SHEET 1 OF 2 |

DAISY CHAIN PATTERN

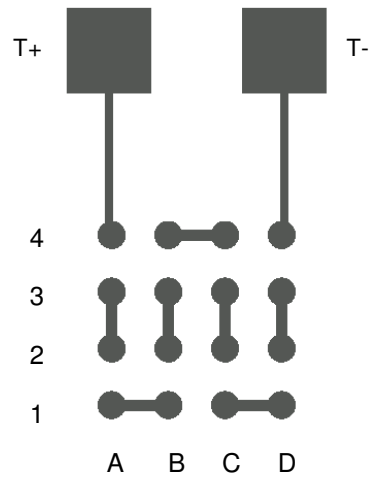
BALL VIEW



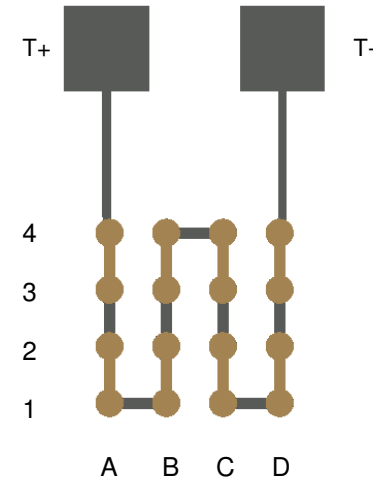
BOTTOM SIDE
(TOP X-RAY VIEW)



TOP VIEW



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



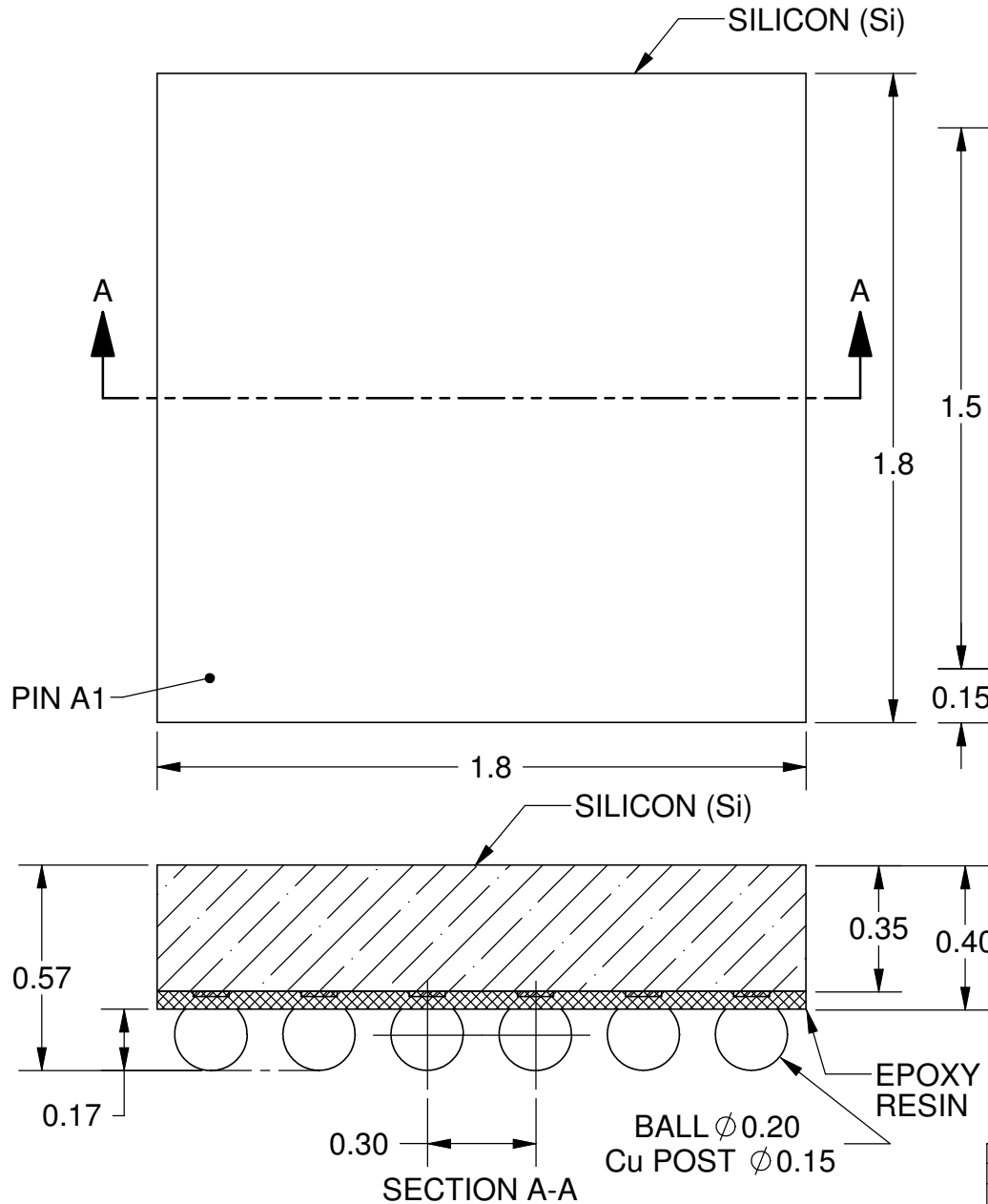
TEST VEHICLE BOARD

Notes:

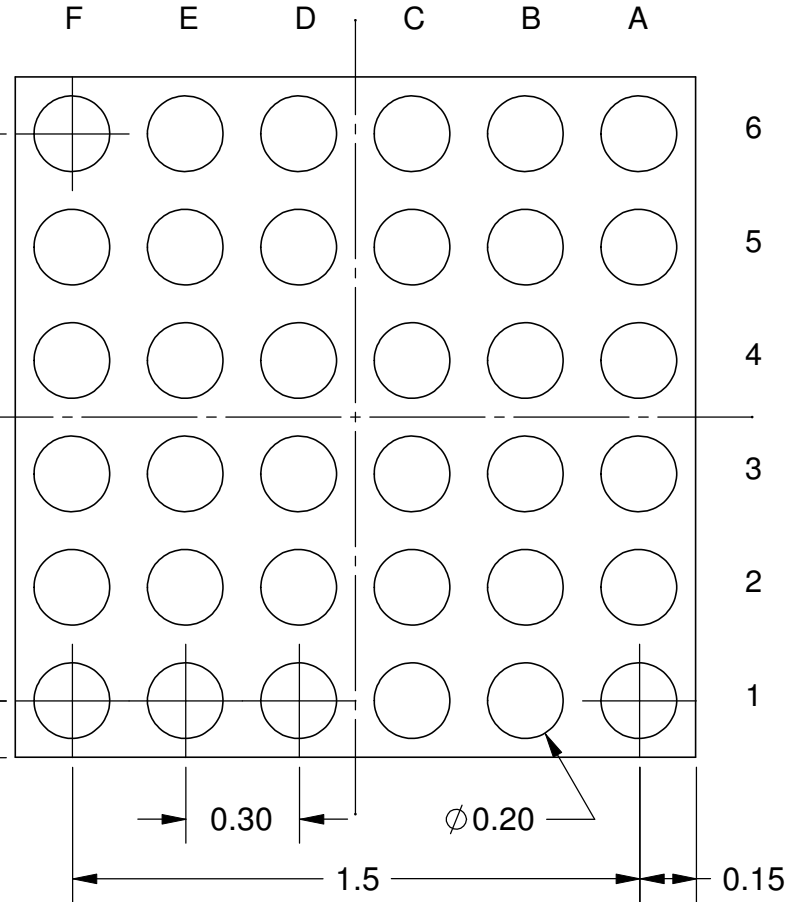
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.25mm (9.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

| | | | |
|--|-----------|-----------------------|----------|
| TopLine [®] | | | |
| TITLE WLP16T.5C-DC048D 16-BALL P=0.5mm (TEG0510) | | | |
| SCALE 15:1 | SIZE A | DRAWING NO. 550482 | 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): 0.20mm.
 4) NON-SOLDER MASK DEFINED PAD.
 5) PAD Cu DIAMETER: 0.15mm.
 6) SUBSTRATE MATERIAL: Si (SILICON).
 7) DAISY CHAIN PATTERN (SEE PAGE 2).

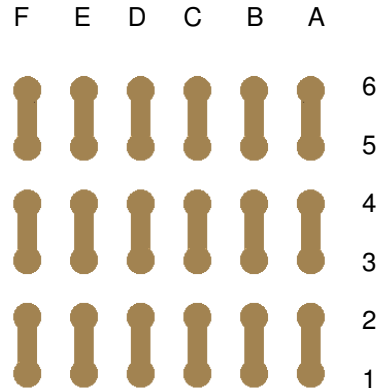
SECTION A-A

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

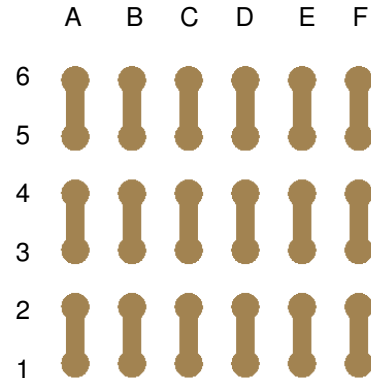
| | | | | | |
|---------------------------|-----------|----------------|--|---------------------------|------|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/29/2010 | |
| X.XX | +/- 0.03 | | | | |
| X.XXX | +/- 0.003 | | | | |
| ANGLES +/- 0.5° | | ENG | | TITLE | |
| ALL DIMENSIONS IN | | MFG | | WLP36T.3C-DC067D | |
| □ INCHES ☒ MILLIMETERS | | QA | | 36-BALL P=0.3mm (TEG0306) | |
| THIRD ANGLE PROJECTION | | CUST | | SCALE | SIZE |
| | | REVISED | | 50:1 | A |
| | | | | DRAWING NO. | REV |
| | | | | 530672 | A |
| | | | | DO NOT SCALE DRAWING | |
| | | | | SHEET 1 OF 2 | |

DAISY CHAIN PATTERN

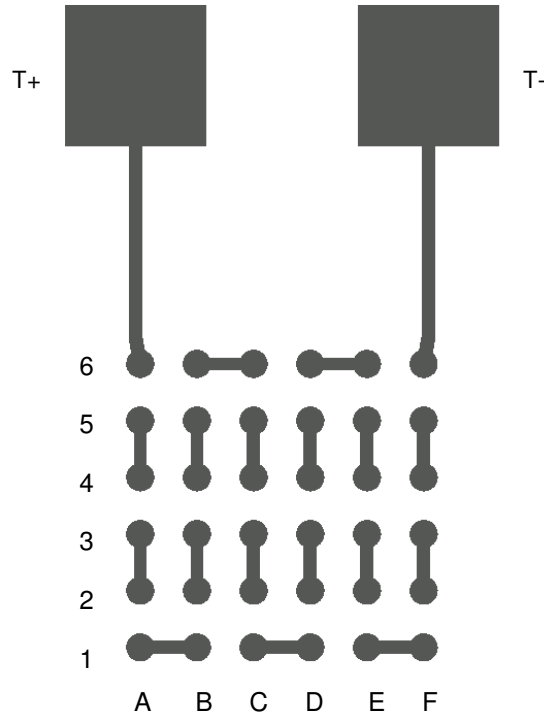
BALL VIEW



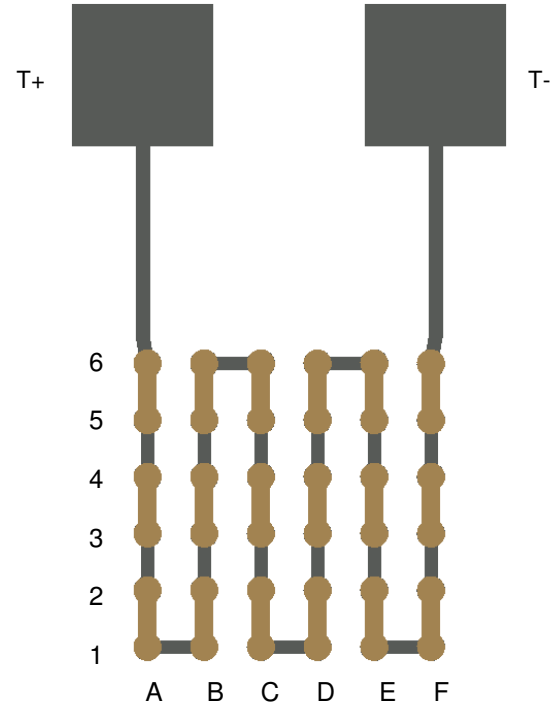
BOTTOM SIDE
(TOP X-RAY VIEW)



TOP VIEW



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



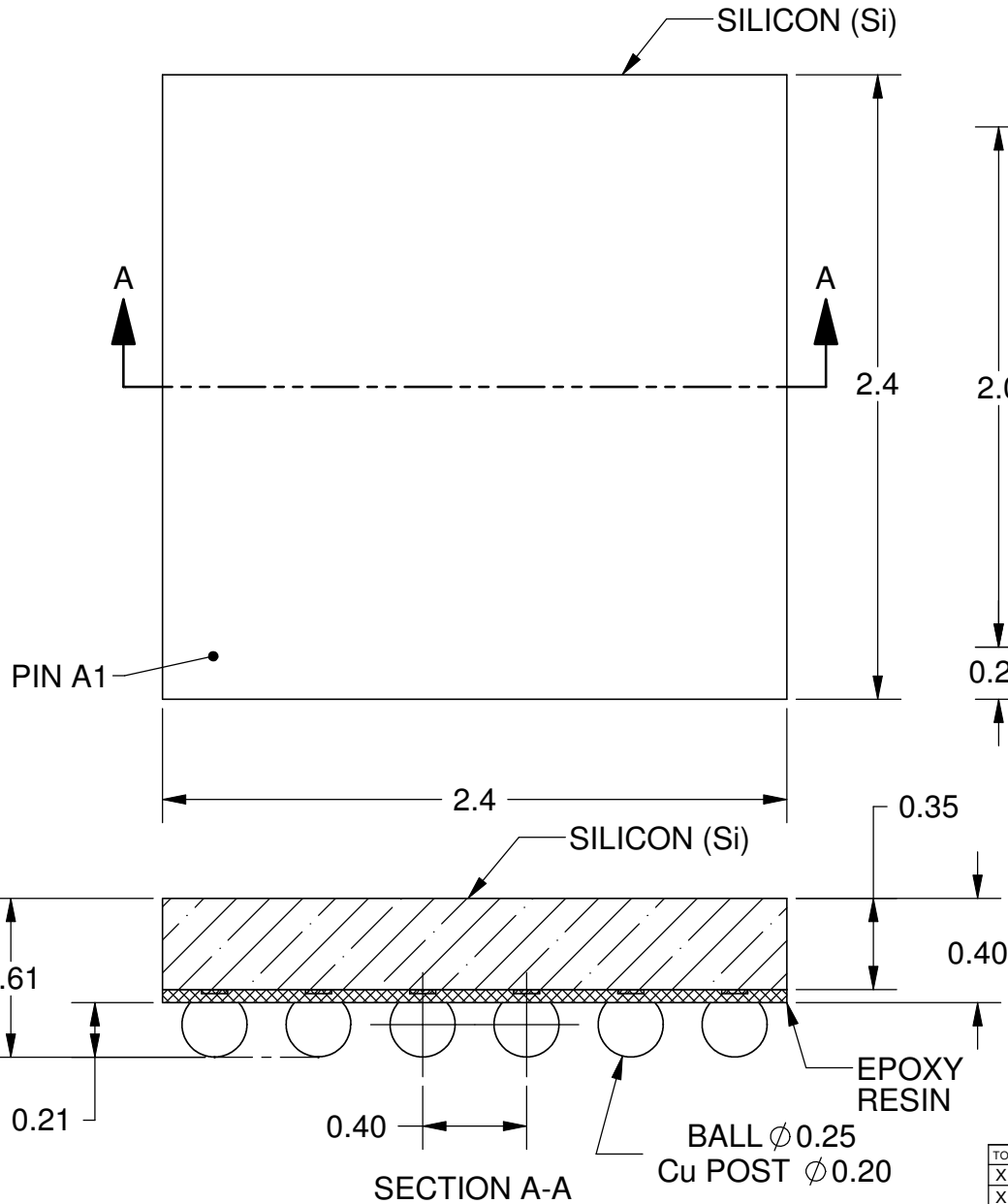
TEST VEHICLE BOARD

Notes:

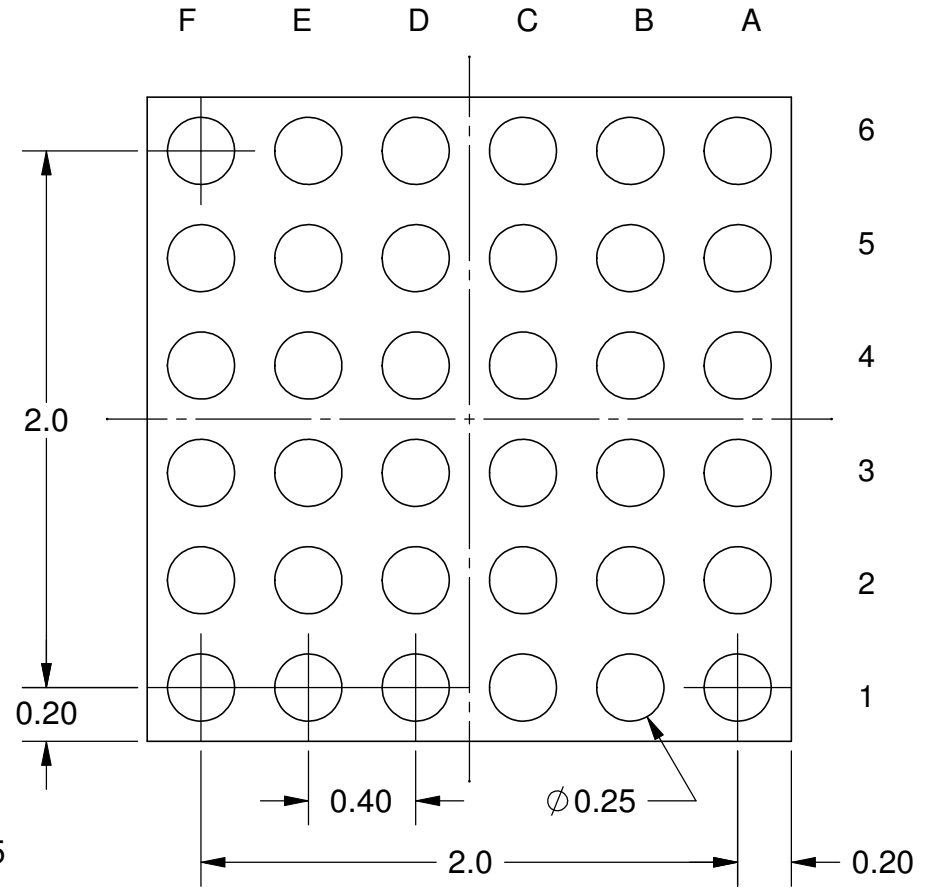
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.15mm (9.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.07mm (3mil).

| | | | |
|--|-----------|-----------------------|--------------|
| TopLine ® | | | |
| TITLE WLP36T.3C-DC067D 36-BALL P=0.3mm (TEG0306) | | | |
| SCALE 25:1 | SIZE A | DRAWING NO. 530672 | 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).

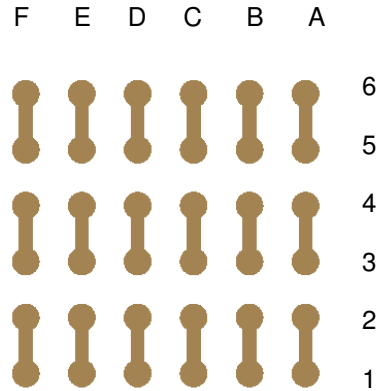
SECTION A-A

| 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 |

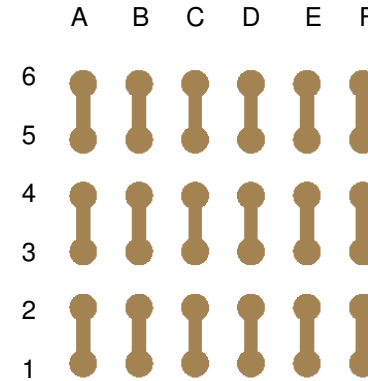
| | | | | | | | | | |
|---------------------------|-----------|----------------|--|----------------------|-----------------------------|--|--|-----|--|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE | TopLine [®] | TITLE WLP36T.4C-DC067D 36-BALL P=0.4mm (TEG0408) | | | |
| X.X | +/- 0.3 | DRAWN J. Hines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

DAISY CHAIN PATTERN

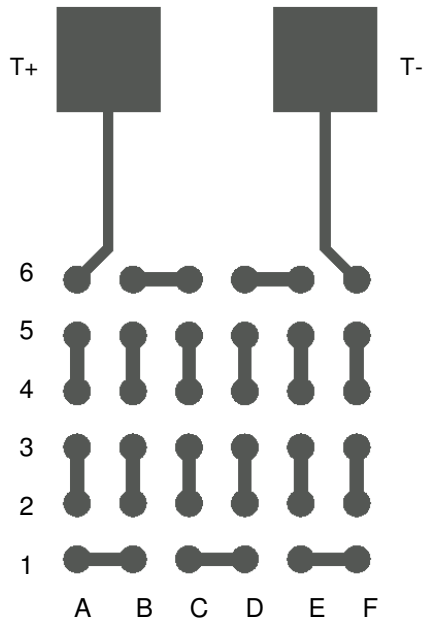
BALL VIEW



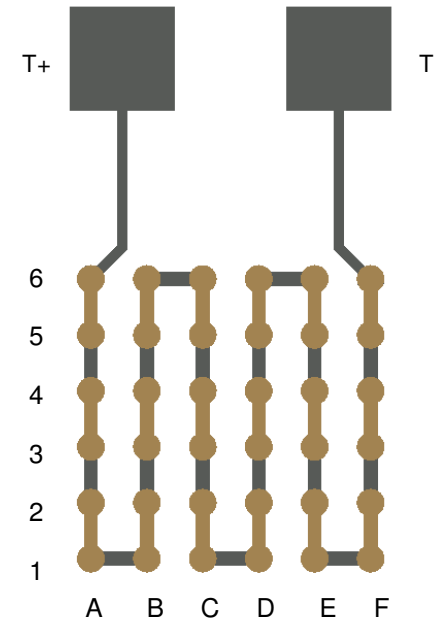
BOTTOM SIDE
(TOP X-RAY VIEW)



TOP VIEW



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



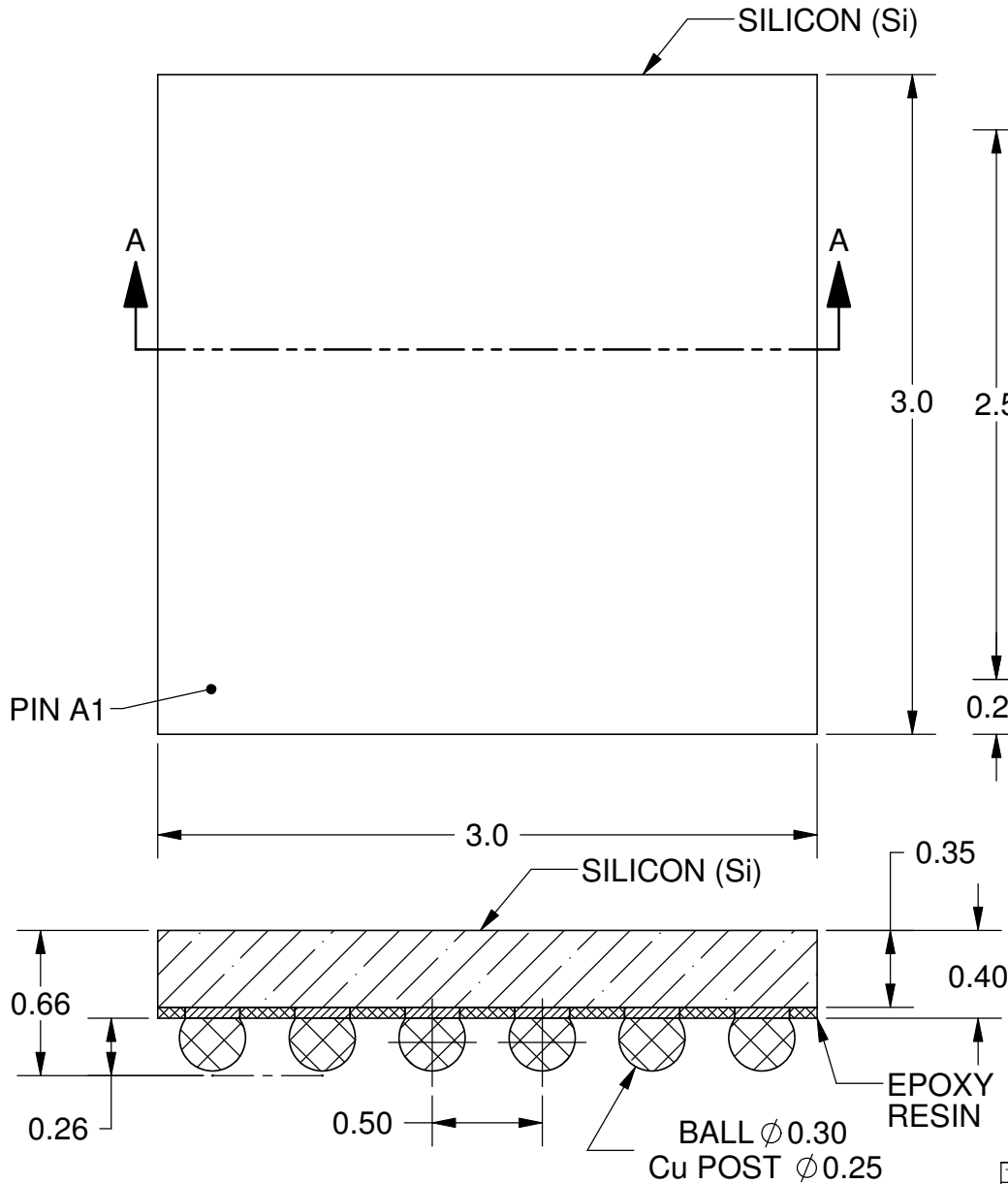
TEST VEHICLE BOARD

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).

| | | | |
|--|-----------|-----------------------|--------------|
| TopLine [®] | | | |
| 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 |

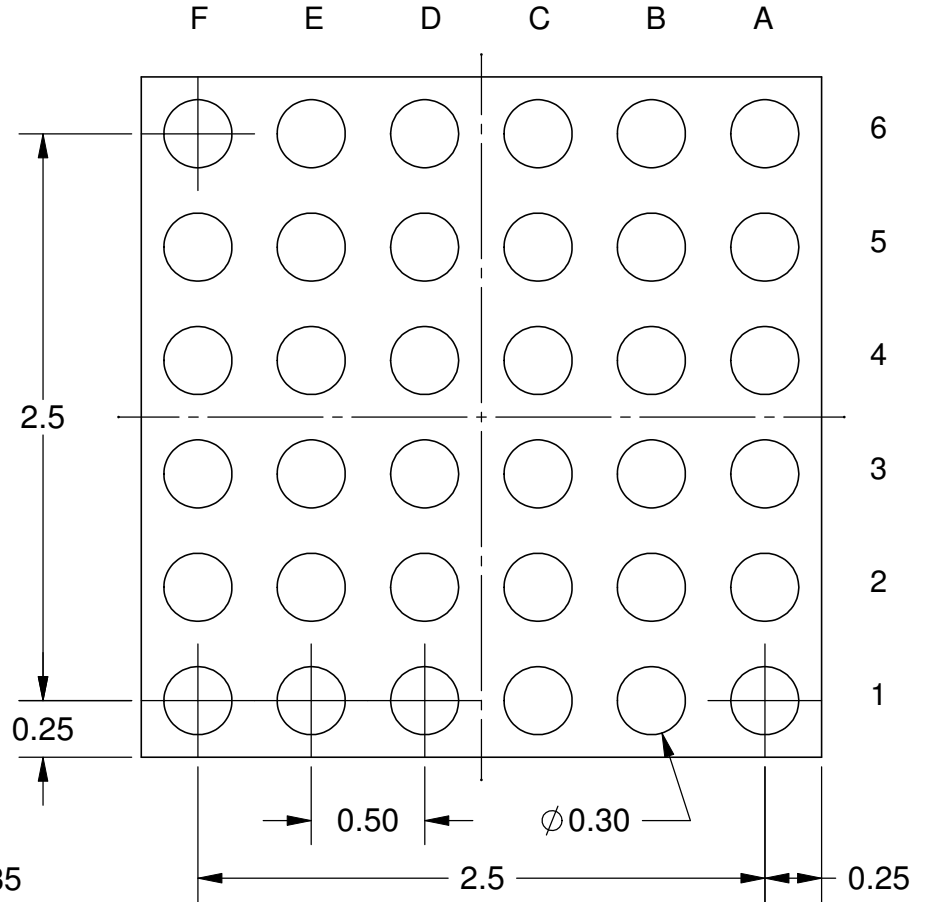
TOP VIEW



SECTION A-A

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

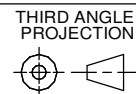
BALL VIEW



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): 0.30mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.25mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

| | |
|---------------------------------|---|
| TOLERANCE UNLESS NOTED | |
| X.X | +/- 0.3 |
| X.XX | +/- 0.03 |
| X.XXX | +/- 0.003 |
| ANGLES | +/- 0.5° |
| ALL DIMENSIONS IN | |
| <input type="checkbox"/> INCHES | <input checked="" type="checkbox"/> MILLIMETERS |

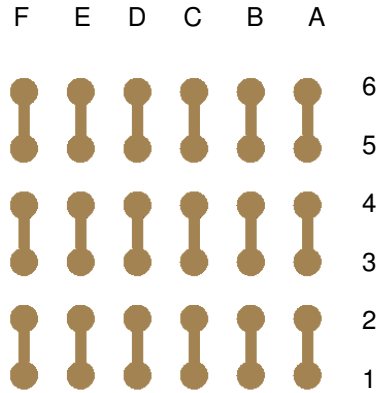


| | |
|----------------|------------|
| APPROVALS | DATE |
| DRAWN J. Hines | 12/28/2010 |
| ENG | |
| MFG | |
| QA | |
| CUST | |
| REVISED | |

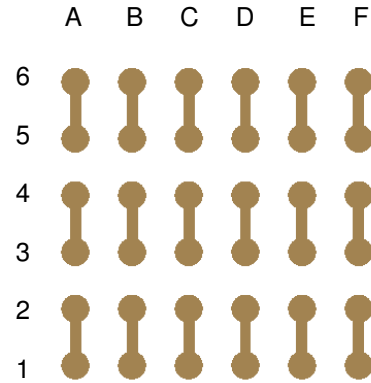
| | | | |
|---|--------|--------------------|--------------|
| TopLine ® | | | |
| TITLE WLP36T.5C-DC067D 36-BALL P=0.5mm (TEG0510) | | | |
| SCALE 30:1 | SIZE A | DRAWING NO. 550672 | REV A |
| DO NOT SCALE DRAWING | | | SHEET 1 OF 2 |

DAISY CHAIN PATTERN

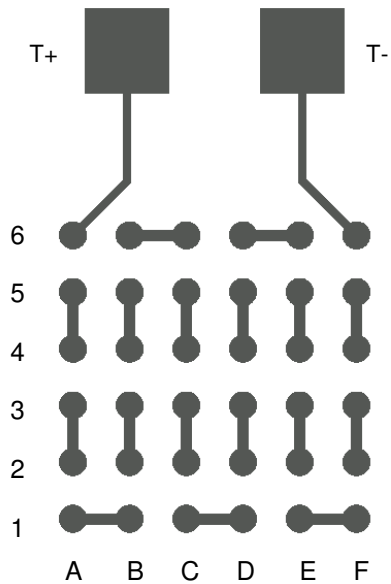
BALL VIEW



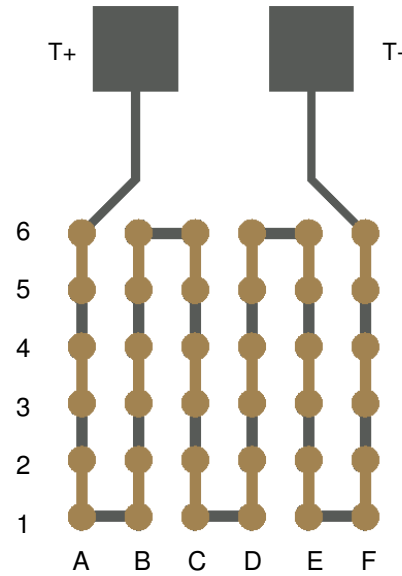
BOTTOM SIDE
(TOP X-RAY VIEW)



TOP VIEW



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



TEST VEHICLE BOARD

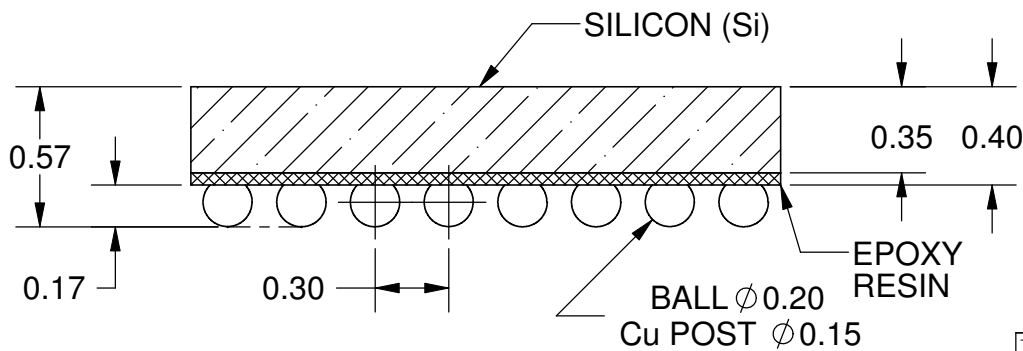
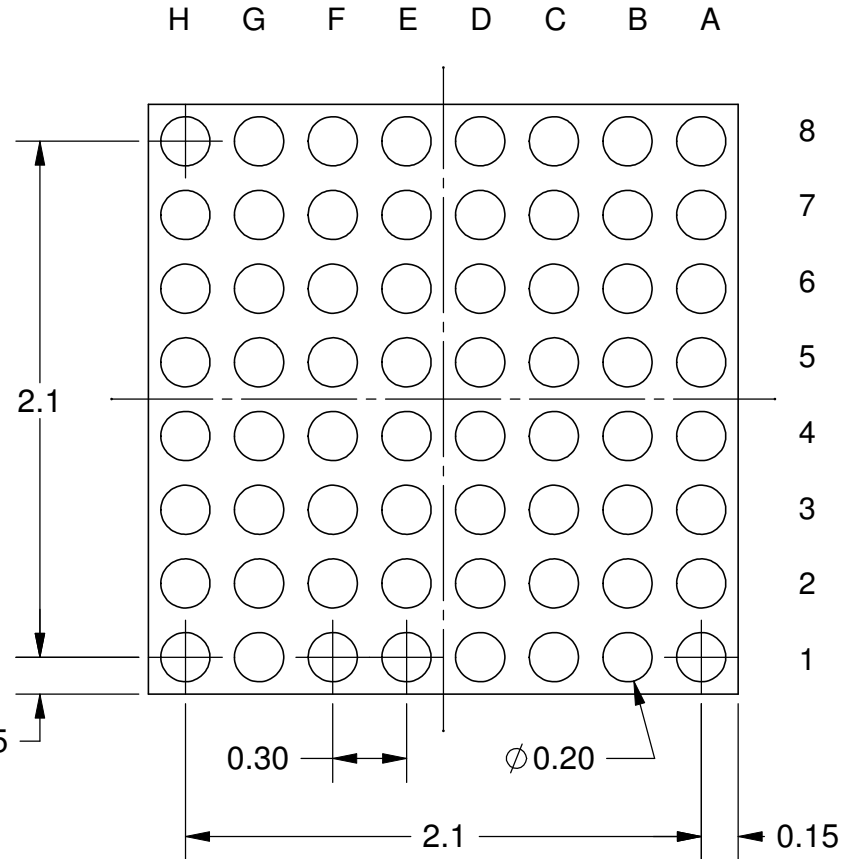
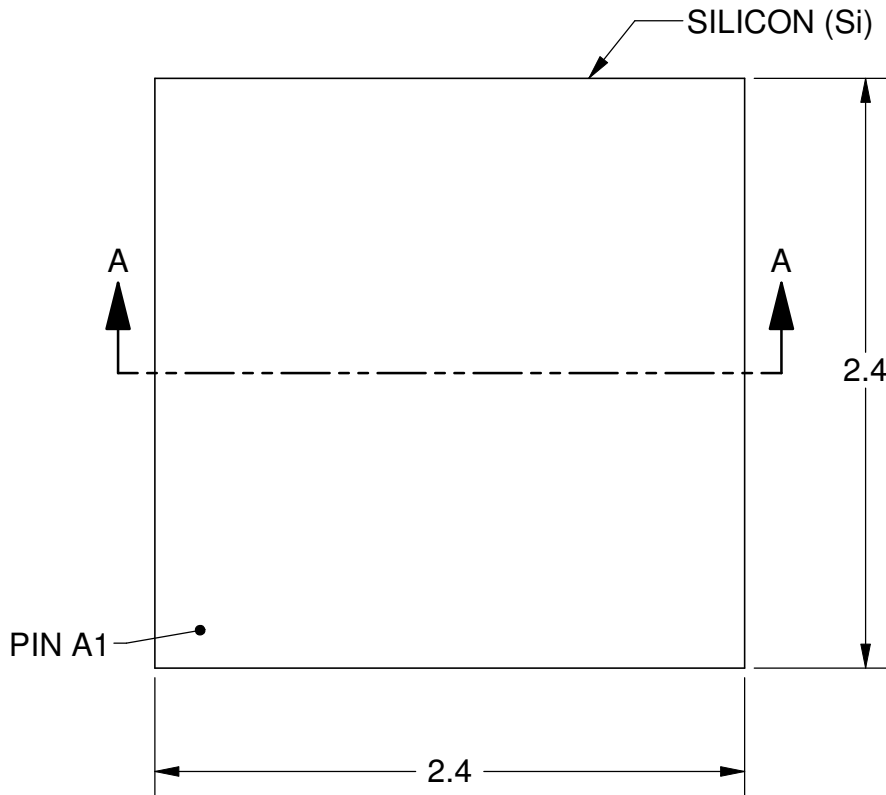
Notes:

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

| | | | |
|--|-----------|-----------------------|--------------|
| TopLine ® | | | |
| TITLE WLP36T.5C-DC067D 36-BALL P=0.5mm (TEG0510) | | | |
| SCALE 15:1 | SIZE A | DRAWING NO. 550672 | REV A |
| DO NOT SCALE DRAWING | | | SHEET 2 OF 2 |

TOP VIEW

BALL VIEW


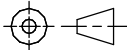


SECTION A-A

Notes: (Unless Otherwise Specified).

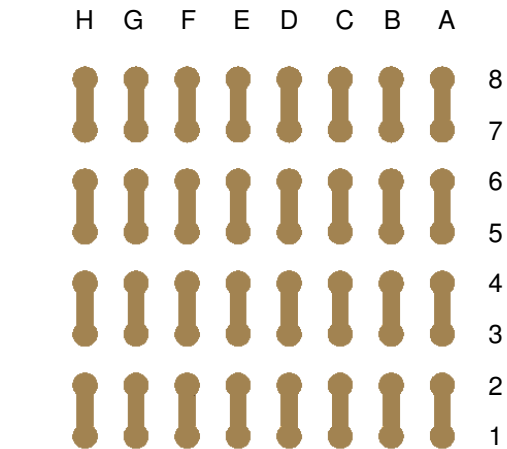
- 1) ALL DIMENSIONS ARE IN MM.
- 2) SOLDER BALL ALLOY:
STANDARD: SAC305 (Sn96.5/Ag3.0/Cu0.5).
SPECIAL: LF35 (Sn98.3/Ag1.2/Cu0.5).
- 3) BALL DIAMETER (BEFORE REFLOW): 0.20mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.15mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

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

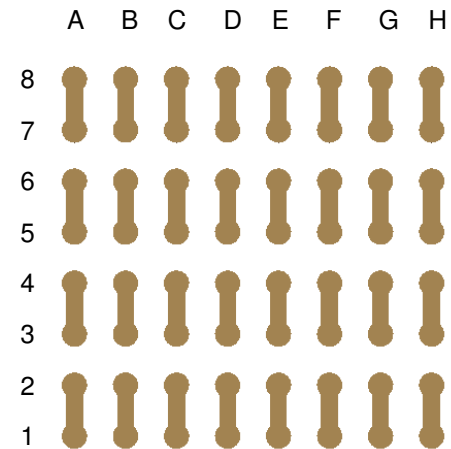
| | | | | | | | | |
|---|-----------|---|--|------------|---|------|-------------|--------------|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE |  | | | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/29/2010 | | | | |
| X.XX | +/- 0.03 | ENG | | | TITLE | | | |
| X.XXX | +/- 0.003 | MFG | | | WLP64T.3C-DC088D 64-BALL P=0.3mm (TEG0306) | | | |
| ANGLES +/- 0.5° | | THIRD ANGLE PROJECTION | | | SCALE | SIZE | DRAWING NO. | REV |
| ALL DIMENSIONS IN | |  | | | 32.5:1 | A | 530882 | A |
| <input type="checkbox"/> INCHES <input checked="" type="checkbox"/> MILLIMETERS | | REVISED | | | DO NOT SCALE DRAWING | | | SHEET 1 OF 2 |

DAISY CHAIN PATTERN

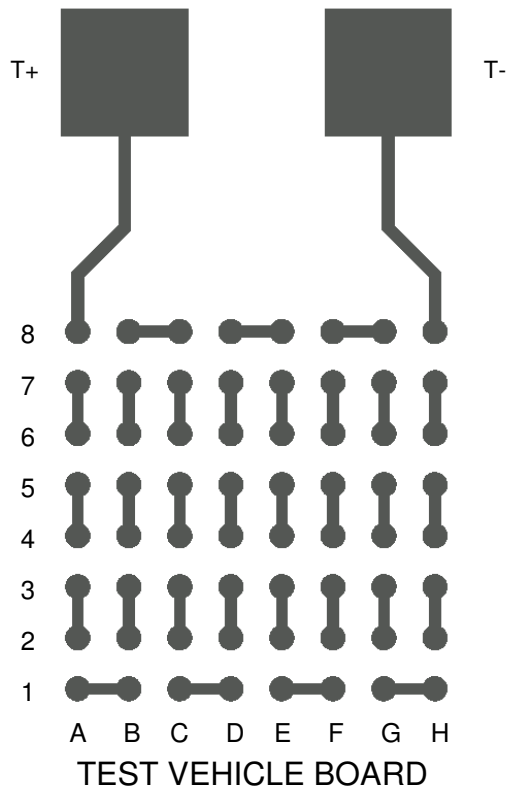
BALL VIEW



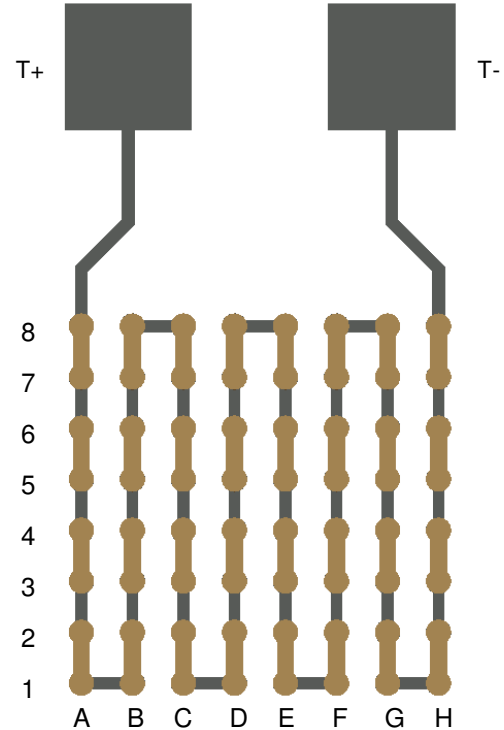
BOTTOM SIDE
(TOP X-RAY VIEW)



TOP VIEW



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



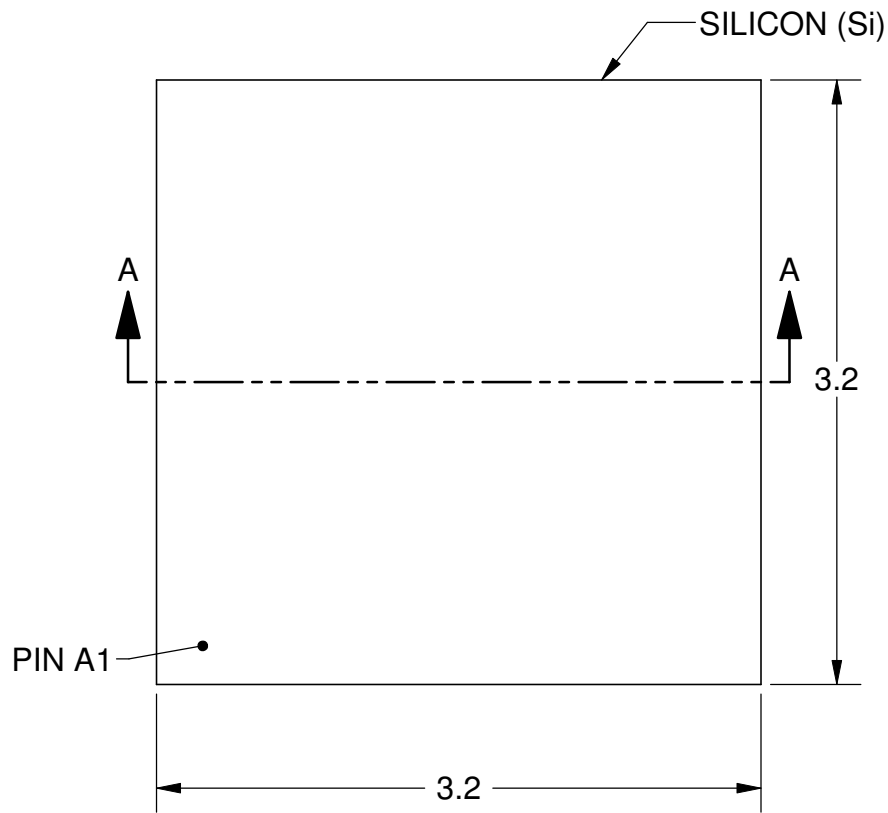
TEST VEHICLE BOARD

Notes:

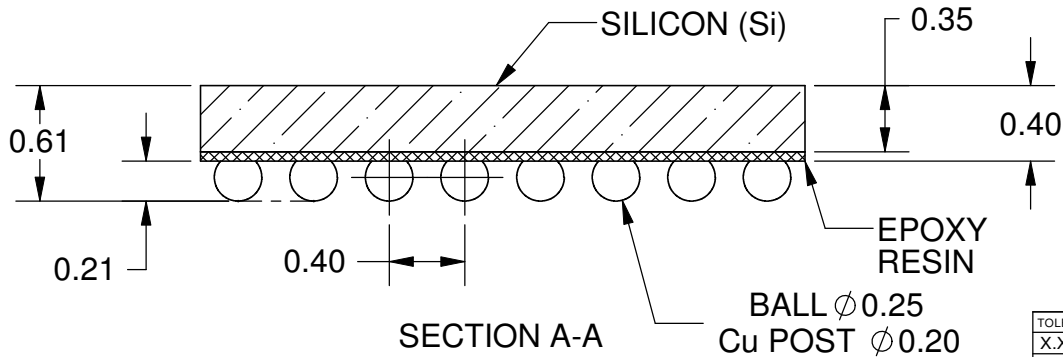
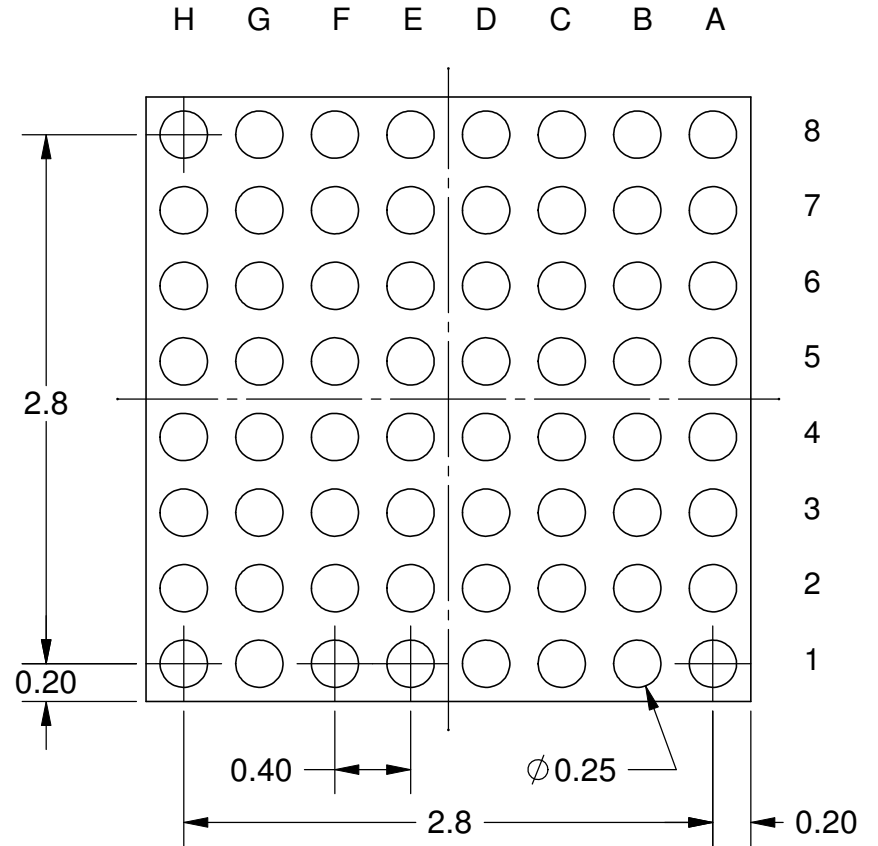
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.15mm (5.9mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.07mm (3mil).

| | | | |
|---|-----------|-----------------------|----------|
| TopLine ® | | | |
| TITLE WLP64T.3C-DC088D 64-BALL P=0.3mm (TEG0306) | | | |
| SCALE 22.5:1 | SIZE A | DRAWING NO. 530882 | 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

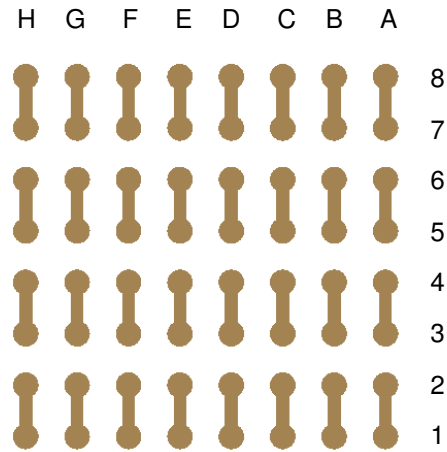
| PART NUMBER | BALL ALLOY | Pb-FREE | RoHS | Si DIE |
|-------------------|--------------------|---------|------|--------|
| WLP64T.4C-DC088D | Sn96.5/Ag3.0/Cu0.5 | YES | YES | YES |
| WLP64T.4C1-DC088D | Sn98.3/Ag1.2/Cu0.5 | YES | YES | YES |

| TOLERANCE UNLESS NOTED | | APPROVALS | DATE |
|---------------------------|-----------|----------------|------------|
| X.X | +/- 0.3 | DRAWN J. Hines | 12/30/2010 |
| X.XX | +/- 0.03 | | |
| X.XXX | +/- 0.003 | | |
| ANGLES +/- 0.5° | | ENG | |
| ALL DIMENSIONS IN | | MFG | |
| □ INCHES ☒ MILLIMETERS | | QA | |
| THIRD ANGLE PROJECTION | | CUST | |
| | | REVISED | |

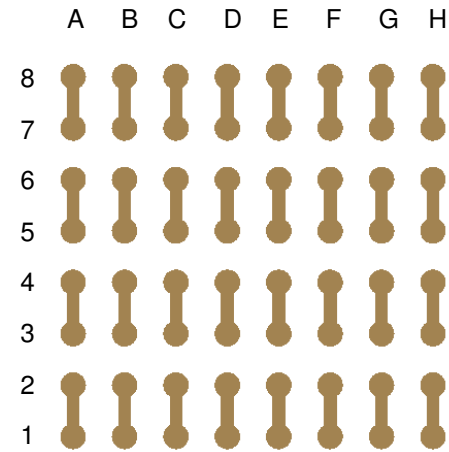
| TITLE WLP64T.4C-DC088D 64-BALL P=0.4mm (TEG0408) | | | |
|---|--------|--------------------|--------------|
| SCALE 25:1 | SIZE A | DRAWING NO. 540882 | REV A |
| DO NOT SCALE DRAWING | | | SHEET 1 OF 2 |

DAISY CHAIN PATTERN

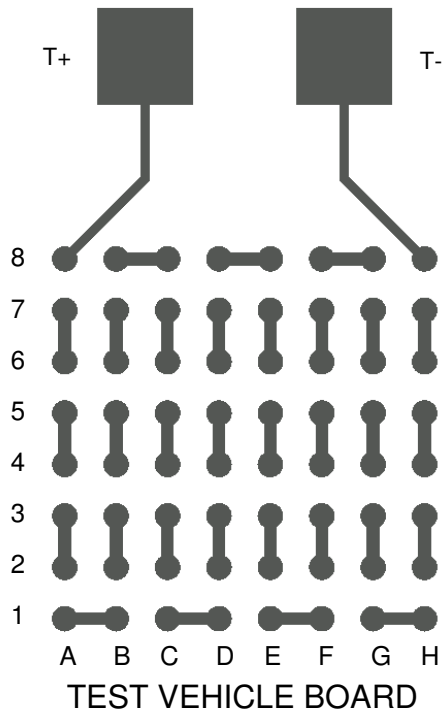
BALL VIEW



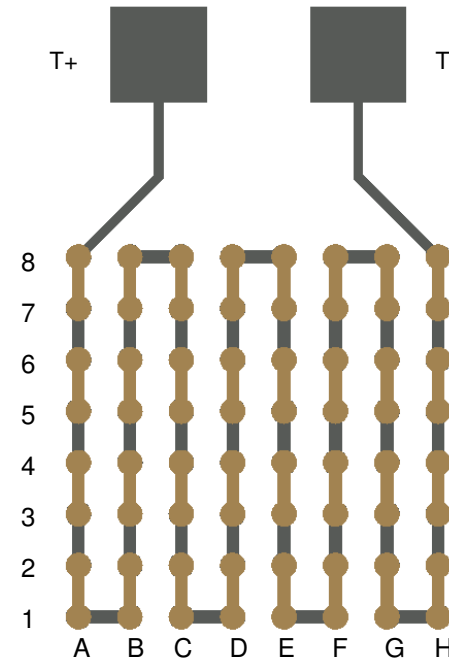
BOTTOM SIDE
(TOP X-RAY VIEW)



TOP VIEW



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

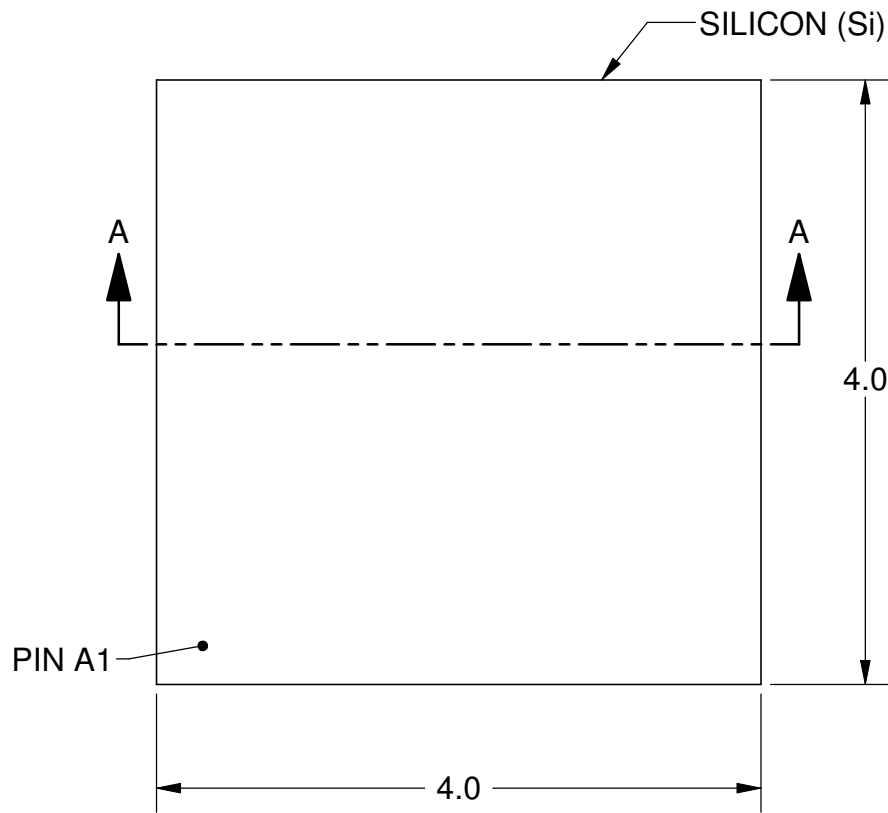


Notes:

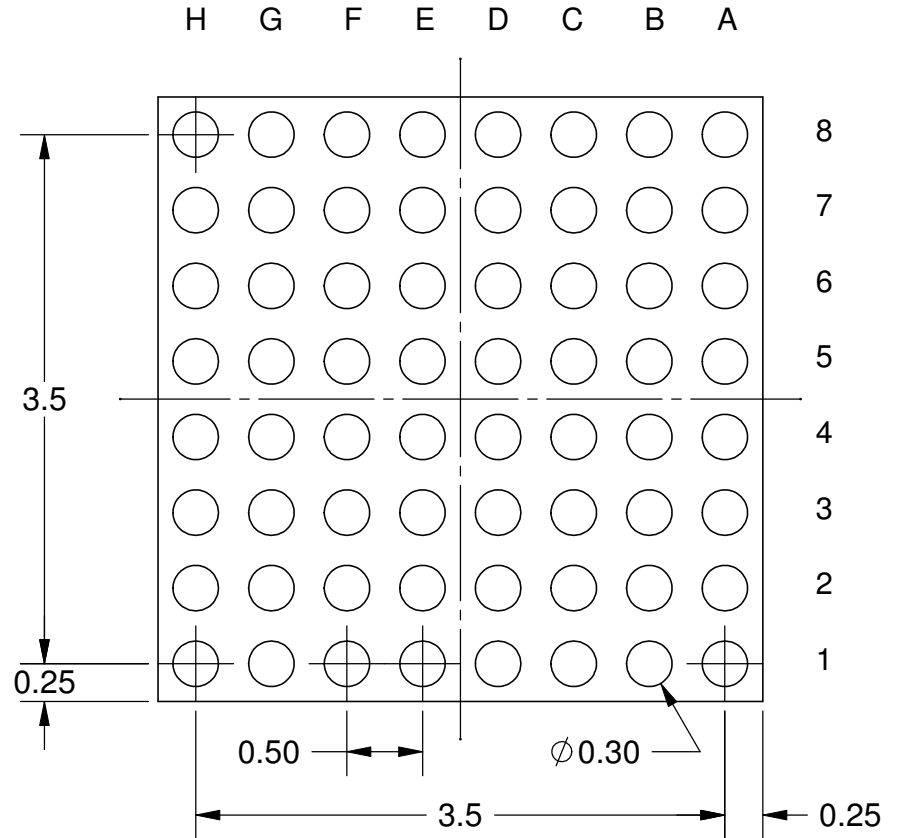
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.25mm (9.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

| | | | |
|---|-----------|-----------------------|----------|
| TopLine ® | | | |
| 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

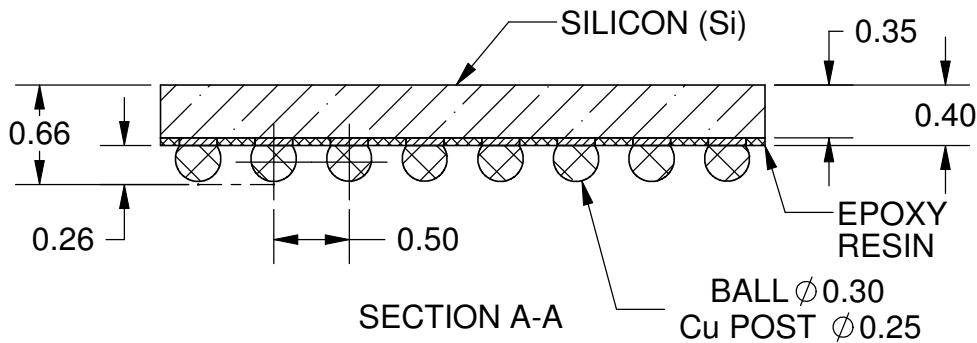


BALL VIEW



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): 0.30mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.25mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).




SECTION A-A

BALL $\phi 0.30$
Cu POST $\phi 0.25$

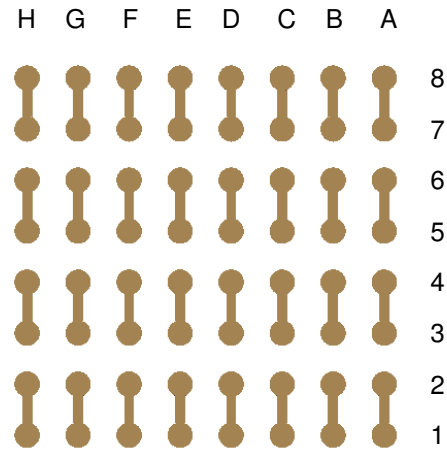
PART NUMBER TABLE

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

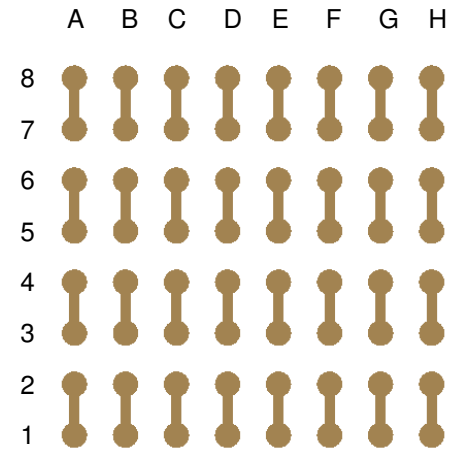
| | | | | | | | | |
|---|-----------|------------------------|--|------------|---|------|-------------|--------------|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE |  | | | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/28/2010 | | | | |
| X.XX | +/- 0.03 | ENG | | | TITLE | | | |
| X.XXX | +/- 0.003 | MFG | | | WLP64T.5C-DC088D | | | |
| ANGLES +/- 0.5° | | THIRD ANGLE PROJECTION | | | 64-BALL P=0.5mm (TEG0510) | | | |
| ALL DIMENSIONS IN | | QA | | | SCALE | SIZE | DRAWING NO. | REV |
| INCHES <input type="checkbox"/> MILLIMETERS <input checked="" type="checkbox"/> | | CUST | | | 20:1 | A | 550882 | A |
| | | REVISED | | | DO NOT SCALE DRAWING | | | SHEET 1 OF 2 |

DAISY CHAIN PATTERN

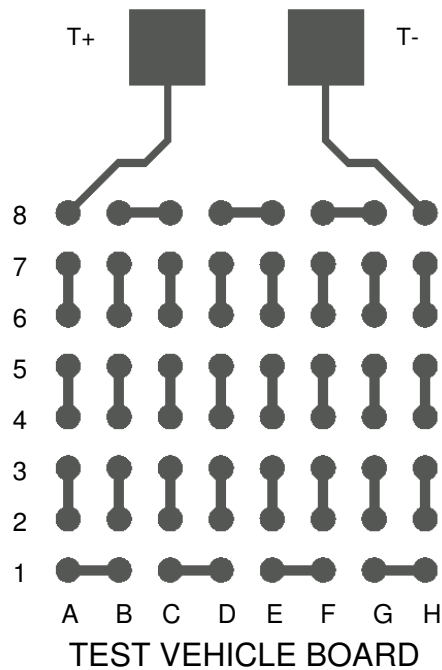
BALL VIEW



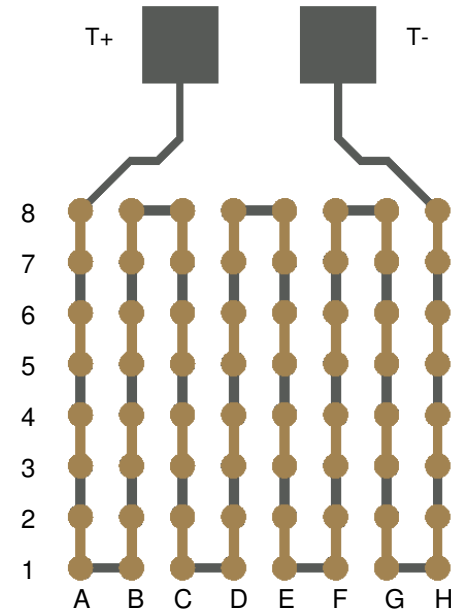
BOTTOM SIDE
(TOP X-RAY VIEW)



TOP VIEW



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



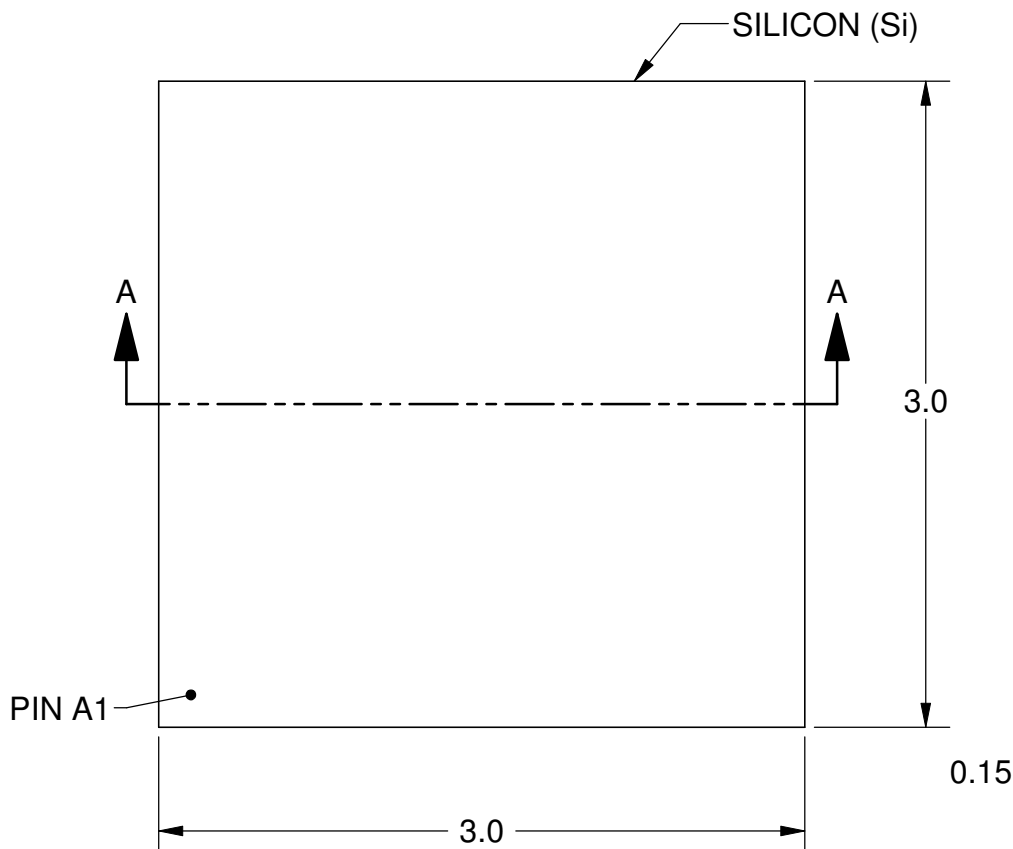
TEST VEHICLE BOARD

Notes:

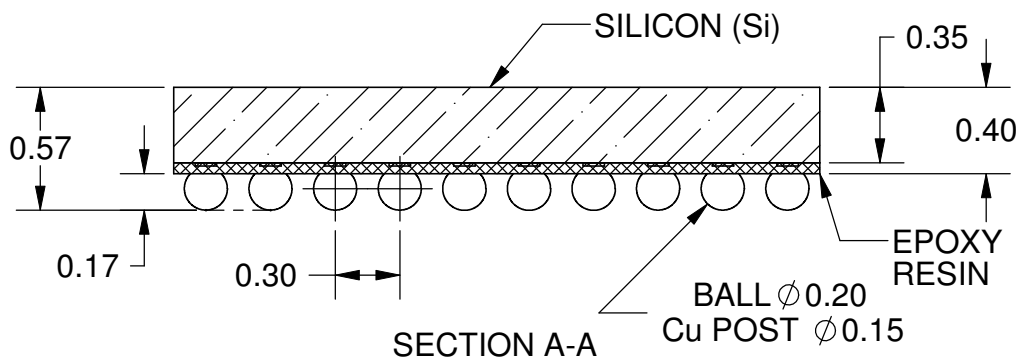
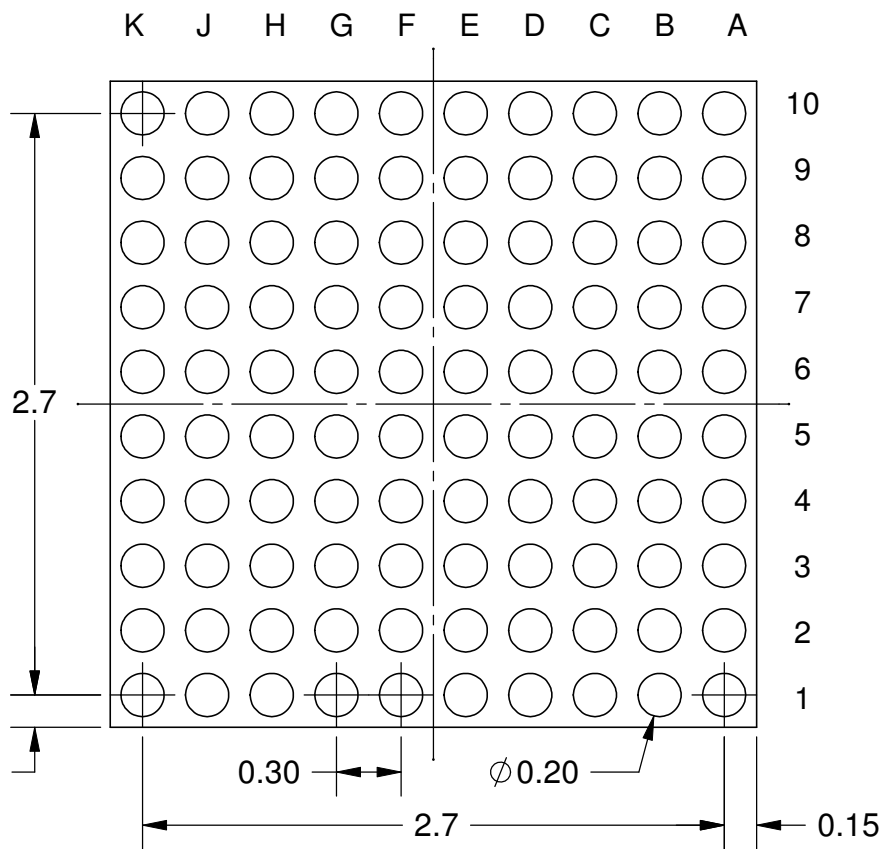
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.25mm (9.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

| | | | |
|---|-----------|-----------------------|----------|
| TopLine ® | | | |
| TITLE WLP64T.5C-DC088D 64-BALL P=0.5mm (TEG0510) | | | |
| SCALE 13.5:1 | SIZE A | DRAWING NO. 550882 | REV A |
| DO NOT SCALE DRAWING | | SHEET 2 OF 2 | |

TOP VIEW



BALL VIEW




Notes: (Unless Otherwise Specified).

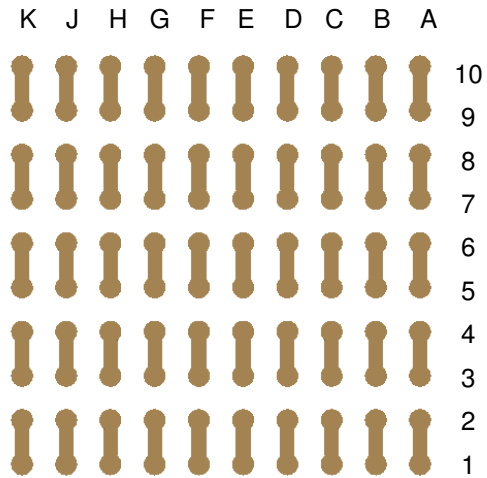
- 1) ALL DIMENSIONS ARE IN MM.
- 2) SOLDER BALL ALLOY:
STANDARD: SAC305 (Sn96.5/Ag3.0/Cu0.5).
SPECIAL: LF35 (Sn98.3/Ag1.2/Cu0.5).
- 3) BALL DIAMETER (BEFORE REFLOW): 0.20mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.15mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

PART NUMBER TABLE

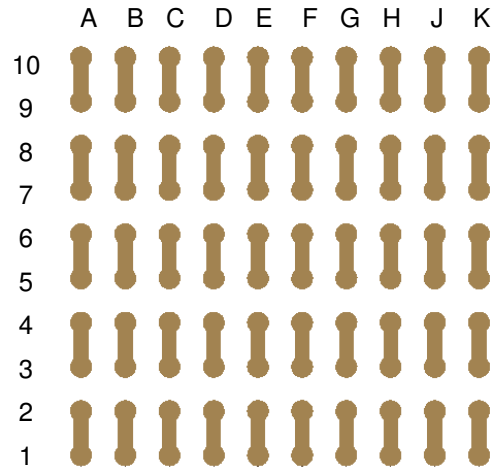
| PART NUMBER | BALL ALLOY | Pb-FREE | RoHS | Si DIE |
|--------------------|--------------------|---------|------|--------|
| WLP100T.3C-DC108D | Sn96.5/Ag3.0/Cu0.5 | YES | YES | YES |
| WLP100T.3C1-DC108D | Sn98.3/Ag1.2/Cu0.5 | YES | YES | YES |

| | | | | | | | | | |
|---|-----------|------------------------|--|------------|---|------|-------------|--|--------------|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE |  | | | | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/29/2010 | | | | | |
| X.XX | +/- 0.03 | ENG | | | TITLE | | | | |
| X.XXX | +/- 0.003 | MFG | | | WLP100T.3C-DC108D | | | | |
| ANGLES +/- 0.5° | | THIRD ANGLE PROJECTION | | | 100-BALL P=0.3mm (TEG0306) | | | | |
| ALL DIMENSIONS IN | | QA | | | SCALE | SIZE | DRAWING NO. | | REV |
| INCHES <input type="checkbox"/> MILLIMETERS <input checked="" type="checkbox"/> | | CUST | | | 28.5:1 | A | 531082 | | A |
| | | REVISED | | | DO NOT SCALE DRAWING | | | | SHEET 1 OF 2 |

BALL VIEW

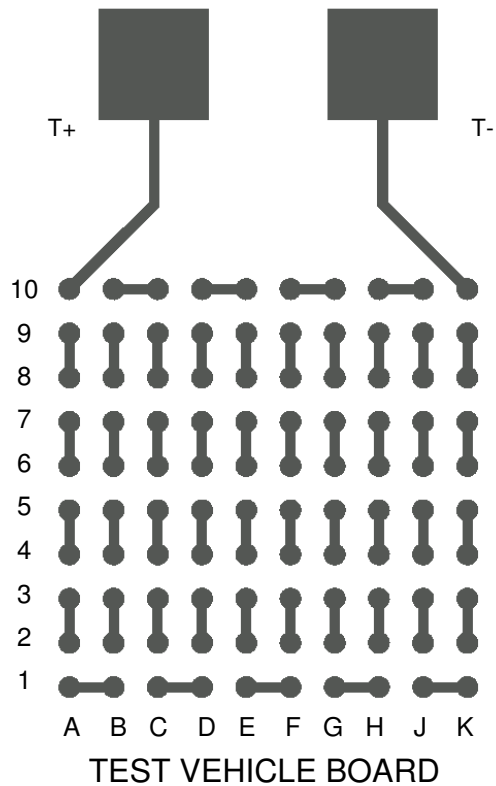


DAISY CHAIN PATTERN

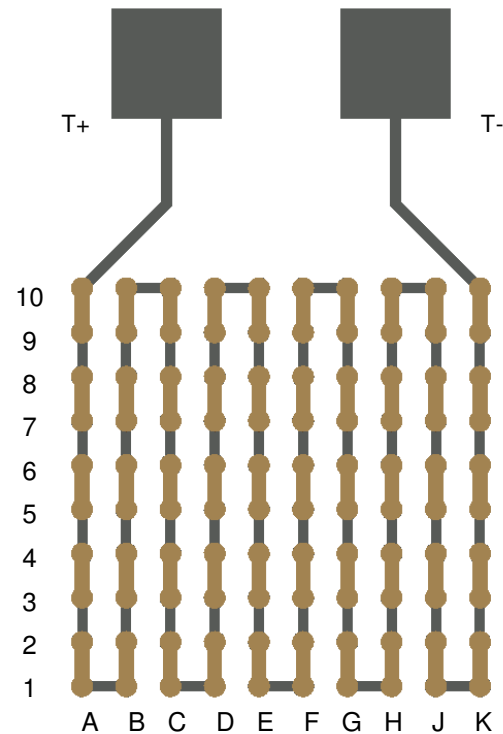


BOTTOM SIDE
(TOP X-RAY VIEW)

TOP VIEW



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



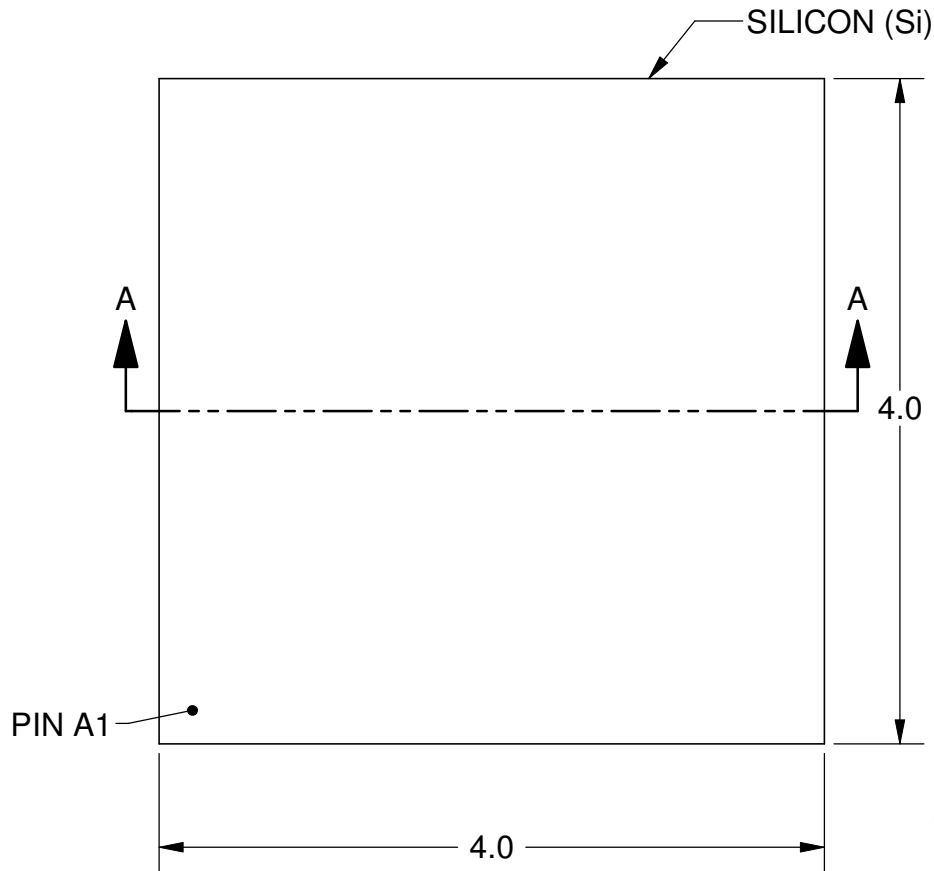
Notes:

- 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 0.15mm (5.9mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.07mm (3mil).

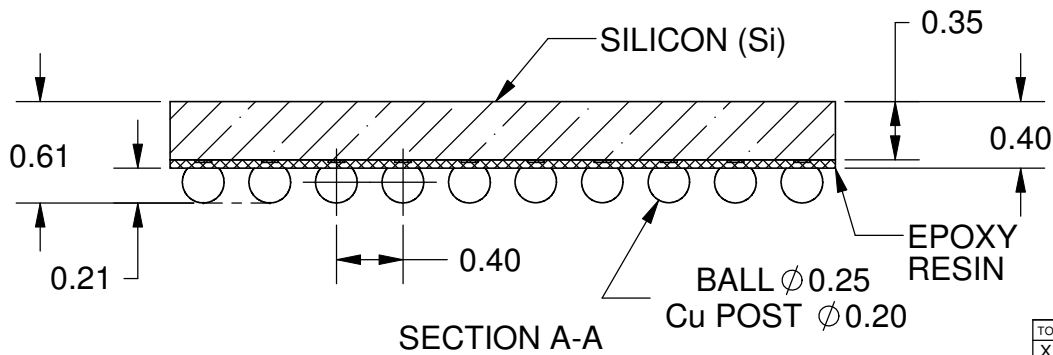
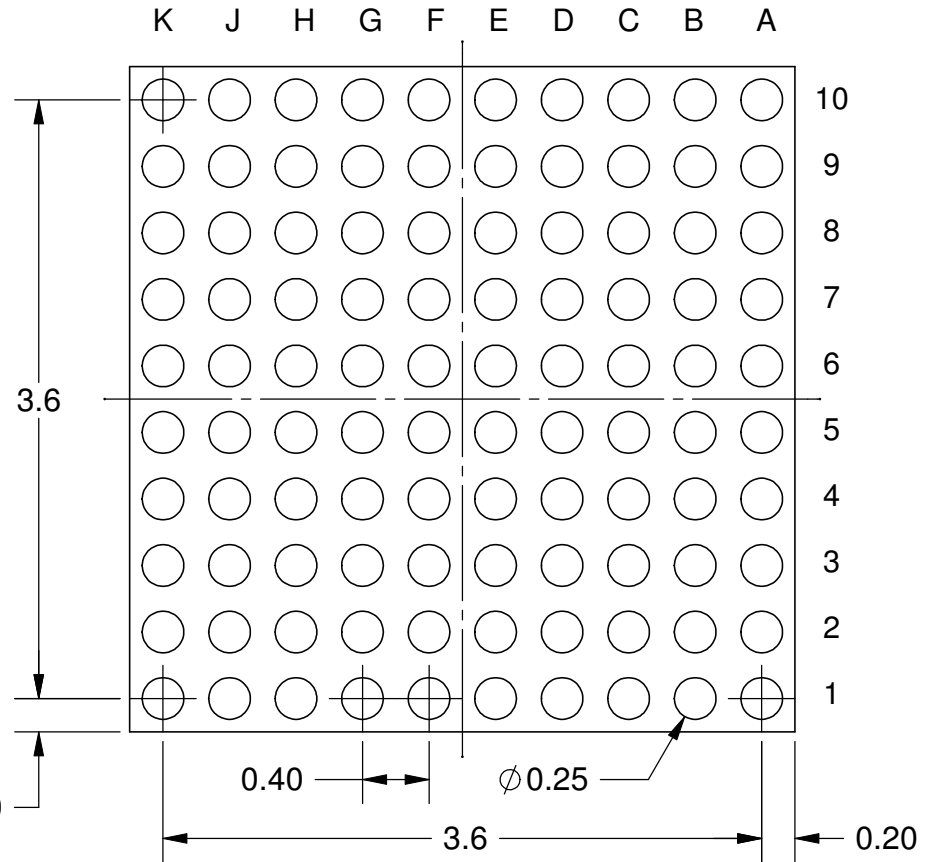
TopLine®

| | | | |
|----------------------------|------|-------------|--------------|
| TITLE | | | |
| WLP100T.3C-DC108D | | | |
| 100-BALL P=0.3mm (TEG0306) | | | |
| SCALE | SIZE | DRAWING NO. | REV |
| 19.5:1 | A | 531082 | A |
| DO NOT SCALE DRAWING | | | SHEET 2 OF 2 |

TOP VIEW



BALL VIEW


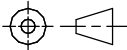


Notes: (Unless Otherwise Specified).

- 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).

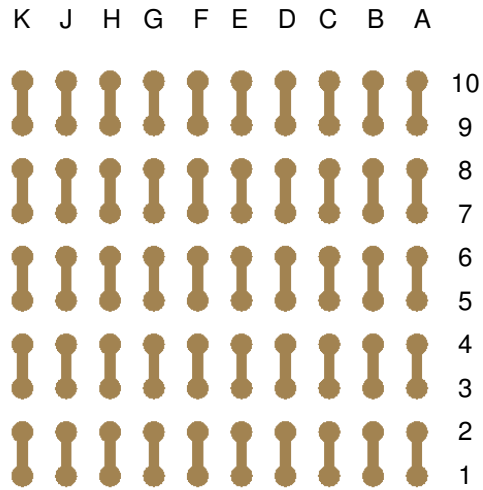
PART NUMBER TABLE

| 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 |

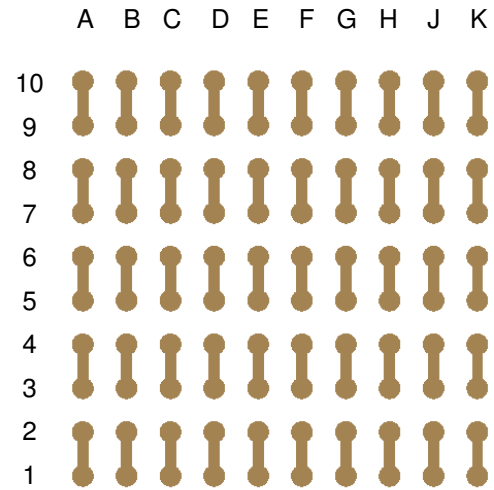
| | | | | | | | | |
|---|-----------|---|--|----------------------|---|--------------|-------------|-----|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE |  | | | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/30/2010 | | | | |
| X.XX | +/- 0.03 | ENG | | | TITLE | | | |
| X.XXX | +/- 0.003 | MFG | | | WLP100T.4C-DC108D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

DAISY CHAIN PATTERN

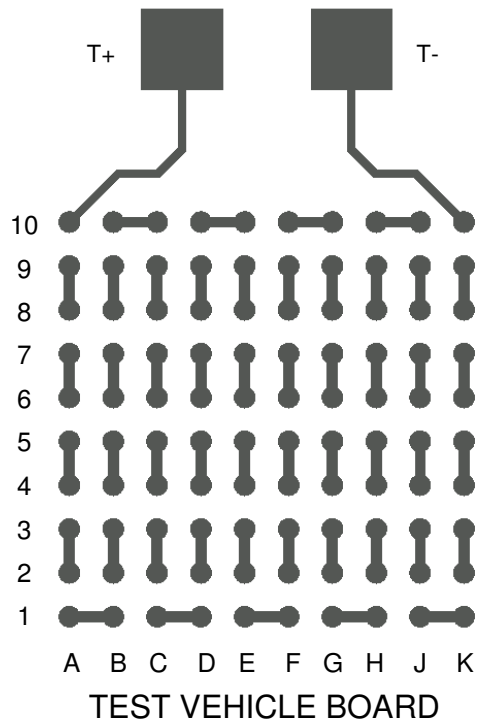
BALL VIEW



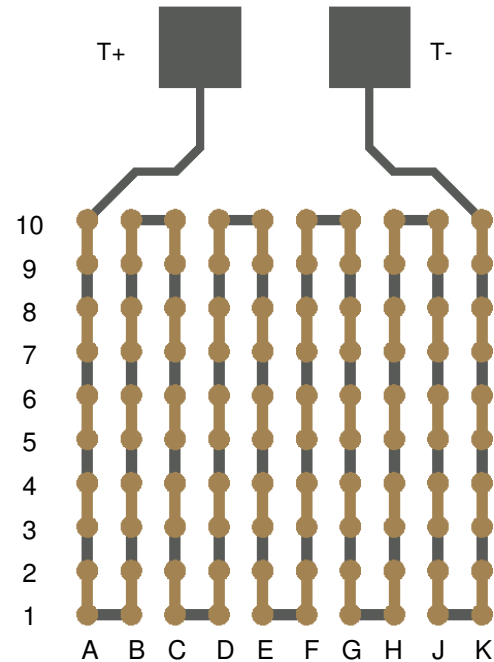
BOTTOM SIDE
(TOP X-RAY VIEW)



TOP VIEW



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

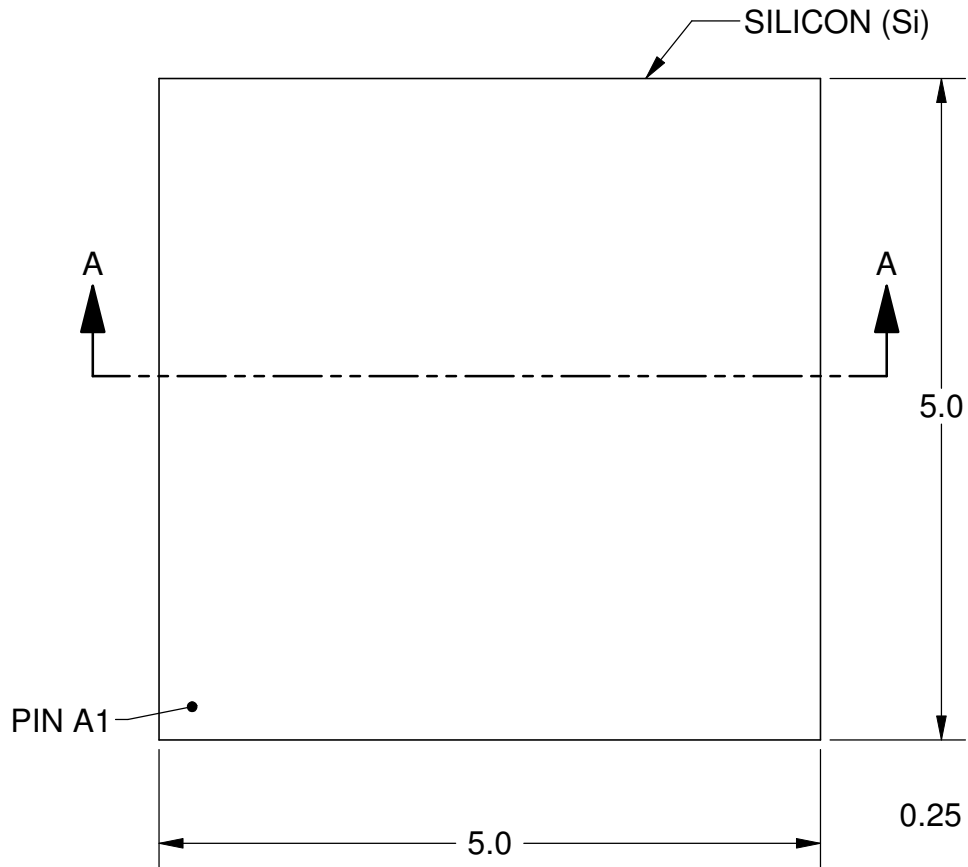


Notes:

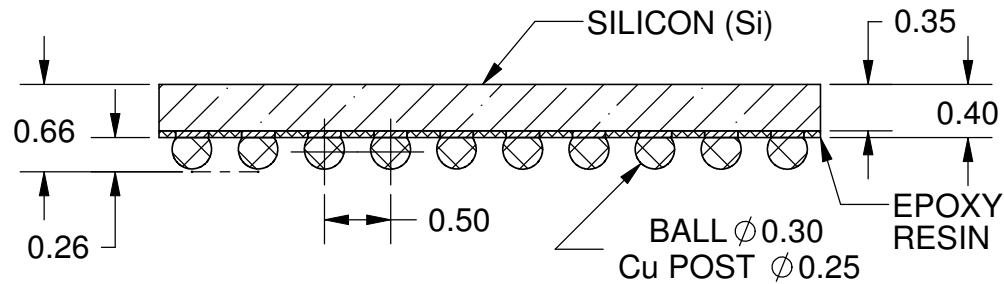
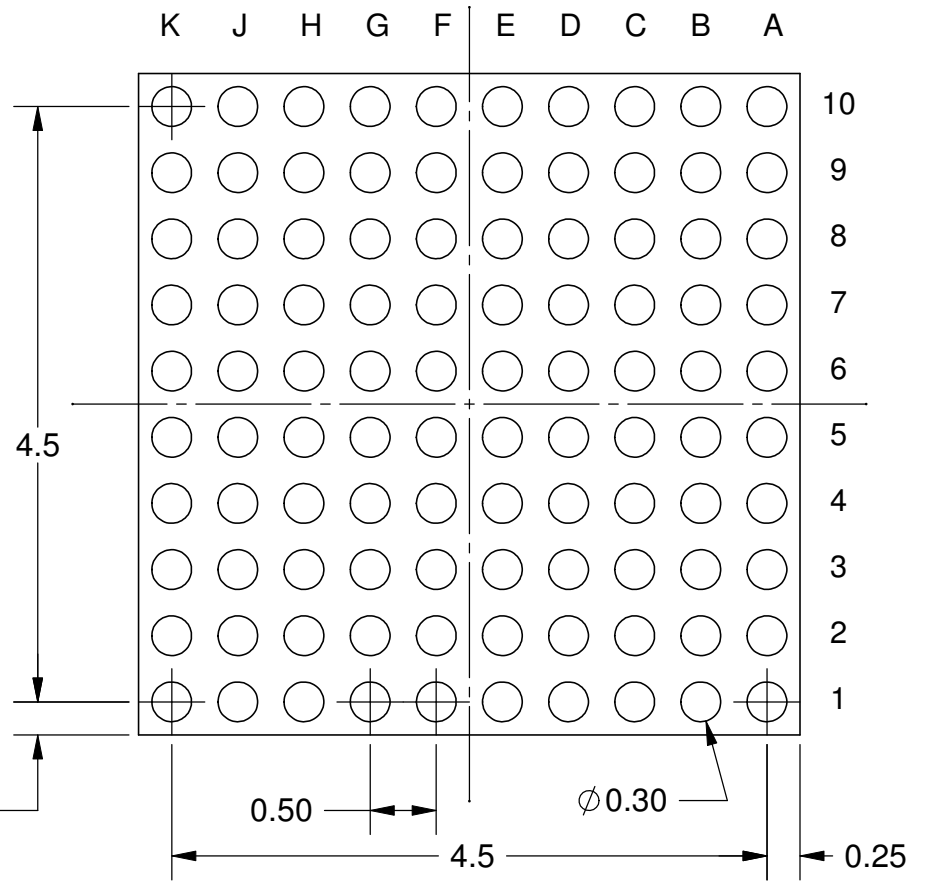
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.20mm (7.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

| | | | |
|---|-----------|-----------------------|----------|
| TopLine ® | | | |
| 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




SECTION A-A

Notes: (Unless Otherwise Specified).

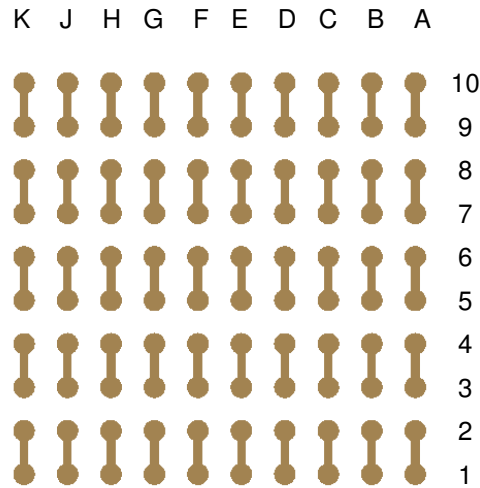
- 1) ALL DIMENSIONS ARE IN MM.
- 2) SOLDER BALL ALLOY:
STANDARD: SAC305 (Sn96.5/Ag3.0/Cu0.5).
SPECIAL: LF35 (Sn98.3/Ag1.2/Cu0.5).
- 3) BALL DIAMETER (BEFORE REFLOW): 0.30mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.25mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

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

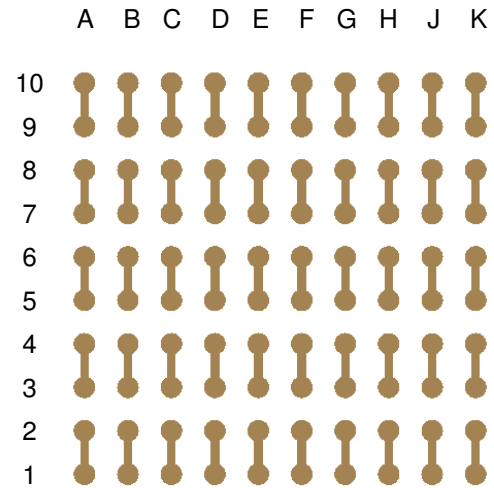
| | | | | | | | | |
|---|-----------|------------------------|--|------------|---|------|-------------|--------------|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE |  | | | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/28/2010 | | | | |
| X.XX | +/- 0.03 | ENG | | | TITLE | | | |
| X.XXX | +/- 0.003 | MFG | | | WLP100T.5C-DC108D | | | |
| ANGLES +/- 0.5° | | THIRD ANGLE PROJECTION | | | 100-BALL P=0.5mm (TEG0510) | | | |
| ALL DIMENSIONS IN | | QA | | | SCALE | SIZE | DRAWING NO. | REV |
| INCHES <input type="checkbox"/> MILLIMETERS <input checked="" type="checkbox"/> | | CUST | | | 17.5:1 | A | 551082 | A |
| | | REVISED | | | DO NOT SCALE DRAWING | | | SHEET 1 OF 2 |

DAISY CHAIN PATTERN

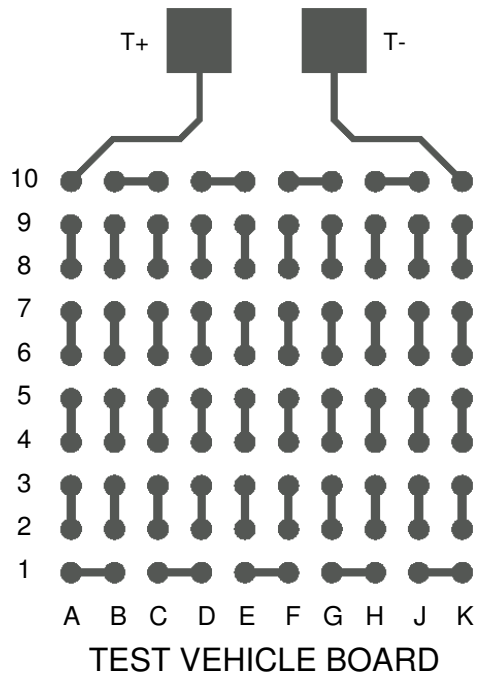
BALL VIEW



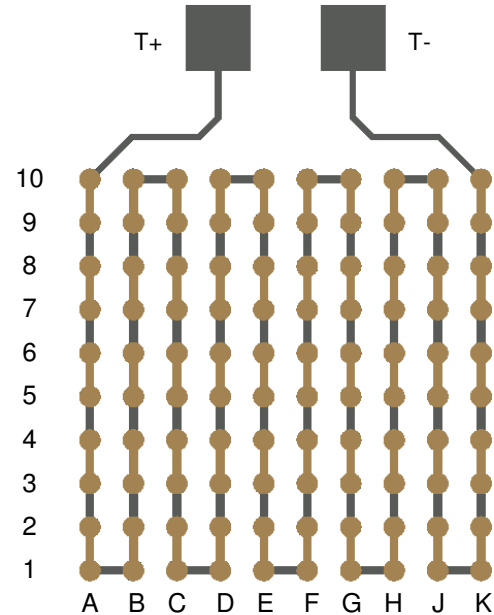
BOTTOM SIDE
(TOP X-RAY VIEW)



TOP VIEW



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

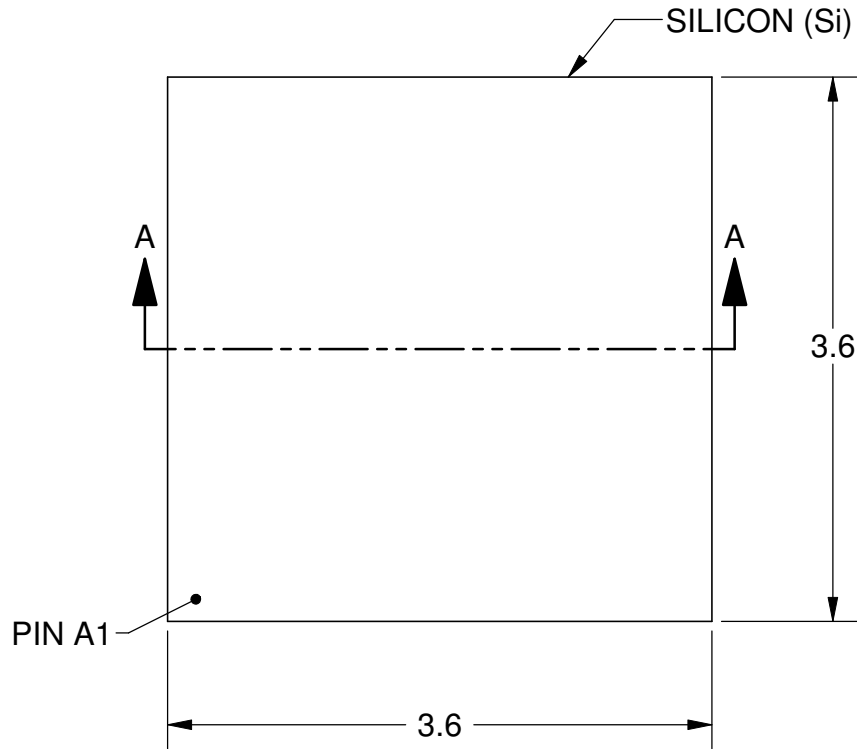


Notes:

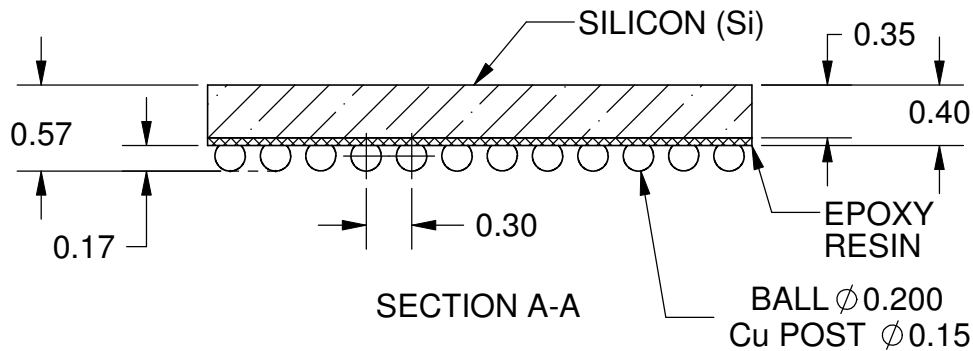
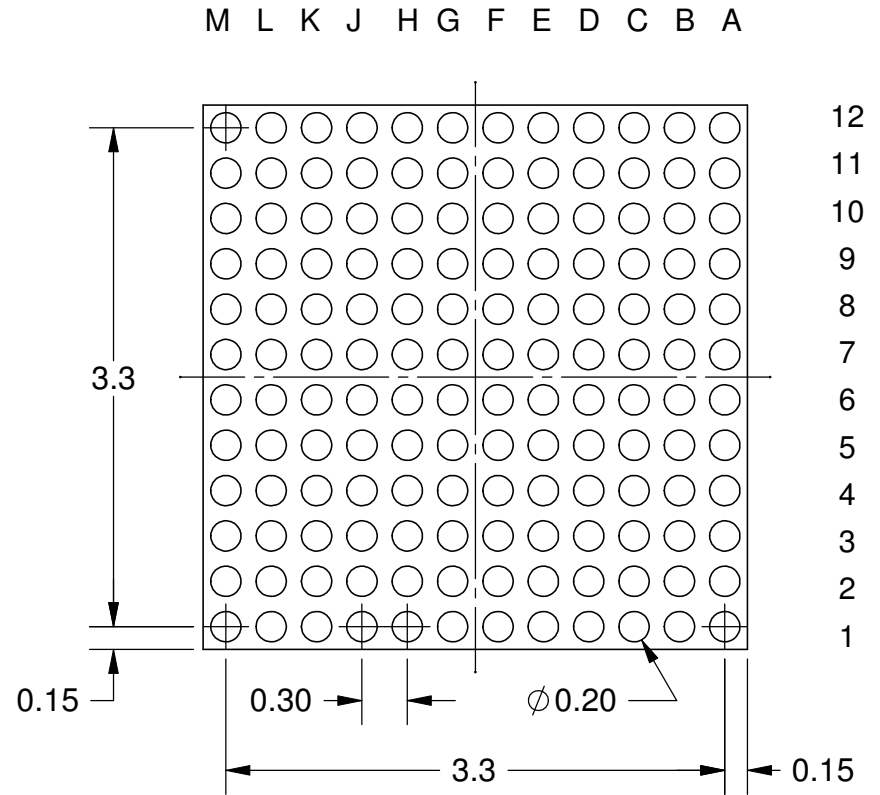
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.25mm (9.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

| | | | |
|---|-----------|-----------------------|----------|
| TopLine ® | | | |
| TITLE WLP100T.5C-DC108D 100-BALL P=0.5mm (TEG0510) | | | |
| SCALE 11.5:1 | SIZE A | DRAWING NO. 551082 | REV A |
| DO NOT SCALE DRAWING | | SHEET 2 OF 2 | |

TOP VIEW




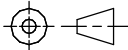
BALL VIEW



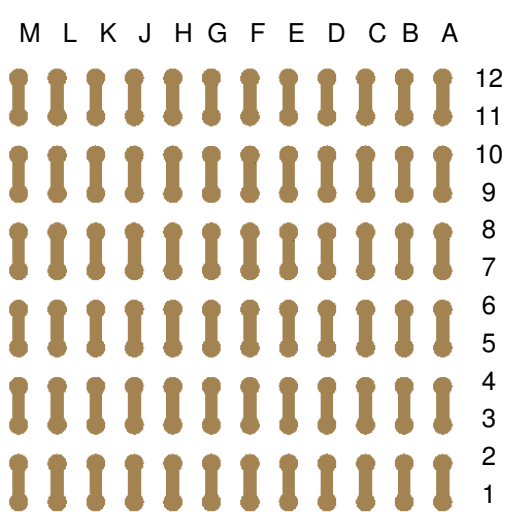
Notes: (Unless Otherwise Specified).

- 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): 0.20mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.15mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

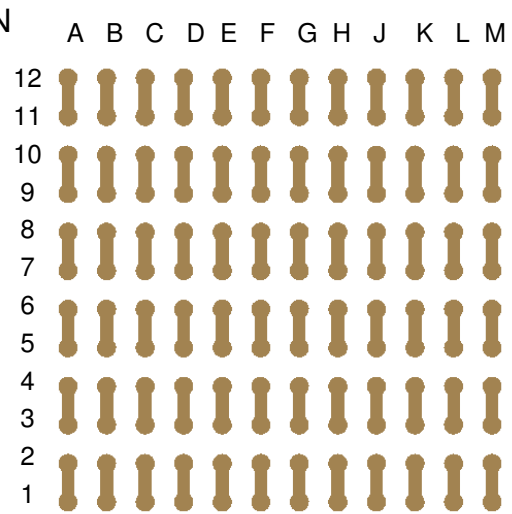
| PART NUMBER TABLE | | | | |
|--------------------|--------------------|---------|------|--------|
| PART NUMBER | BALL ALLOY | Pb-FREE | RoHS | Si DIE |
| WLP144T.3C-DC127D | Sn96.5/Ag3.0/Cu0.5 | YES | YES | YES |
| WLP144T.3C1-DC127D | Sn98.3/Ag1.2/Cu0.5 | YES | YES | YES |

| | | | | | | | | |
|------------------------|-----------|---|--|------------|---|------|-------------|--------------|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE |  | | | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/29/2010 | | | | |
| X.XX | +/- 0.03 | ENG | | | TITLE | | | |
| X.XXX | +/- 0.003 | MFG | | | WLP144T.3C-DC127D | | | |
| ANGLES +/- 0.5° | | THIRD ANGLE PROJECTION | | | 144-BALL P=0.3mm (TEG0306) | | | |
| ALL DIMENSIONS IN | | <input type="checkbox"/> INCHES <input checked="" type="checkbox"/> MILLIMETERS | | | SCALE | SIZE | DRAWING NO. | REV |
| | |  | | | 20:1 | A | 531272 | A |
| | | REVISED | | | DO NOT SCALE DRAWING | | | SHEET 1 OF 2 |

BALL VIEW

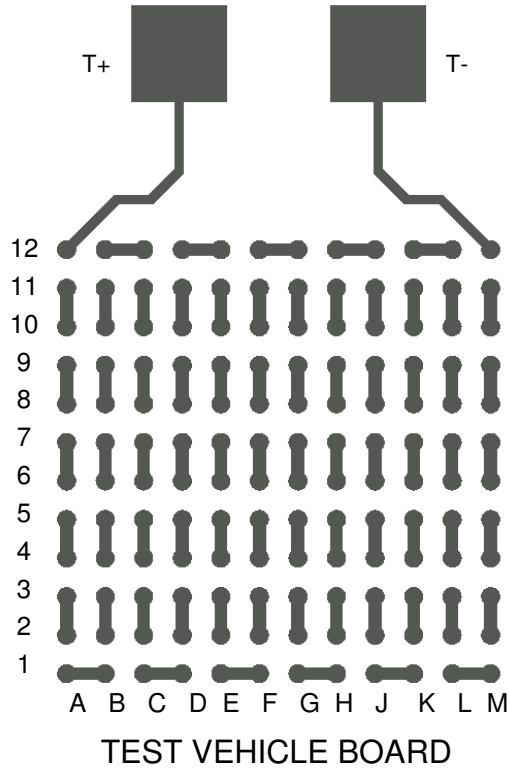


DAISY CHAIN PATTERN

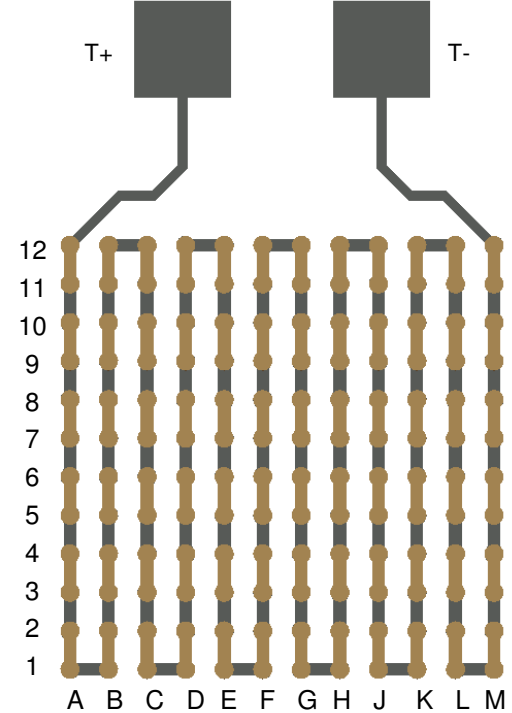


BOTTOM SIDE
(TOP X-RAY VIEW)

TOP VIEW



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



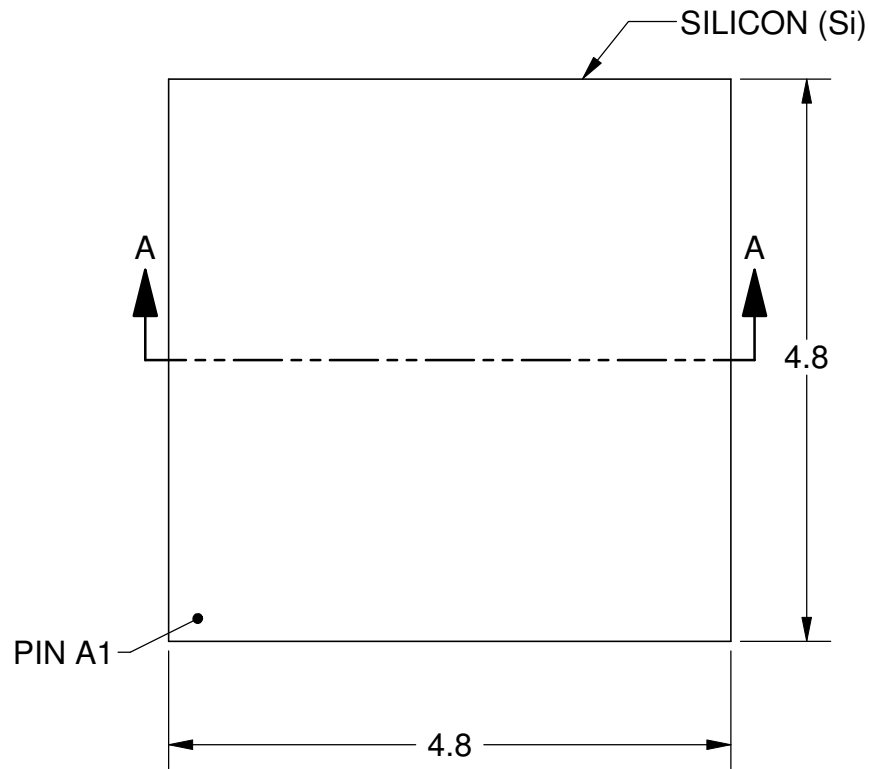
TEST VEHICLE BOARD

Notes:

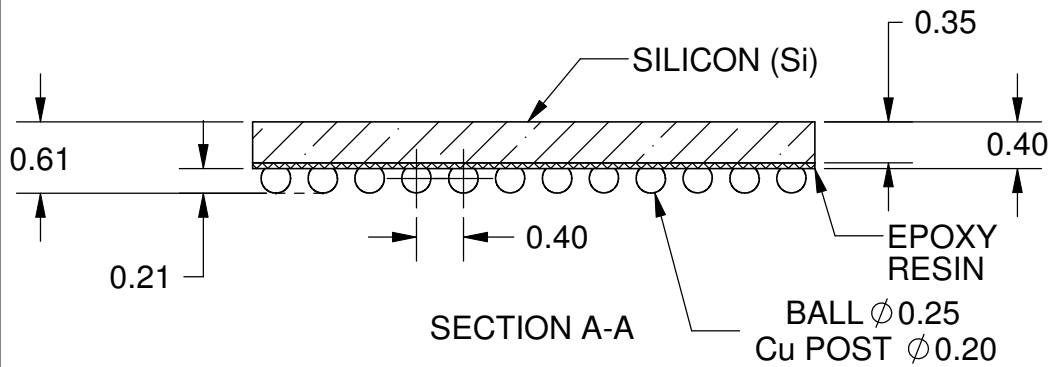
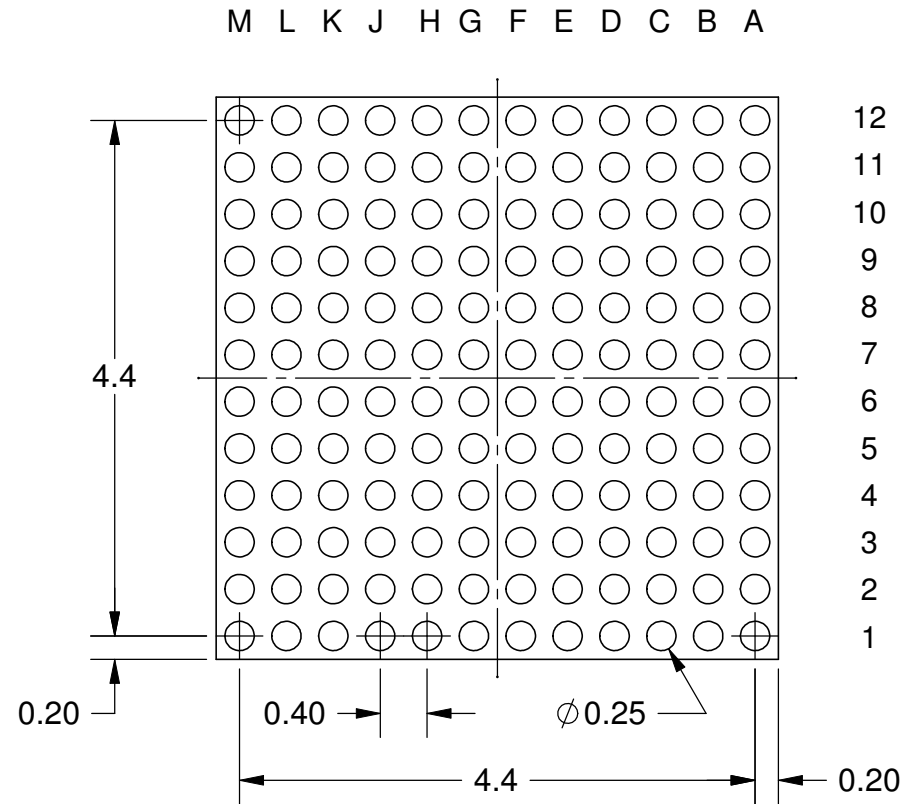
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.15mm (5.9mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.07mm (3mil).

| | | | |
|---|-----------|-----------------------|----------|
| TopLine ® | | | |
| TITLE WLP144T.3C-DC127D 144-BALL P=0.3mm (TEG0306) | | | |
| SCALE 17:1 | SIZE A | DRAWING NO. 531272 | 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).

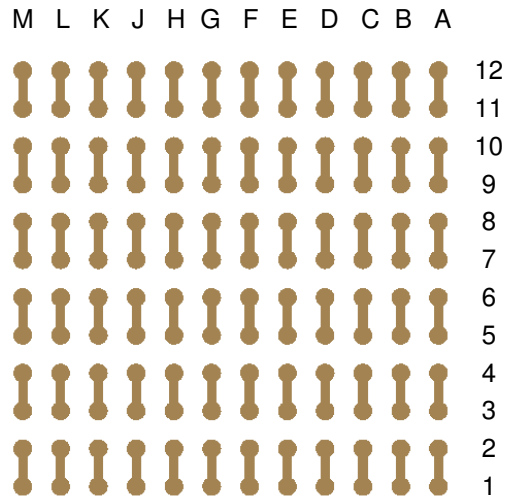
PART NUMBER TABLE

| 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 |

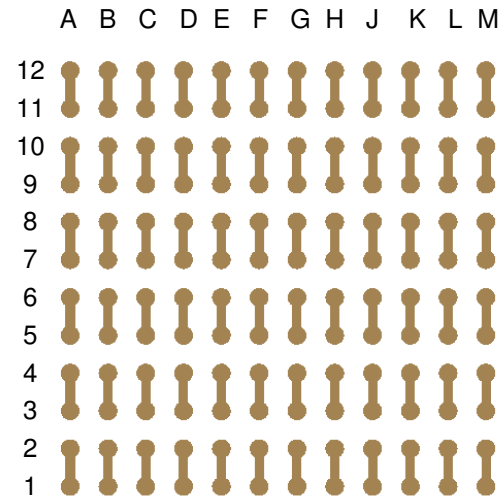
| | | | | | | | | |
|------------------------|-----------|---|--|------------|---|------|-------------|--------------|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE |  | | | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/30/2010 | | | | |
| X.XX | +/- 0.03 | ENG | | | TITLE WLP144T.4C-DC127D | | | |
| X.XXX | +/- 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

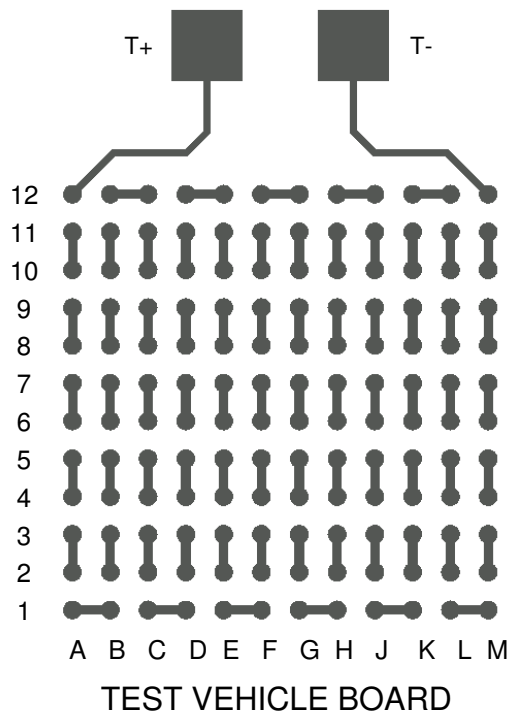
BALL VIEW



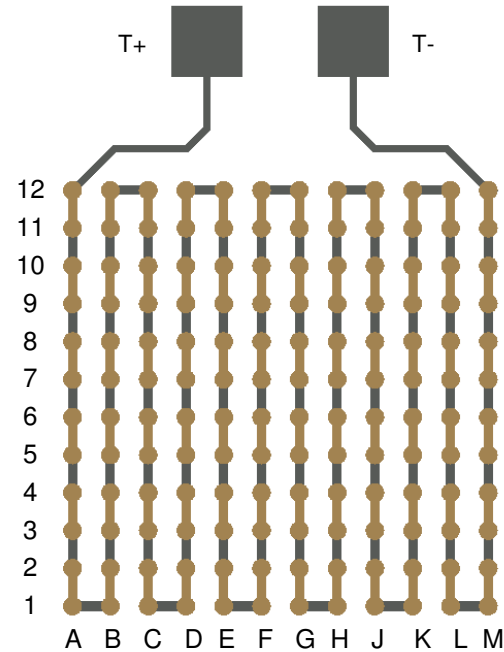
BOTTOM SIDE
(TOP X-RAY VIEW)



TOP VIEW



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

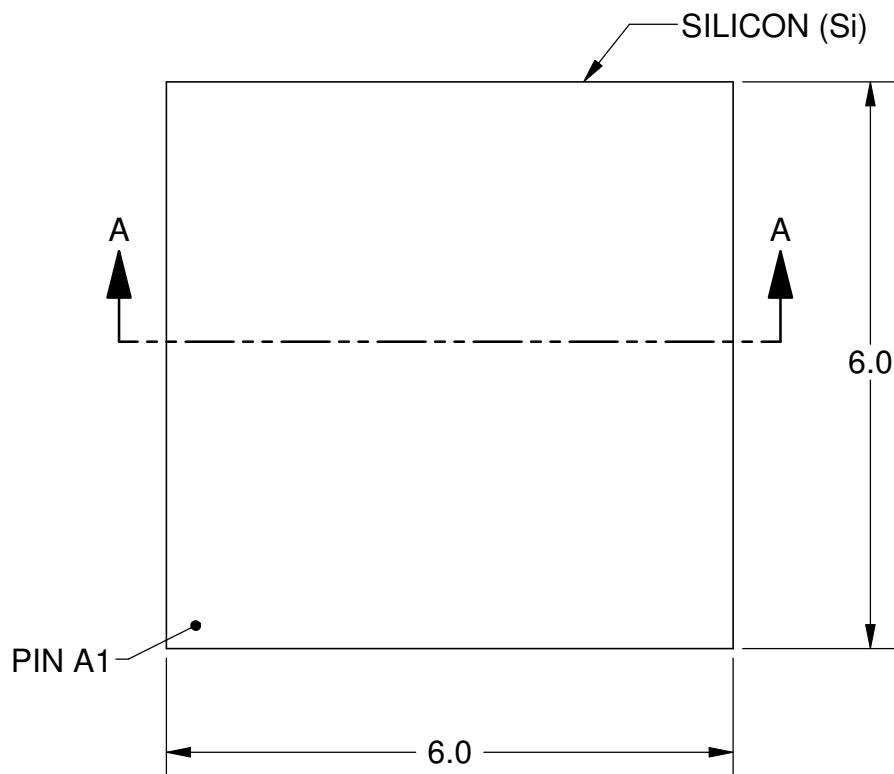


Notes:

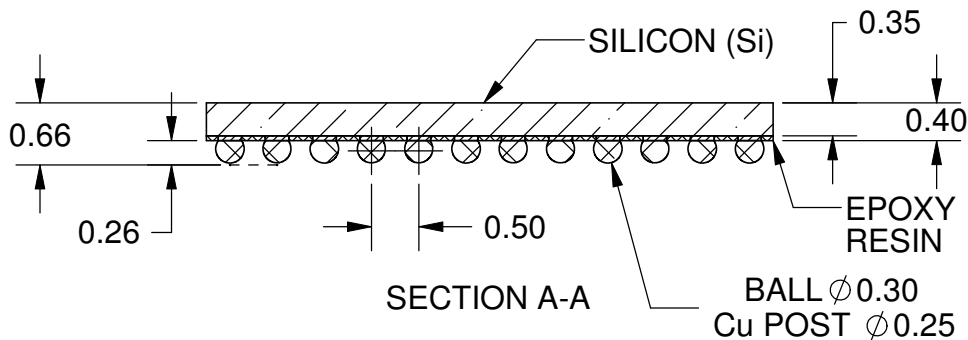
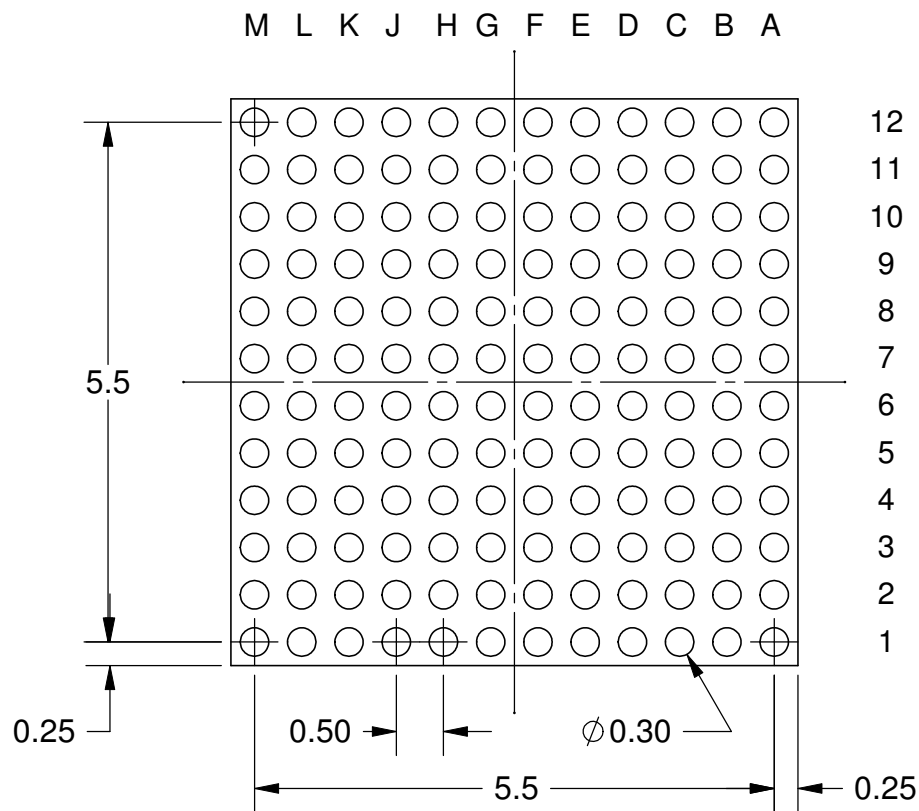
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.20mm (7.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

| | | | |
|--|------|-------------|--------------|
| TopLine ® | | | |
| 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




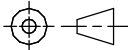
BALL VIEW



Notes: (Unless Otherwise Specified).

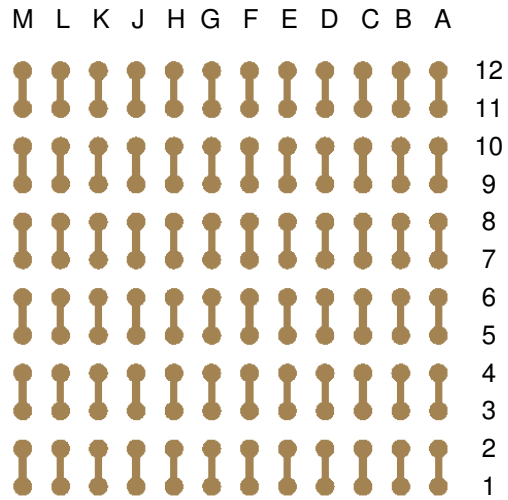
- 1) ALL DIMENSIONS ARE IN MM.
- 2) SOLDER BALL ALLOY:
STANDARD: SAC305 (Sn96.5/Ag3.0/Cu0.5).
SPECIAL: LF35 (Sn98.3/Ag1.2/Cu0.5).
- 3) BALL DIAMETER (BEFORE REFLOW): 0.30mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.25mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

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

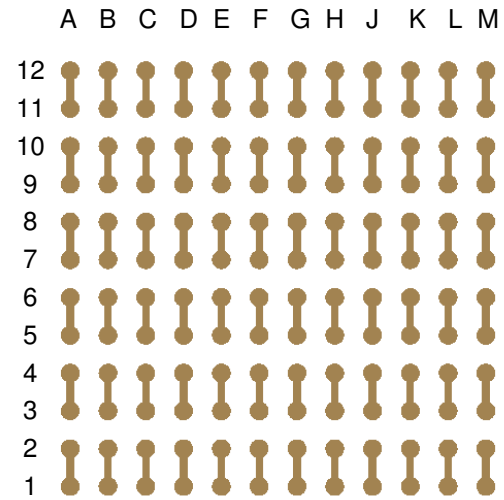
| | | | | | | | | |
|---------------------------|-----------|---|--|------------|---|------|-------------|--------------|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE |  | | | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/28/2010 | | | | |
| X.XX | +/- 0.03 | ENG | | | TITLE WLP144T.5C-DC127D | | | |
| X.XXX | +/- 0.003 | MFG | | | 144-BALL P=0.5mm (TEG0510) | | | |
| ANGLES +/- 0.5° | | QA | | | SCALE | SIZE | DRAWING NO. | REV |
| ALL DIMENSIONS IN | | CUST | | | 12.5:1 | A | 551272 | A |
| □ INCHES ☒ MILLIMETERS | | REVISED | | | DO NOT SCALE DRAWING | | | SHEET 1 OF 2 |
| THIRD ANGLE PROJECTION | |  | | | | | | |

DAISY CHAIN PATTERN

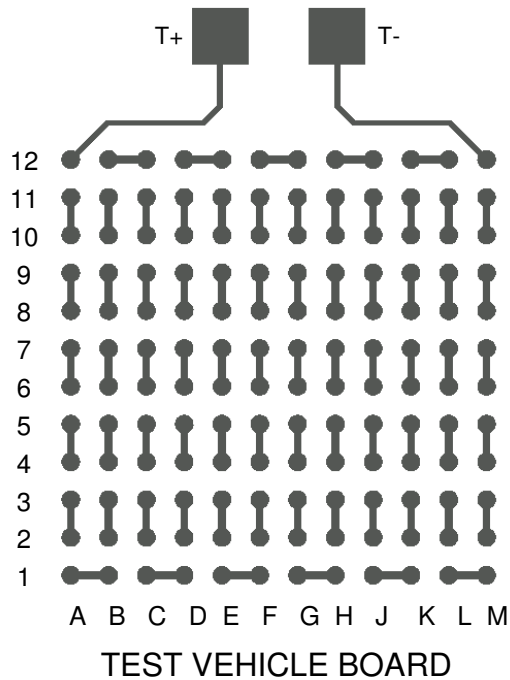
BALL VIEW



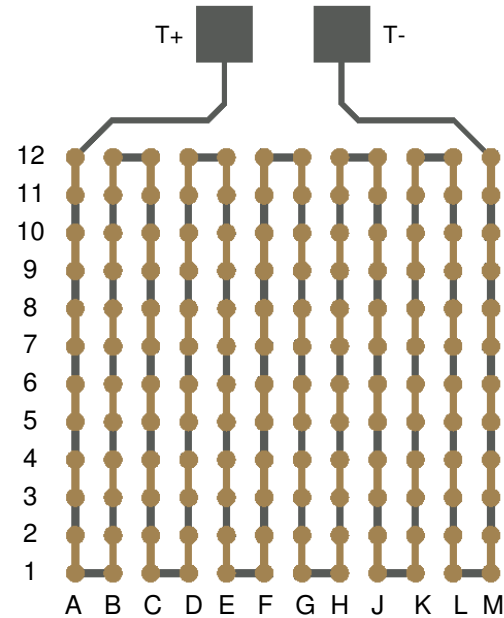
BOTTOM SIDE
(TOP X-RAY VIEW)



TOP VIEW



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

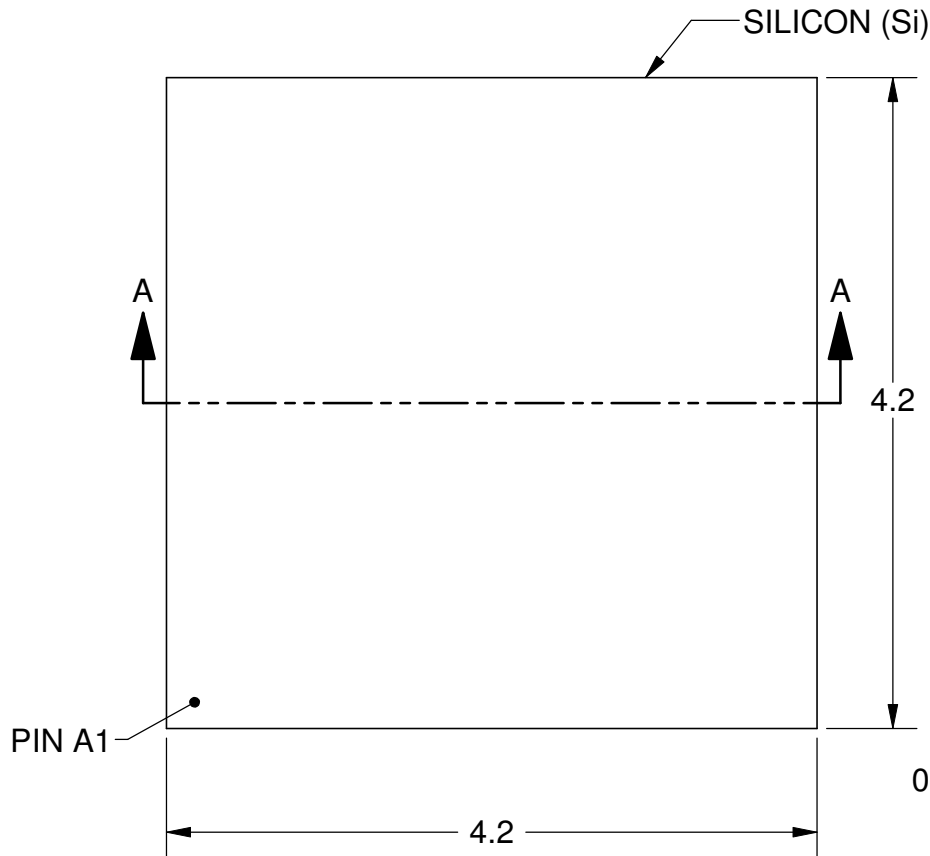


Notes:

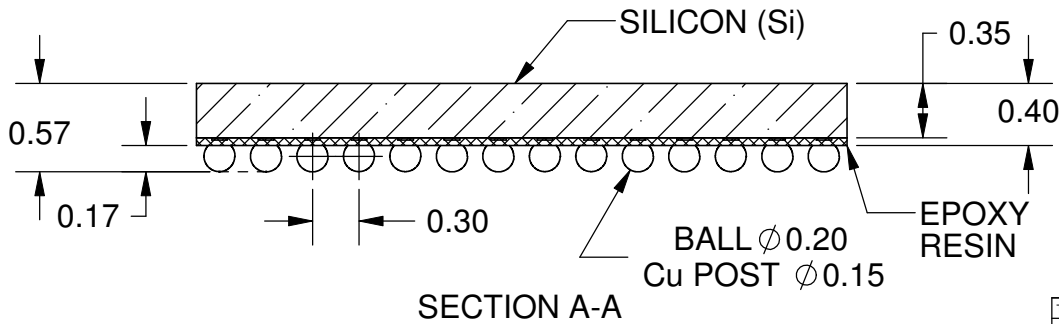
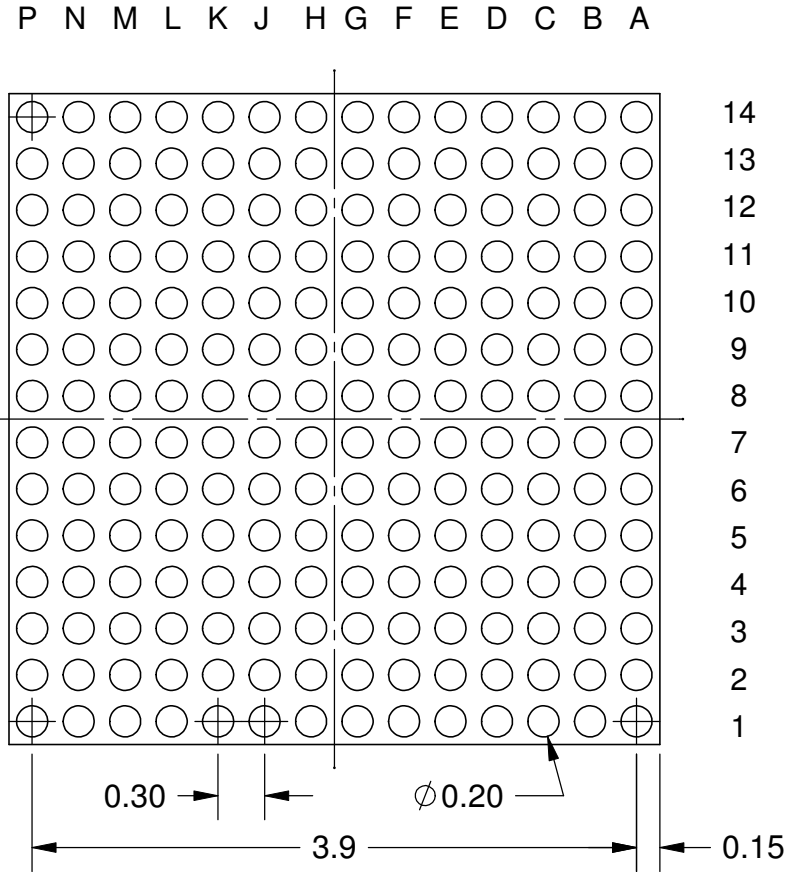
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.25mm (9.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

| | | | |
|--|-----------|-----------------------|----------|
| TopLine ® | | | |
| TITLE WLP144T.5C-DC127D 144-BALL P=0.5mm (TEG0510) | | | |
| SCALE 10:1 | SIZE A | DRAWING NO. 551272 | REV A |
| DO NOT SCALE DRAWING | | SHEET 2 OF 2 | |

TOP VIEW



BALL VIEW


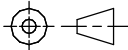


Notes: (Unless Otherwise Specified).

- 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): 0.20mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.15mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

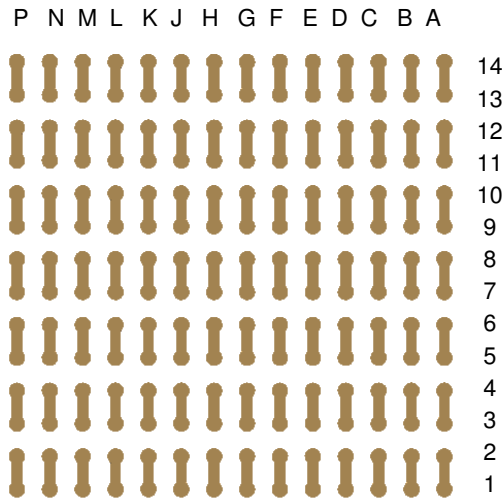
PART NUMBER TABLE

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

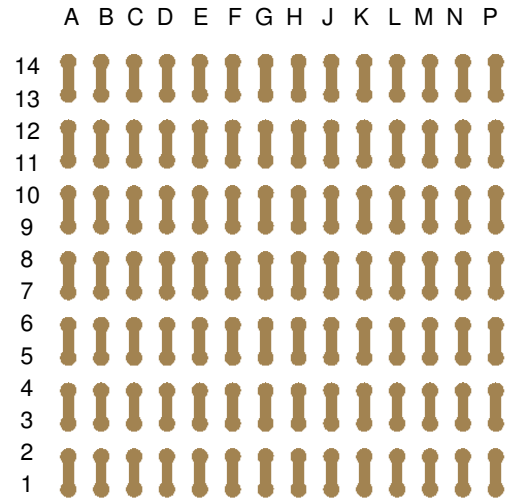
| | | | | | | | | |
|---|-----------|---|--|------------|---|------|-------------|--------------|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE |  | | | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/29/2010 | | | | |
| X.XX | +/- 0.03 | ENG | | | TITLE WLP196T.3C-DC148D | | | |
| X.XXX | +/- 0.003 | MFG | | | 196-BALL P=0.3mm (TEG0306) | | | |
| ANGLES +/- 0.5° | | THIRD ANGLE PROJECTION | | | SCALE | SIZE | DRAWING NO. | REV |
| ALL DIMENSIONS IN | |  | | | 20.5:1 | A | 531482 | A |
| <input type="checkbox"/> INCHES <input checked="" type="checkbox"/> MILLIMETERS | | REVISED | | | DO NOT SCALE DRAWING | | | SHEET 1 OF 2 |

DAISY CHAIN PATTERN

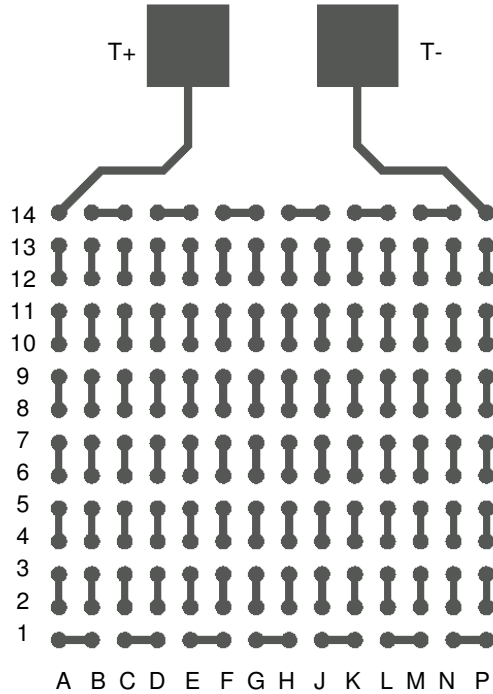
BALL VIEW



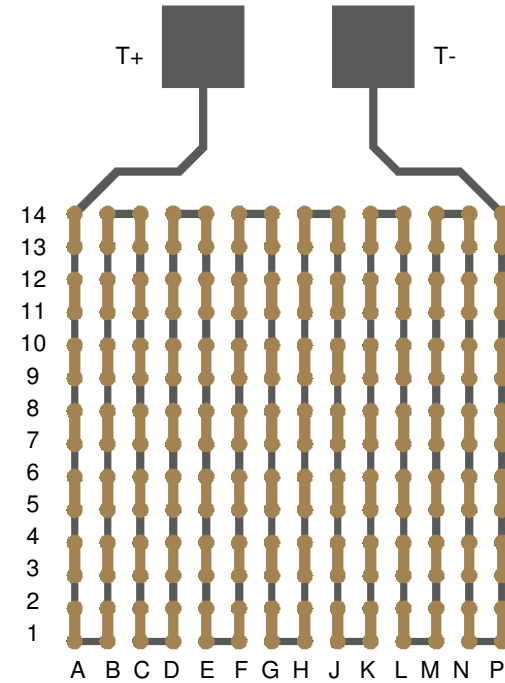
BOTTOM SIDE
(TOP X-RAY VIEW)



TOP VIEW



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



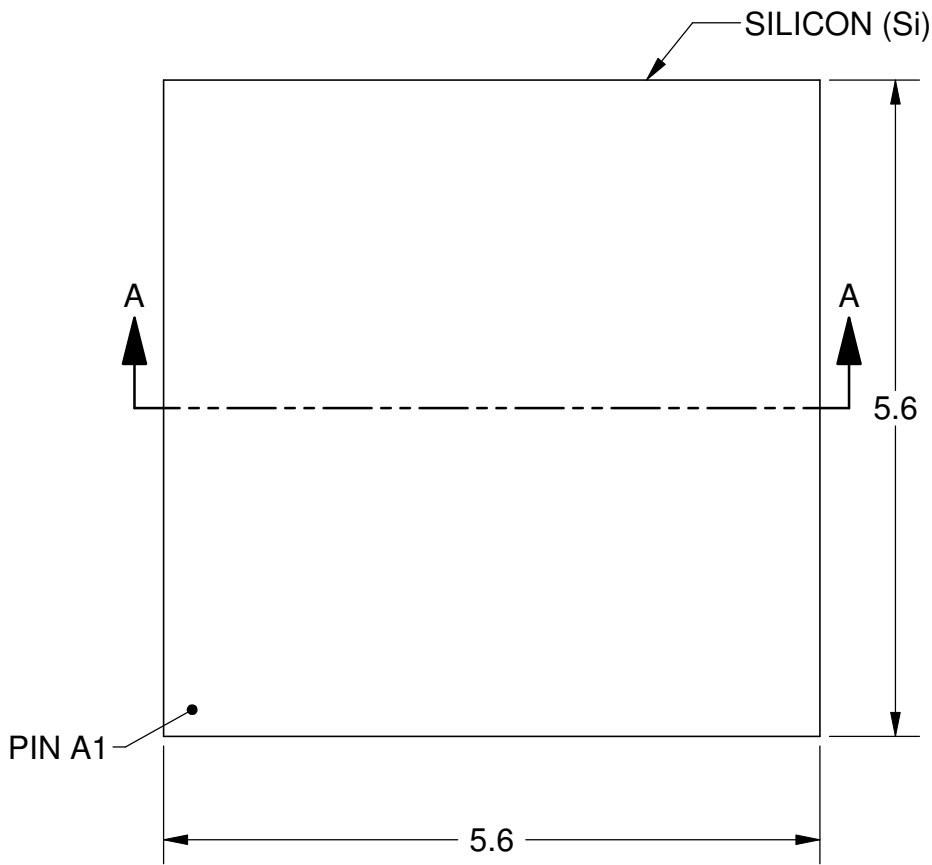
TEST VEHICLE BOARD

Notes:

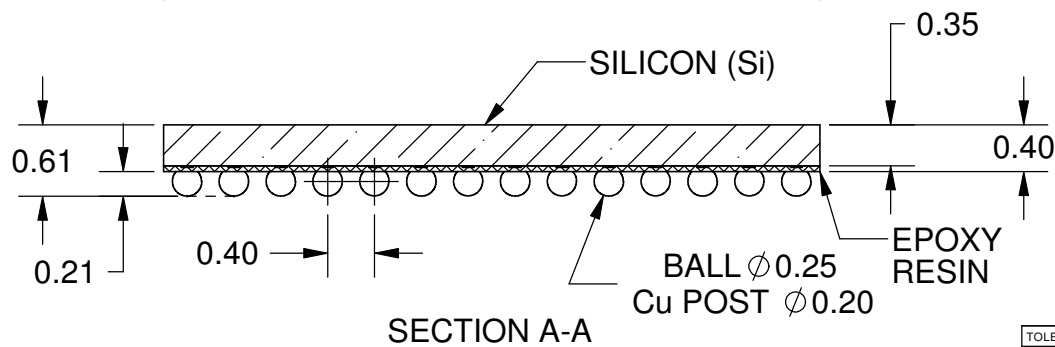
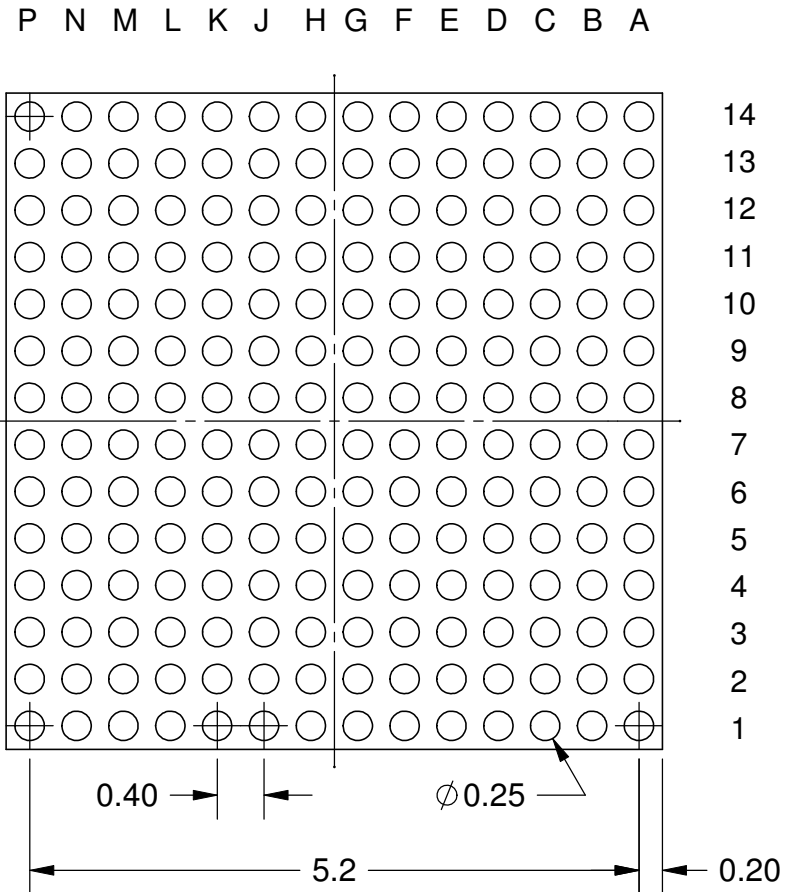
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.15mm (5.9mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.07mm (3mil).

| | | | |
|---|-----------|-----------------------|----------|
| TopLine ® | | | |
| TITLE WLP196T.3C-DC148D 196-BALL P=0.3mm (TEG0306) | | | |
| SCALE 14.5:1 | SIZE A | DRAWING NO. 531482 | REV A |
| DO NOT SCALE DRAWING | | SHEET 2 OF 2 | |

TOP VIEW



BALL VIEW


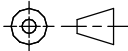


Notes: (Unless Otherwise Specified).

- 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).

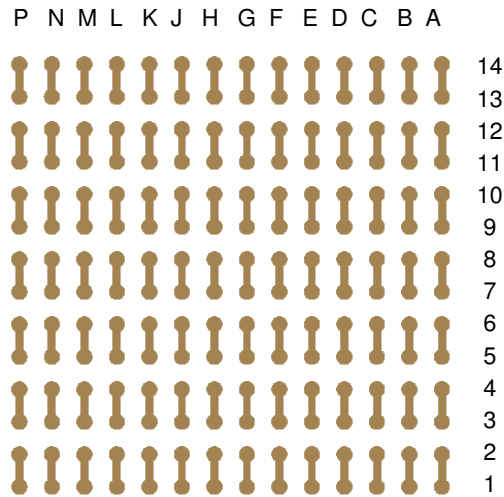
PART NUMBER TABLE

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

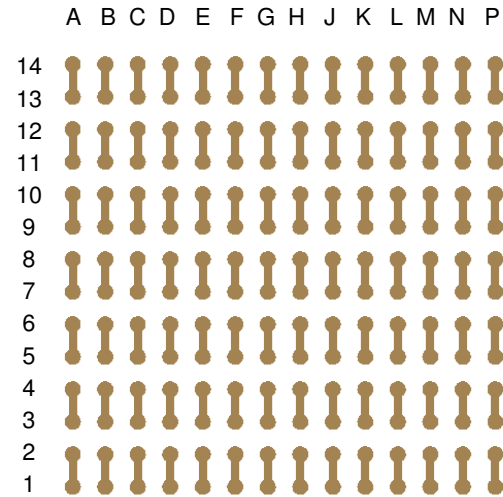
| | | | | | | | | | | | | | |
|------------------------|-----------|---|--|------------|--|---|--|------|--|--------------|--|-----|--|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE | |  | | | | | | | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/30/2010 | | | | | | | | | |
| X.XX | +/- 0.03 | ENG | | | | TITLE | | | | | | | |
| X.XXX | +/- 0.003 | MFG | | | | WLP196T.4C-DC148D | | | | | | | |
| ANGLES +/- 0.5° | | THIRD ANGLE PROJECTION | | | | 196-BALL P=0.4mm (TEG0408) | | | | | | | |
| ALL DIMENSIONS IN | | <input type="checkbox"/> INCHES <input checked="" type="checkbox"/> MILLIMETERS | | | | SCALE | | SIZE | | DRAWING NO. | | REV | |
| | |  | | QA | | 15.5:1 | | A | | 541482 | | A | |
| | | CUST | | REVISED | | DO NOT SCALE DRAWING | | | | SHEET 1 OF 2 | | | |

DAISY CHAIN PATTERN

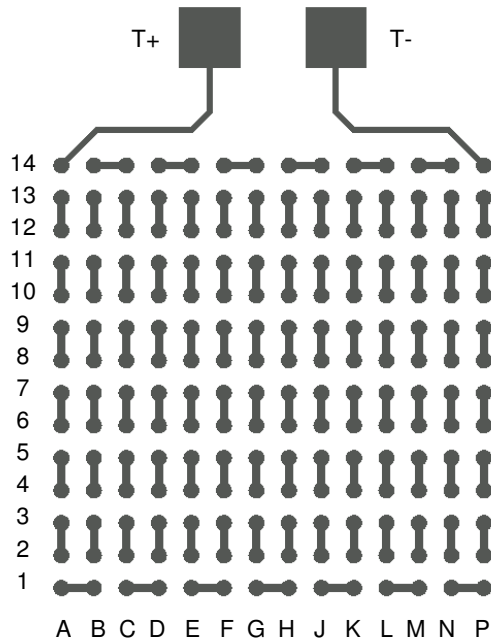
BALL VIEW



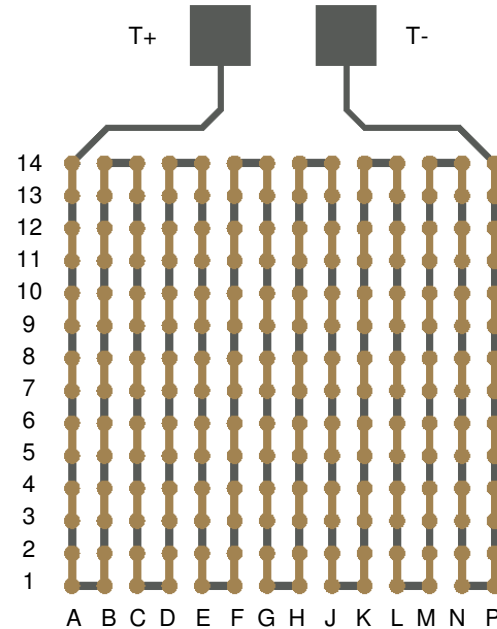
BOTTOM SIDE
(TOP X-RAY VIEW)



TOP VIEW



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



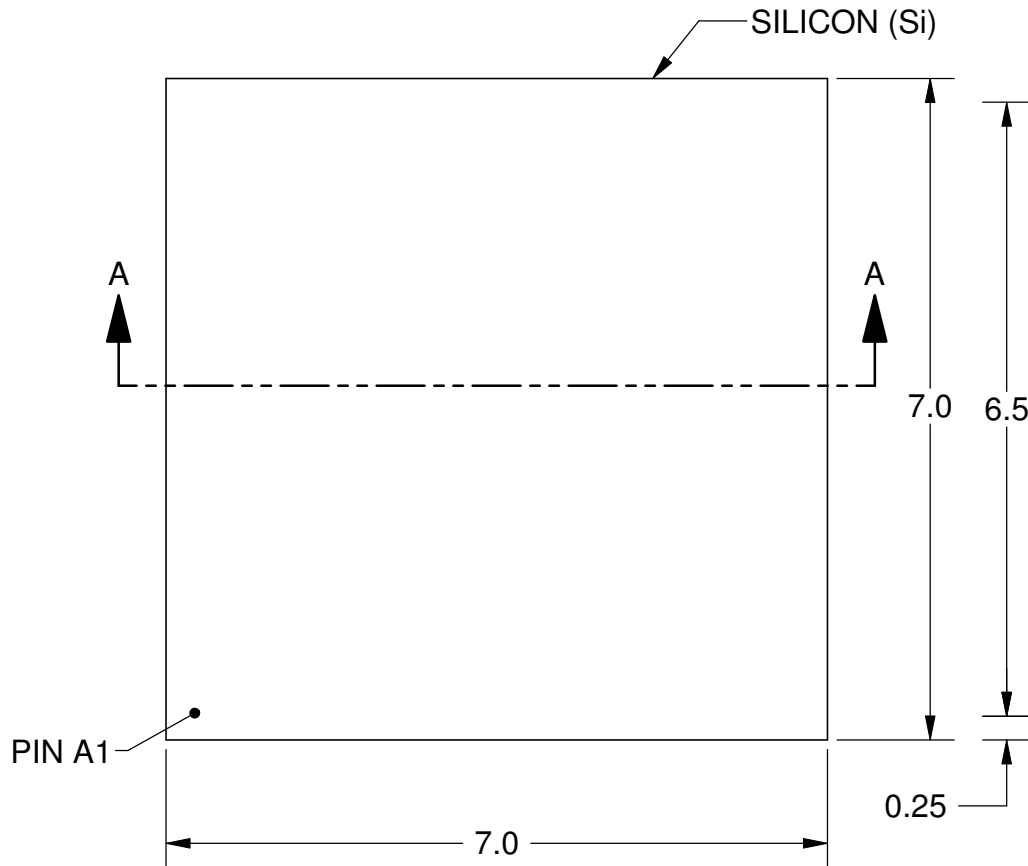
TEST VEHICLE BOARD

Notes:

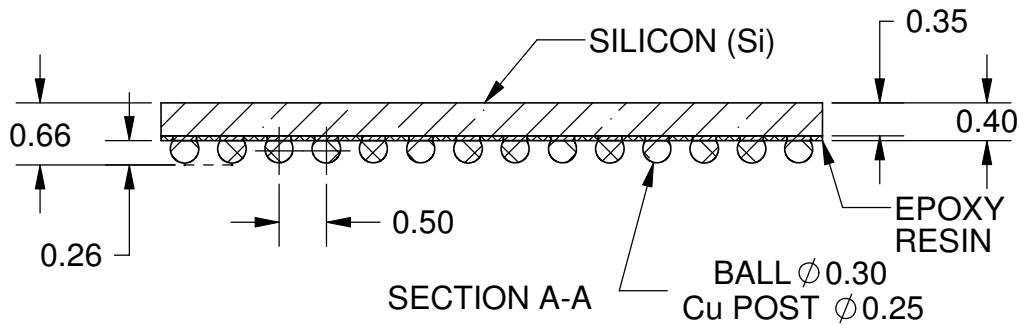
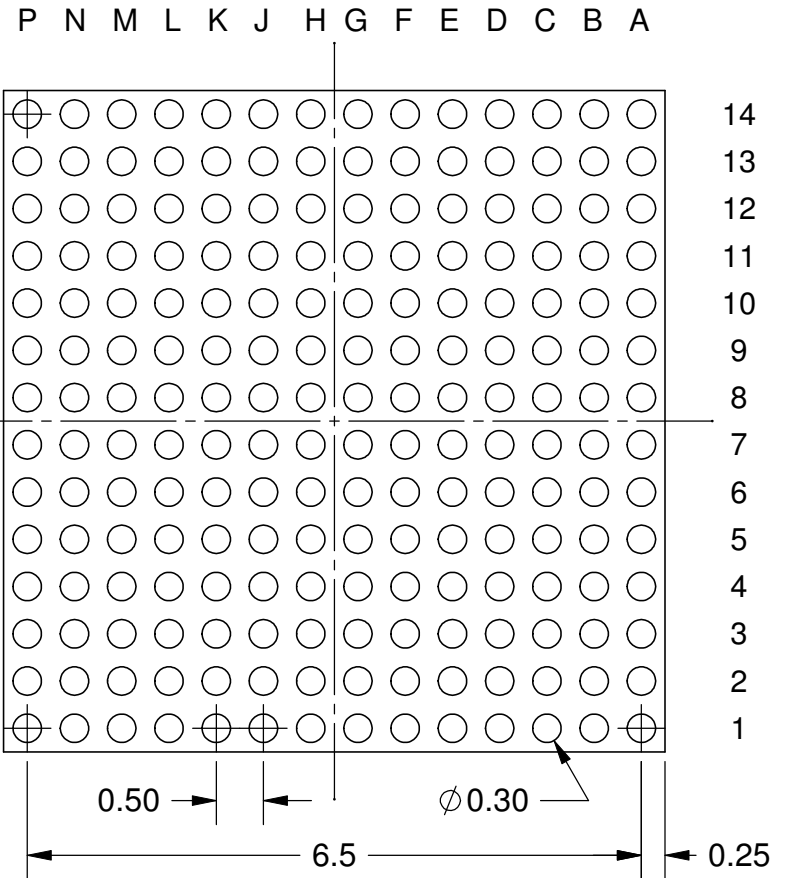
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.20mm (7.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

| | | | |
|---|-----------|-----------------------|----------|
| TopLine ® | | | |
| 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).

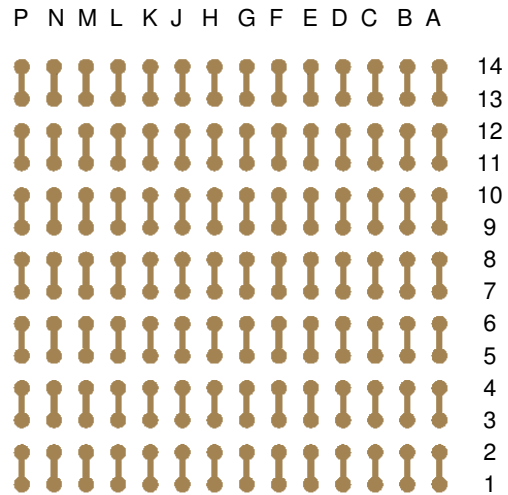
- 1) ALL DIMENSIONS ARE IN MM.
- 2) SOLDER BALL ALLOY:
STANDARD: SAC305 (Sn96.5/Ag3.0/Cu0.5).
SPECIAL: LF35 (Sn98.3/Ag1.2/Cu0.5).
- 3) BALL DIAMETER (BEFORE REFLOW): 0.30mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.25mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

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

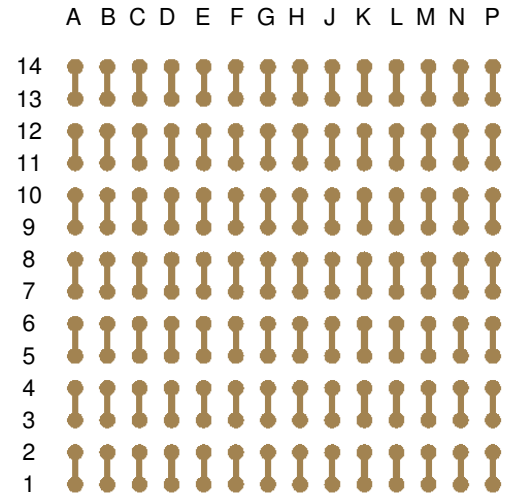
| | | | | | | | | |
|---|-----------|------------------------|--|------------|---|------|-------------|--------------|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE |  | | | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/28/2010 | | | | |
| X.XX | +/- 0.03 | ENG | | | TITLE | | | |
| X.XXX | +/- 0.003 | MFG | | | WLP196T.5C-DC148D | | | |
| ANGLES +/- 0.5° | | THIRD ANGLE PROJECTION | | | 196-BALL P=0.5mm (TEG0510) | | | |
| ALL DIMENSIONS IN | | QA | | | SCALE | SIZE | DRAWING NO. | REV |
| INCHES <input type="checkbox"/> MILLIMETERS <input checked="" type="checkbox"/> | | CUST | | | 12.5:1 | A | 551482 | A |
| | | REVISED | | | DO NOT SCALE DRAWING | | | SHEET 1 OF 2 |

DAISY CHAIN PATTERN

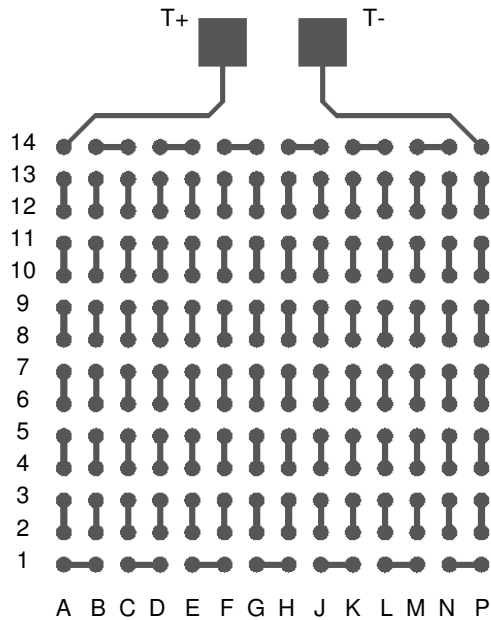
BALL VIEW



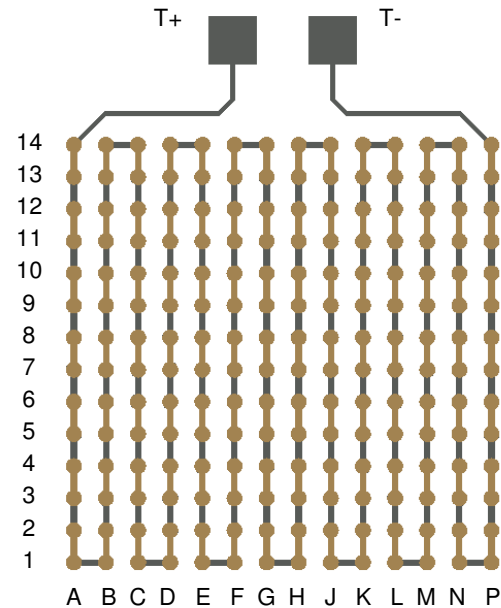
BOTTOM SIDE
(TOP X-RAY VIEW)



TOP VIEW



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



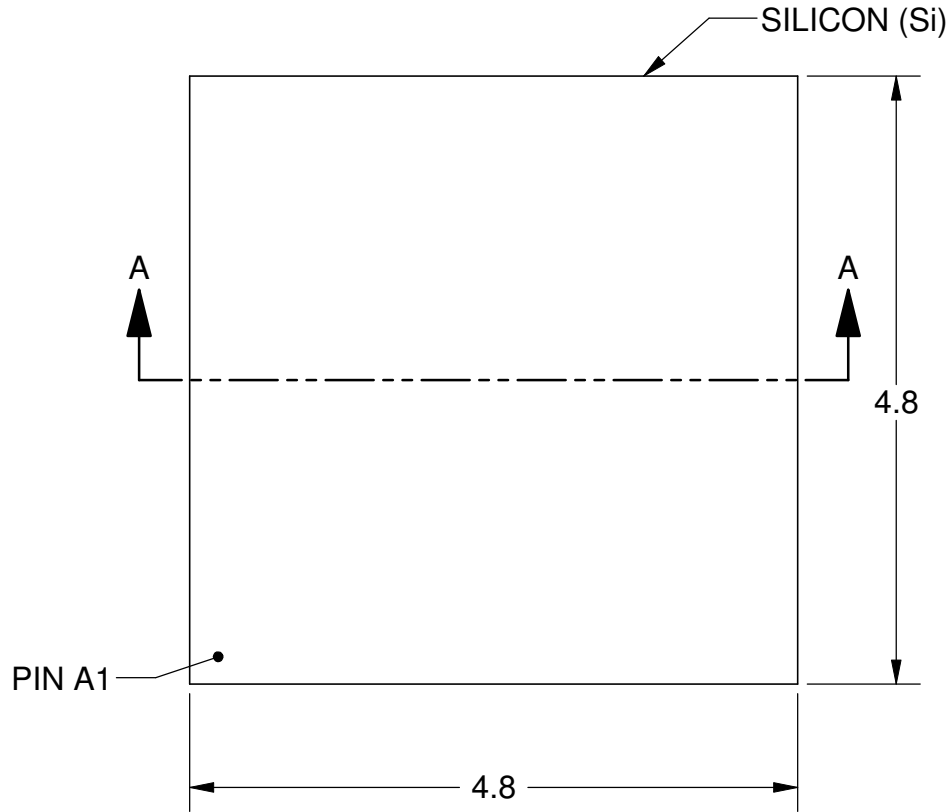
TEST VEHICLE BOARD

Notes:

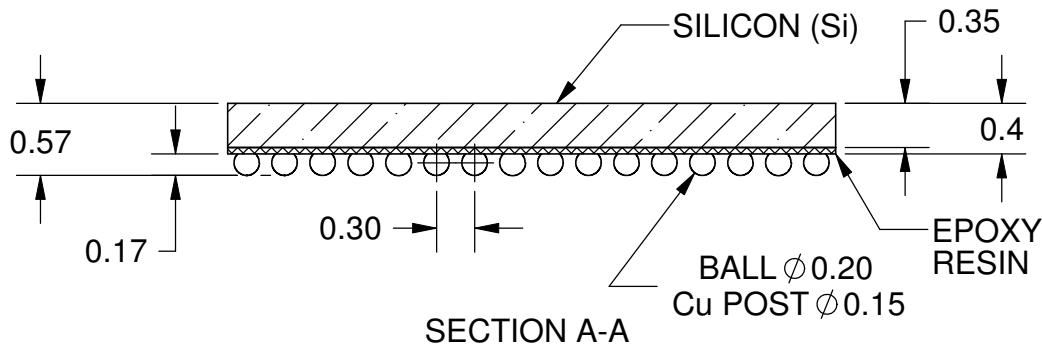
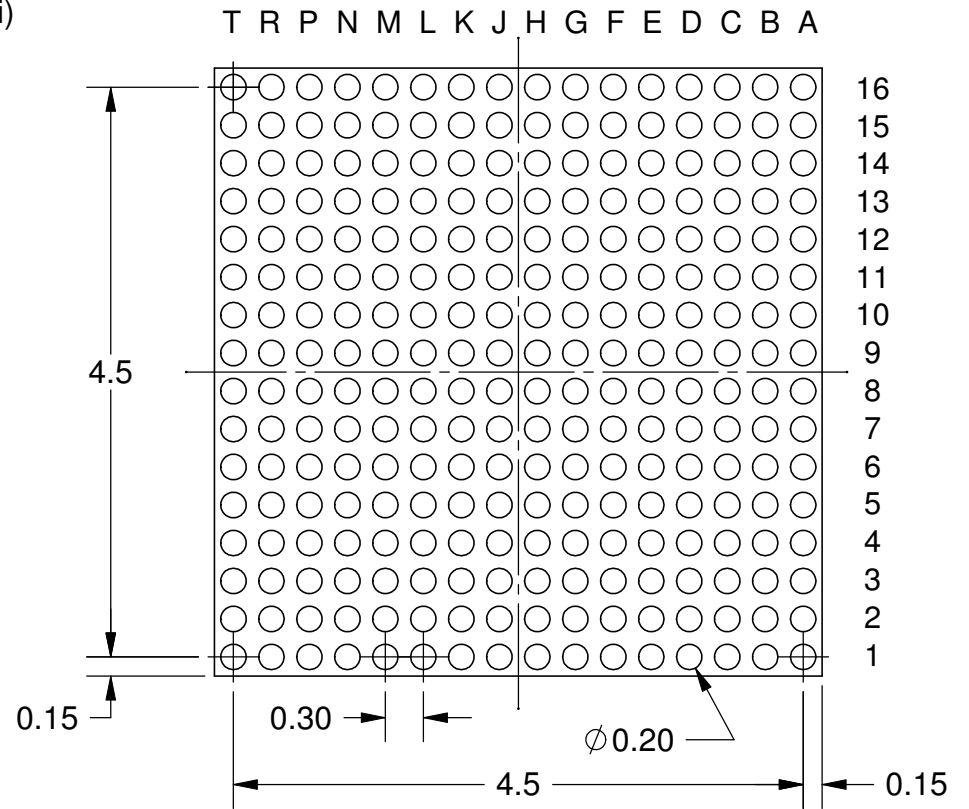
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.25mm (9.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

| | | | |
|--|-----------|-----------------------|----------|
| TopLine ® | | | |
| TITLE WLP196T.5C-DC148D 196-BALL P=0.5mm (TEG0510) | | | |
| SCALE 8.5:1 | SIZE A | DRAWING NO. 551482 | REV A |
| DO NOT SCALE DRAWING | | SHEET 2 OF 2 | |

TOP VIEW



BALL VIEW




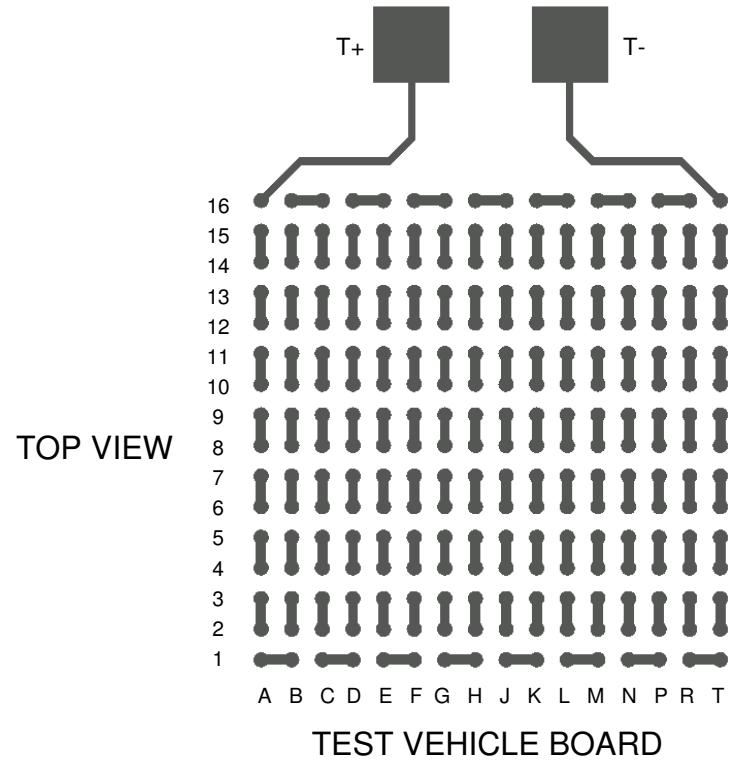
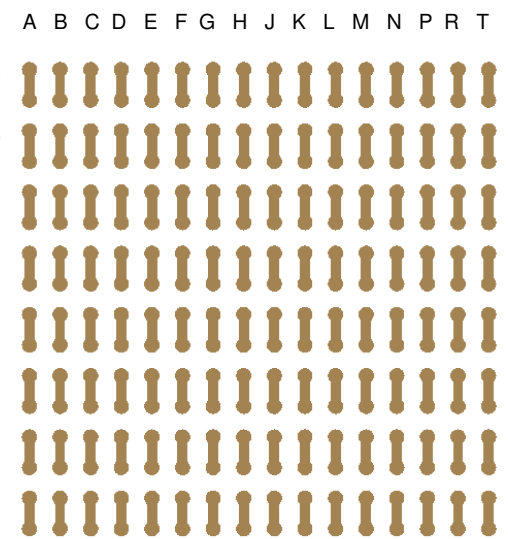
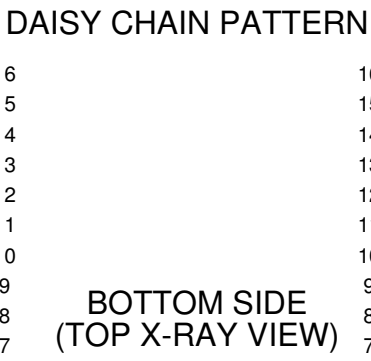
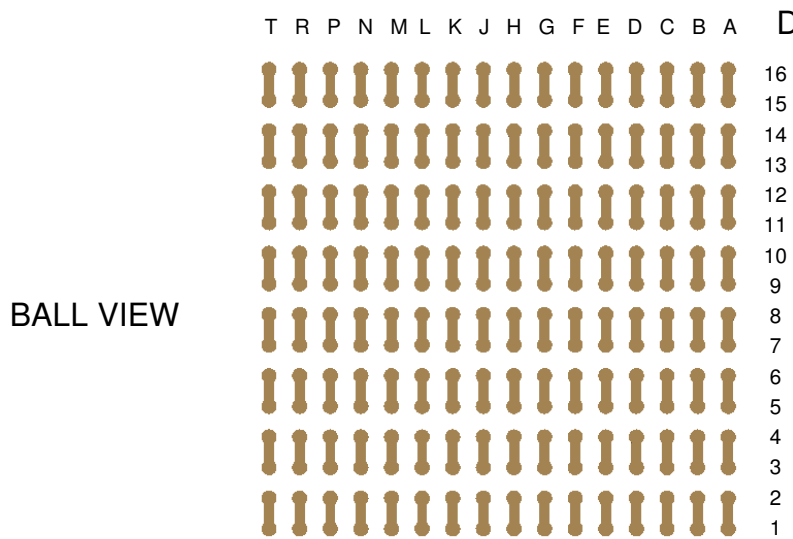
Notes: (Unless Otherwise Specified).

- 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).

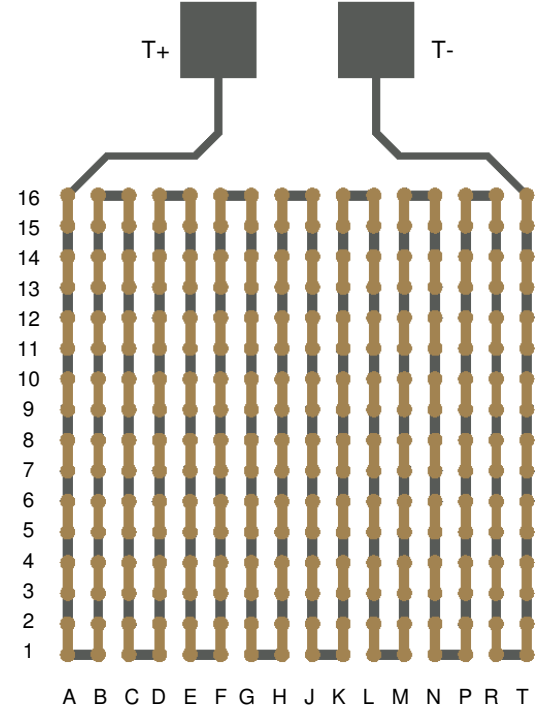
PART NUMBER TABLE

| PART NUMBER | BALL ALLOY | Pb-FREE | RoHS | Si DIE |
|--------------------|--------------------|---------|------|--------|
| WLP256T.3C-DC168D | Sn96.5/Ag3.0/Cu0.5 | YES | YES | YES |
| WLP256T.3C1-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 | | | |
| X.XXX | +/- 0.003 | MFG | | | WLP256T.3C-DC168D | | | |
| ANGLES +/- 0.5° | | THIRD ANGLE PROJECTION | | | 256-BALL P=0.3mm (TEG0306) | | | |
| ALL DIMENSIONS IN | | QA | | | SCALE | SIZE | DRAWING NO. | REV |
| INCHES <input type="checkbox"/> MILLIMETERS <input checked="" type="checkbox"/> | | CUST | | | 16.75:1 | A | 531682 | A |
| | | REVISED | | | DO NOT SCALE DRAWING | | | SHEET 1 OF 2 |



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

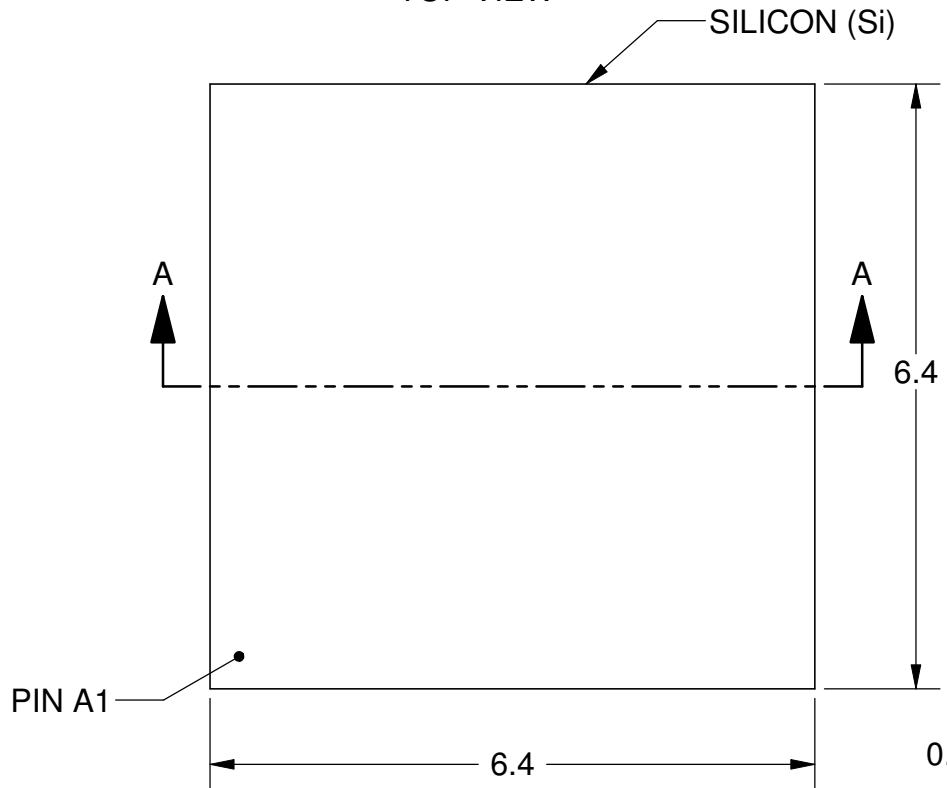


TEST VEHICLE BOARD

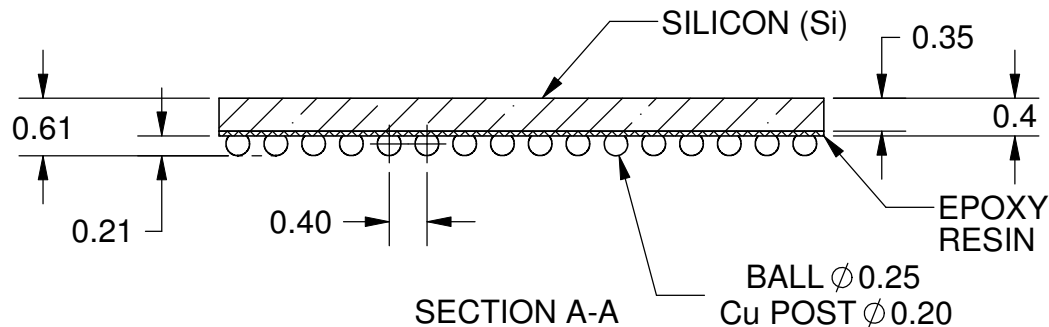
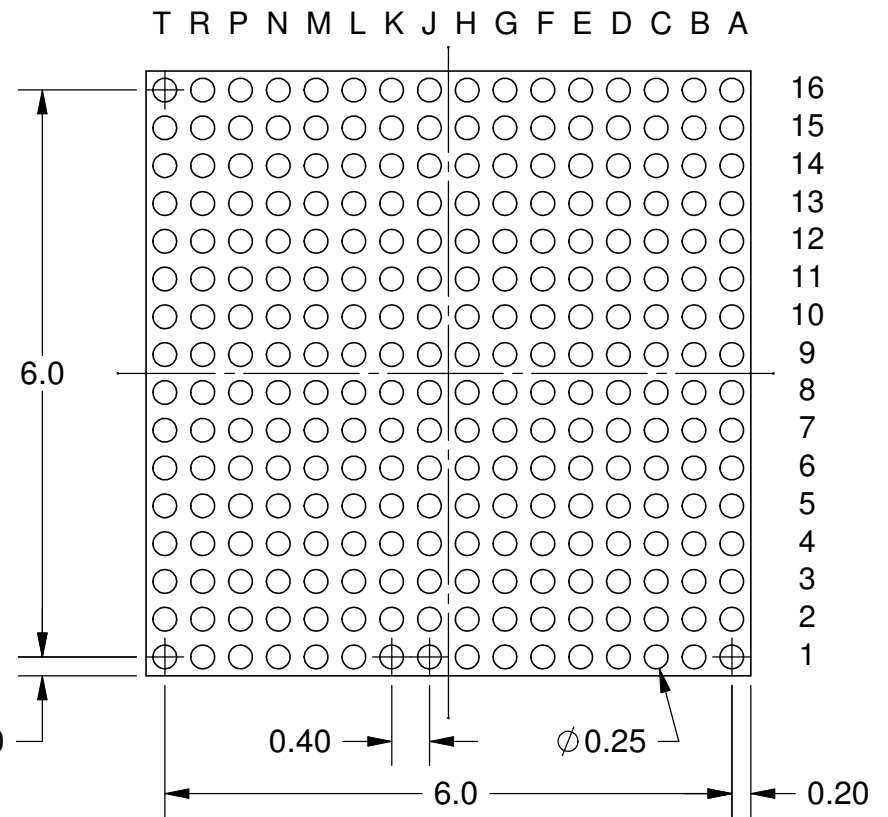
- Notes:
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
 - 2) PCB Cu BALL PAD DIAMETER 0.15mm (5.9mil).
 - 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

| | | | |
|---|-----------|-----------------------|----------|
| TopLine ® | | | |
| TITLE WLP256T.3C-DC168D 256-BALL P=0.3mm (TEG0306) | | | |
| SCALE 13.5:1 | SIZE A | DRAWING NO. 531682 | 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 |

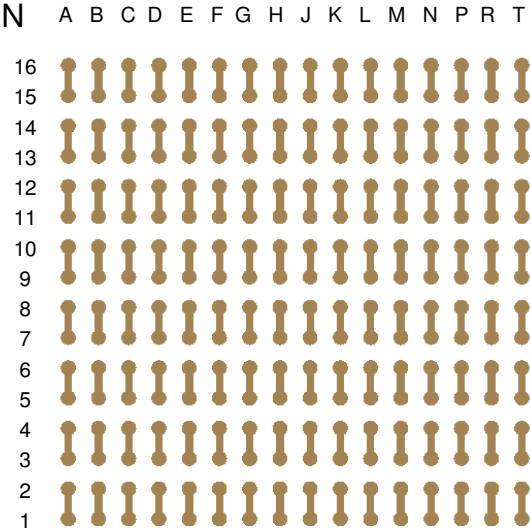
| | | | | | | | | | | |
|---------------------------|-----------|----------------|--|--------------|--|----------------------------|--|--------------------|--|-------|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE | | | | | | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/28/2010 | | | | | | |
| X.XX |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

BALL VIEW

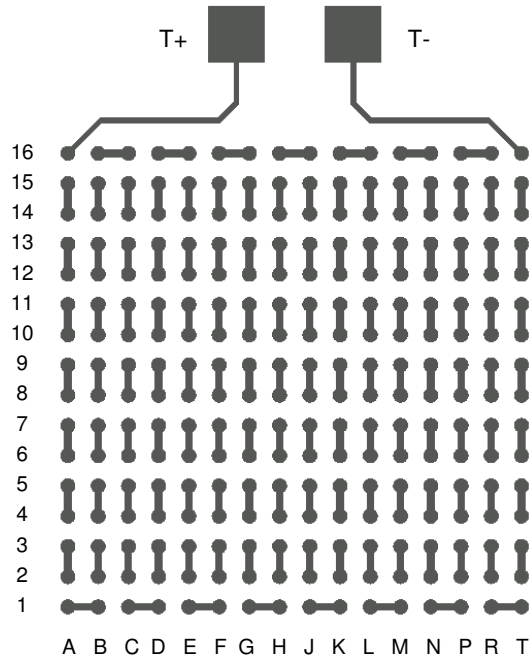


DAISY CHAIN PATTERN

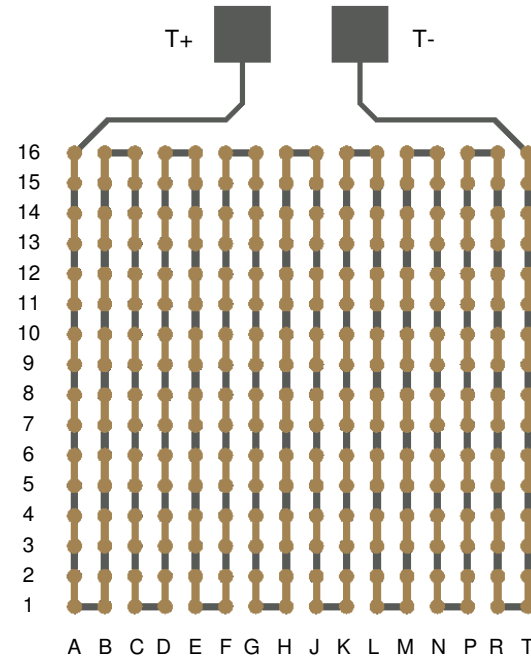
BOTTOM SIDE
(TOP X-RAY VIEW)



TOP VIEW



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



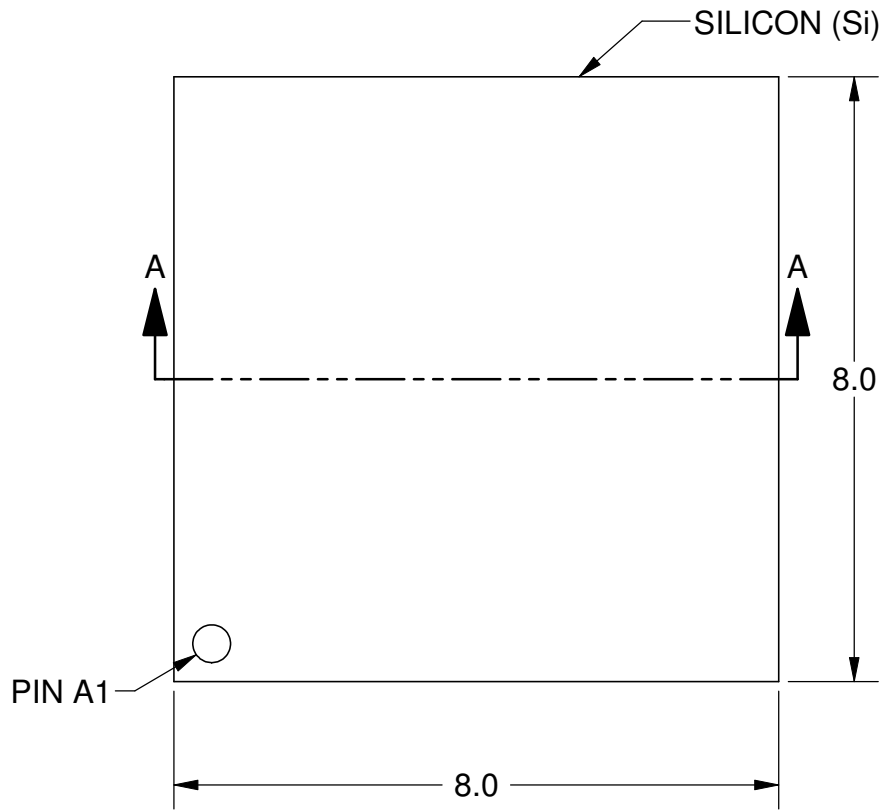
TEST VEHICLE BOARD

Notes:

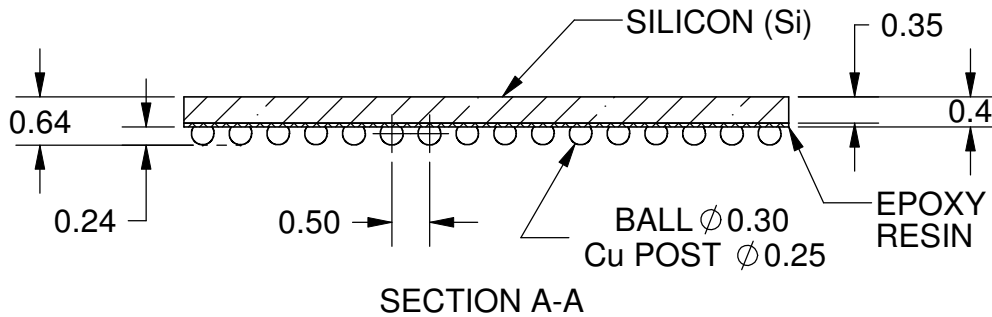
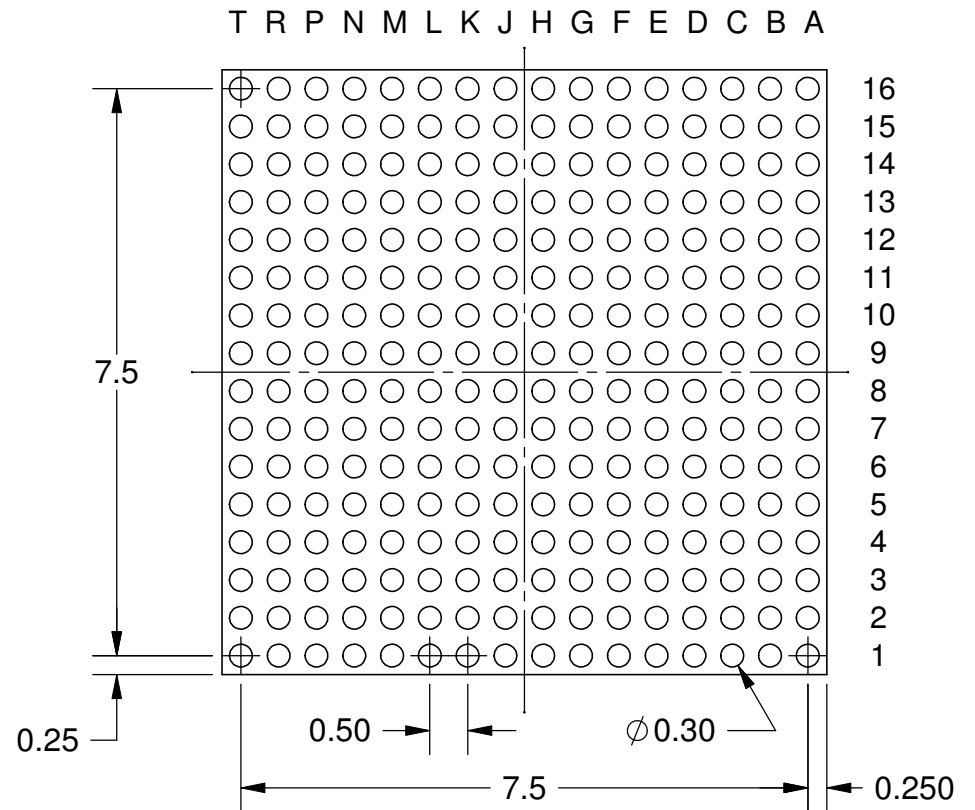
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.20mm (7.9mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

| | | | |
|---|-----------|-----------------------|----------|
| TopLine ® | | | |
| 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



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): 0.30mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.25mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

SECTION A-A

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

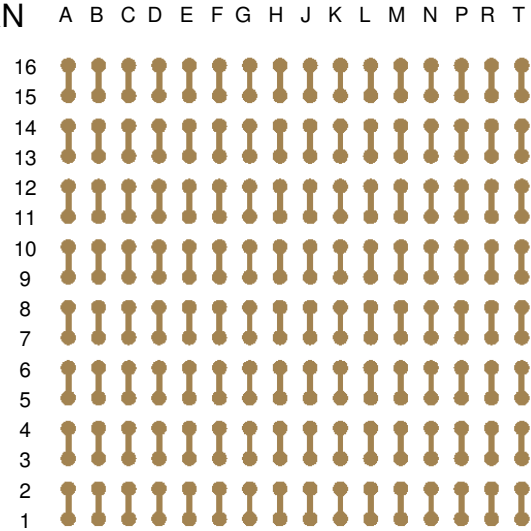
| | | | | | | | | |
|------------------------|-----------|---|--|------------|----------------------------|------|-------------|--------------|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE | | | | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/28/2010 | | | | |
| X.XX | +/- 0.03 | ENG | | | TITLE | | | |
| X.XXX | +/- 0.003 | MFG | | | WLP256T.5C-DC168D | | | |
| ANGLES +/- 0.5° | | THIRD ANGLE PROJECTION | | | 256-BALL P=0.5mm (TEG0510) | | | |
| ALL DIMENSIONS IN | | <input type="checkbox"/> INCHES <input checked="" type="checkbox"/> MILLIMETERS | | | SCALE | SIZE | DRAWING NO. | REV |
| | | | | | 10:1 | A | 551682 | A |
| | | REVISED | | | DO NOT SCALE DRAWING | | | SHEET 1 OF 2 |

BALL VIEW

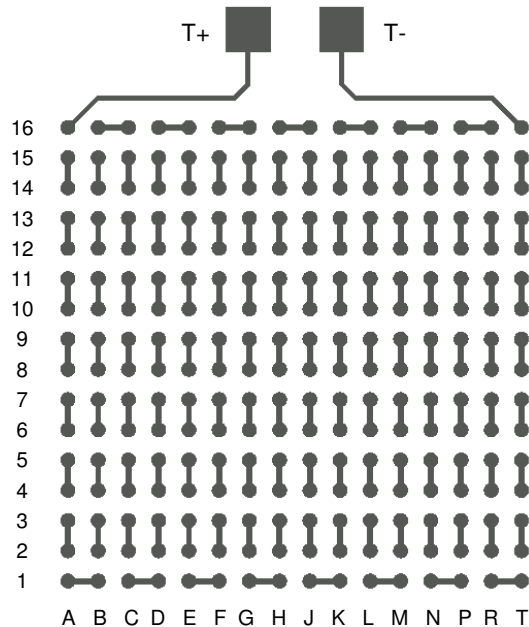


DAISY CHAIN PATTERN

BOTTOM SIDE
(TOP X-RAY VIEW)

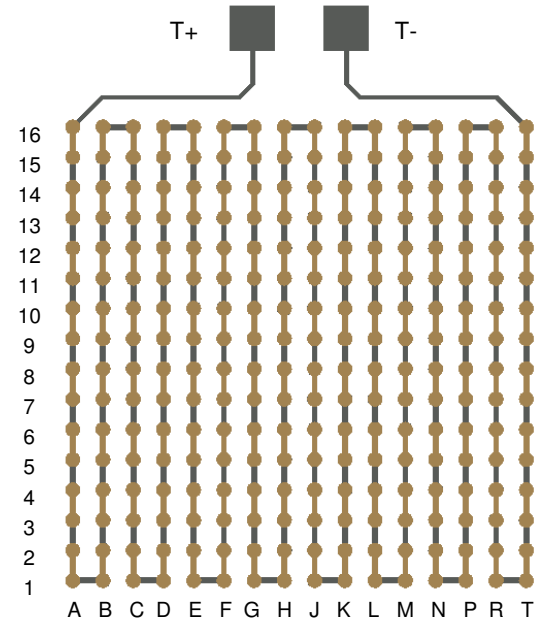


TOP VIEW



TEST VEHICLE BOARD

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



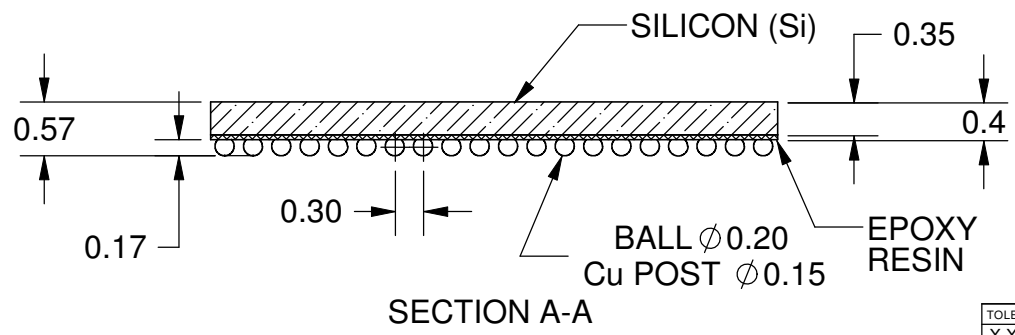
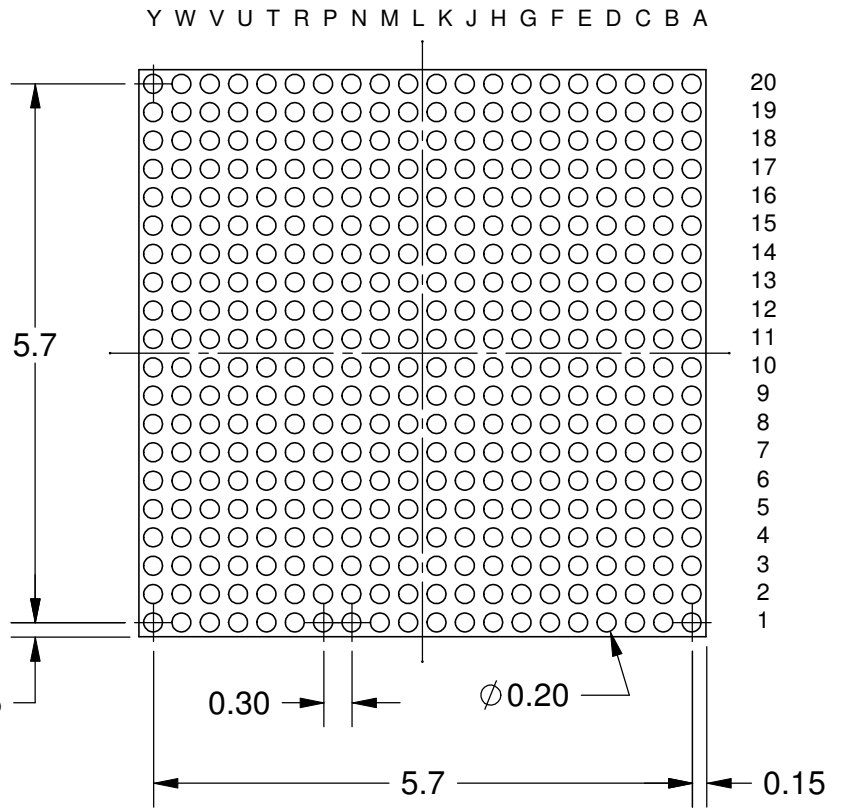
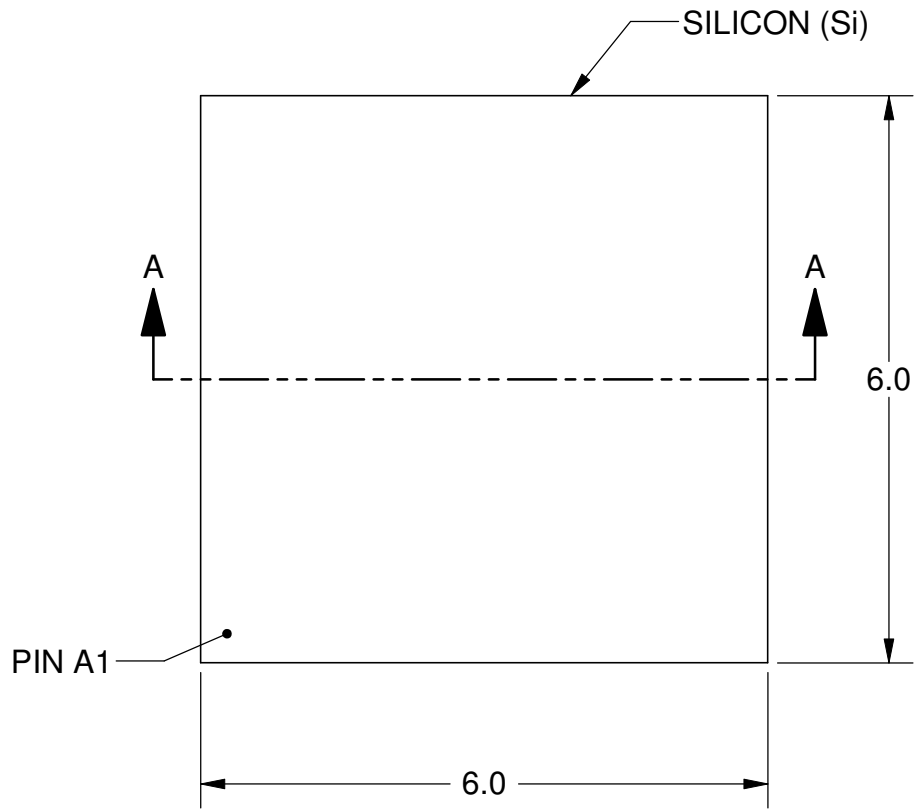
Notes:

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

| | | | |
|---|-----------|-----------------------|----------|
| TopLine ® | | | |
| TITLE WLP256T.5C-DC168D 256-BALL P=0.5mm (TEG0510) | | | |
| SCALE 8:1 | SIZE A | DRAWING NO. 551682 | REV A |
| DO NOT SCALE DRAWING | | SHEET 2 OF 2 | |

TOP VIEW

BALL VIEW



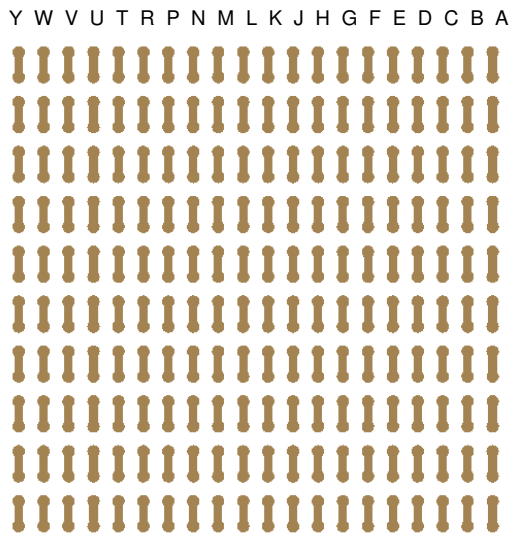
- Notes: (Unless Otherwise Specified).
 1) ALL DIMENSIONS ARE IN MM.
 2) SOLDER BALL ALLOY:
 STANDARD: SAC305 (Sn96.5/Ag3.0/Cu0.5).
 SPECIAL: LF35 (Sn98.3/Ag1.2/Cu0.5).
 3) BALL DIAMETER (BEFORE REFLOW): 0.20mm.
 4) NON-SOLDER MASK DEFINED PAD.
 5) PAD Cu DIAMETER: 0.15mm.
 6) SUBSTRATE MATERIAL: Si (SILICON).
 7) DAISY CHAIN PATTERN (SEE PAGE 2).

SECTION A-A

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

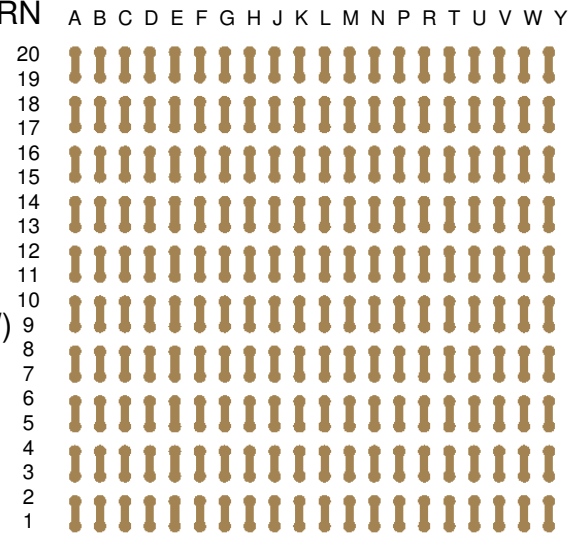
| | | | | | | | | |
|---|-----------|------------------------|------|------------|----------------------------|------|--------------|-----|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE | | | | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/28/2010 | | | | |
| X.XX | +/- 0.03 | ENG | | | TITLE | | | |
| X.XXX | +/- 0.003 | MFG | | | WLP400T.3C-DC208D | | | |
| ANGLES +/- 0.5° | | THIRD ANGLE PROJECTION | | | 400-BALL P=0.3mm (TEG0306) | | | |
| ALL DIMENSIONS IN | | QA | CUST | REVISD | SCALE | SIZE | DRAWING NO. | REV |
| INCHES <input type="checkbox"/> MILLIMETERS <input checked="" type="checkbox"/> | | | | | 12.5:1 | A | 532082 | A |
| | | | | | DO NOT SCALE DRAWING | | SHEET 1 OF 2 | |

BALL VIEW

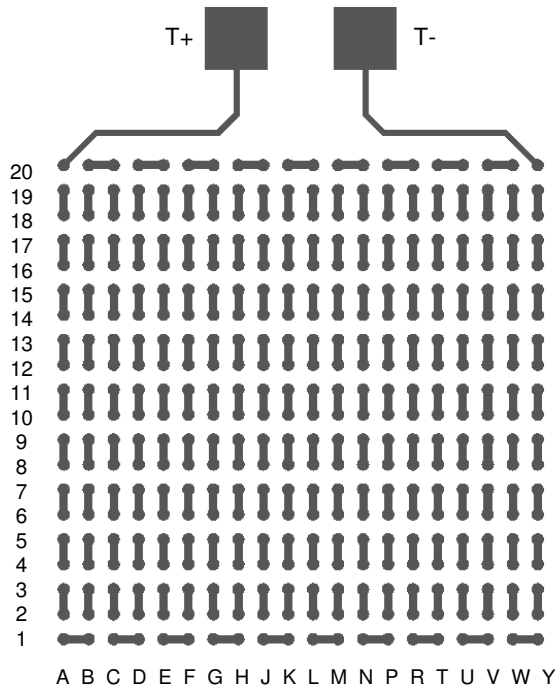


DAISY CHAIN PATTERN

BOTTOM SIDE
(TOP X-RAY VIEW)

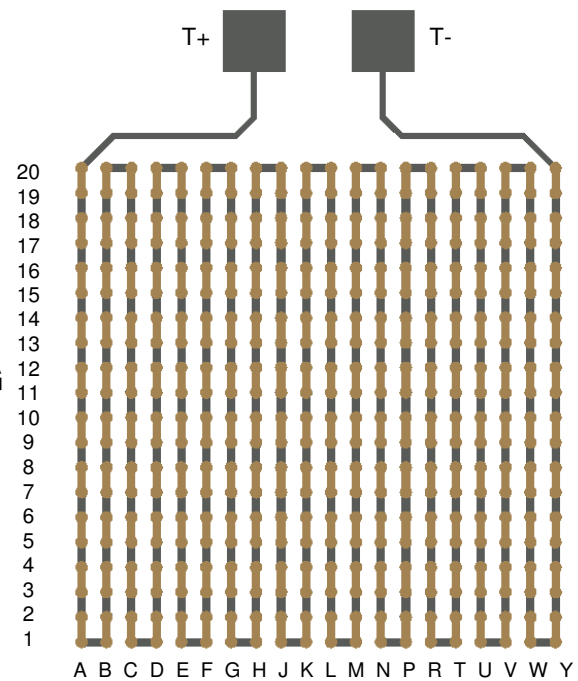


TOP VIEW



TEST VEHICLE BOARD

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

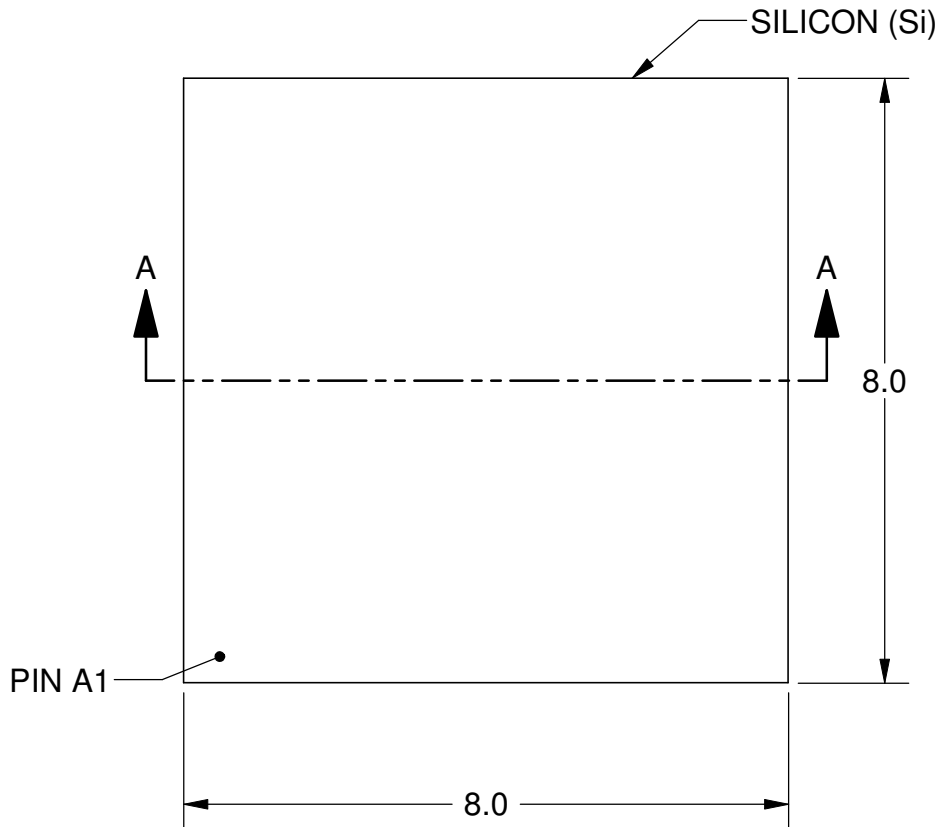


Notes:

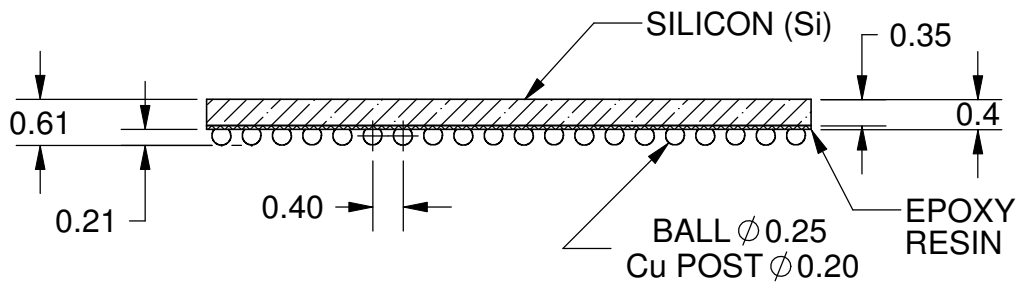
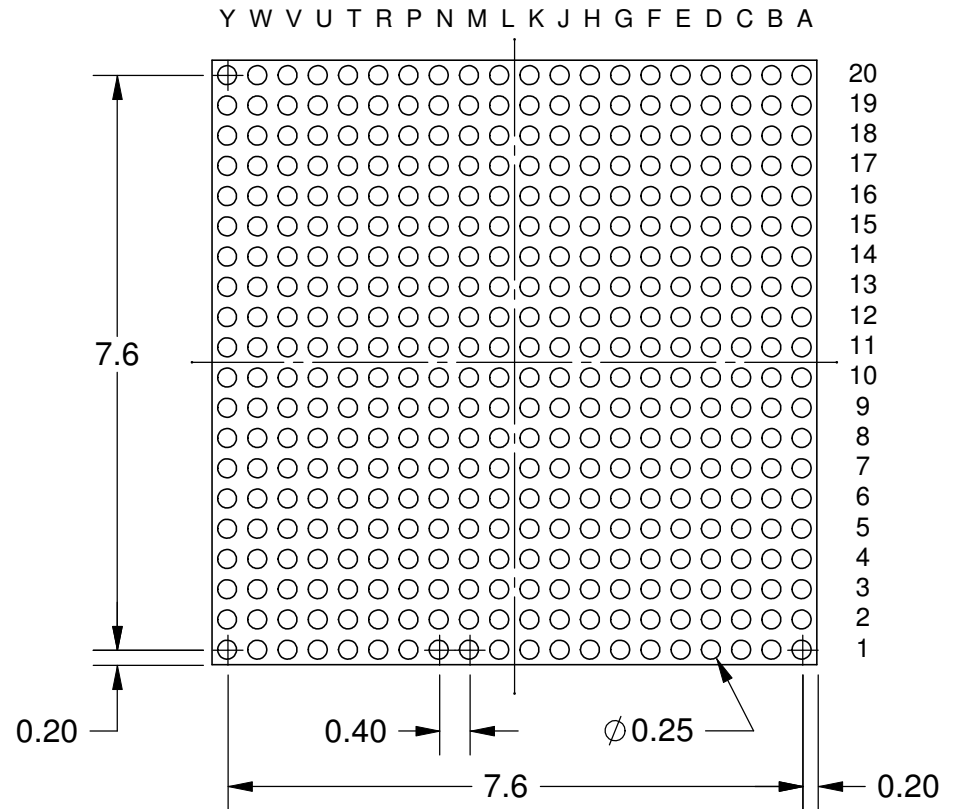
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.15mm (5.9mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

| | | | |
|---|-----------|-----------------------|----------|
| TopLine ® | | | |
| TITLE WLP400T.3C-DC208D 400-BALL P=0.3mm (TEG0306) | | | |
| SCALE 11:1 | SIZE A | DRAWING NO. 532082 | REV A |
| DO NOT SCALE DRAWING | | SHEET 2 OF 2 | |

TOP VIEW



BALL VIEW


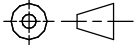


SECTION A-A

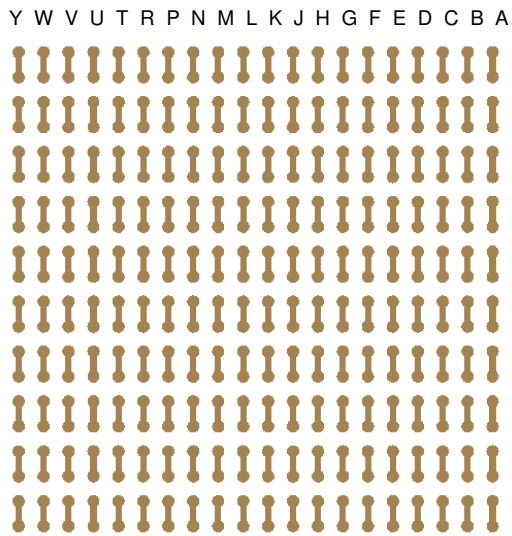
Notes: (Unless Otherwise Specified).

- 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 |

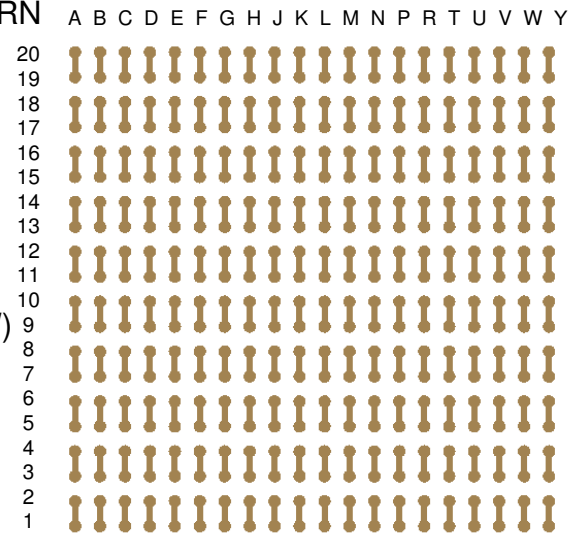
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|------------------------|-----------|---|--|------------|---|------|-------------|--------------|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE |  | | | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/28/2010 | | | | |
| X.XX | +/- 0.03 | ENG | | | TITLE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

BALL VIEW

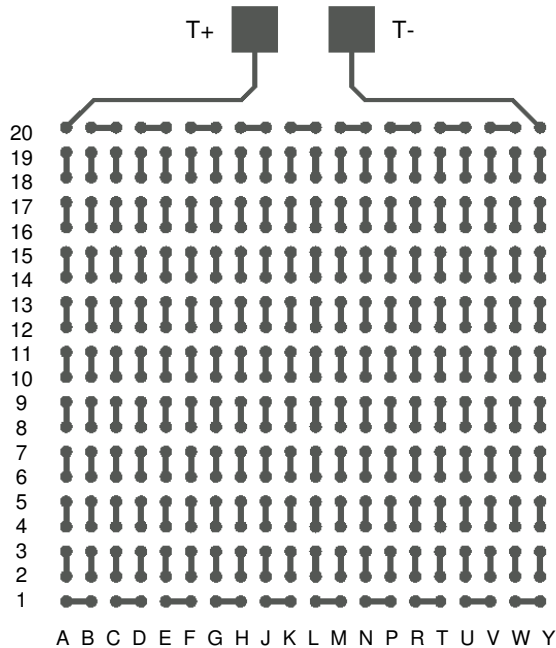


DAISY CHAIN PATTERN

BOTTOM SIDE
(TOP X-RAY VIEW)

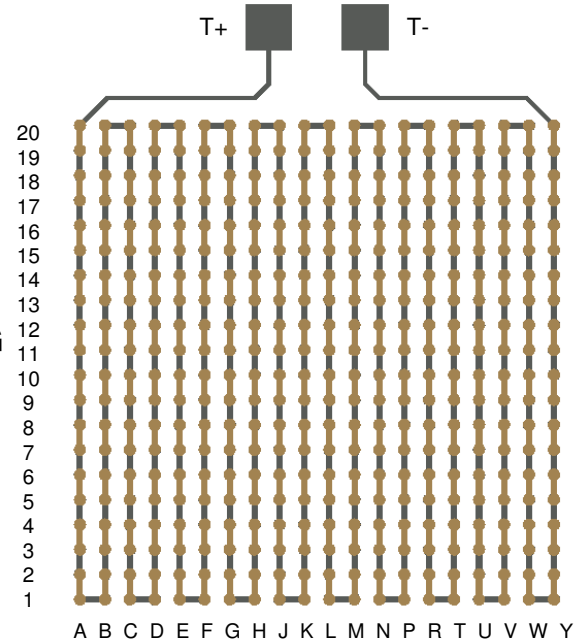


TOP VIEW



TEST VEHICLE BOARD

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

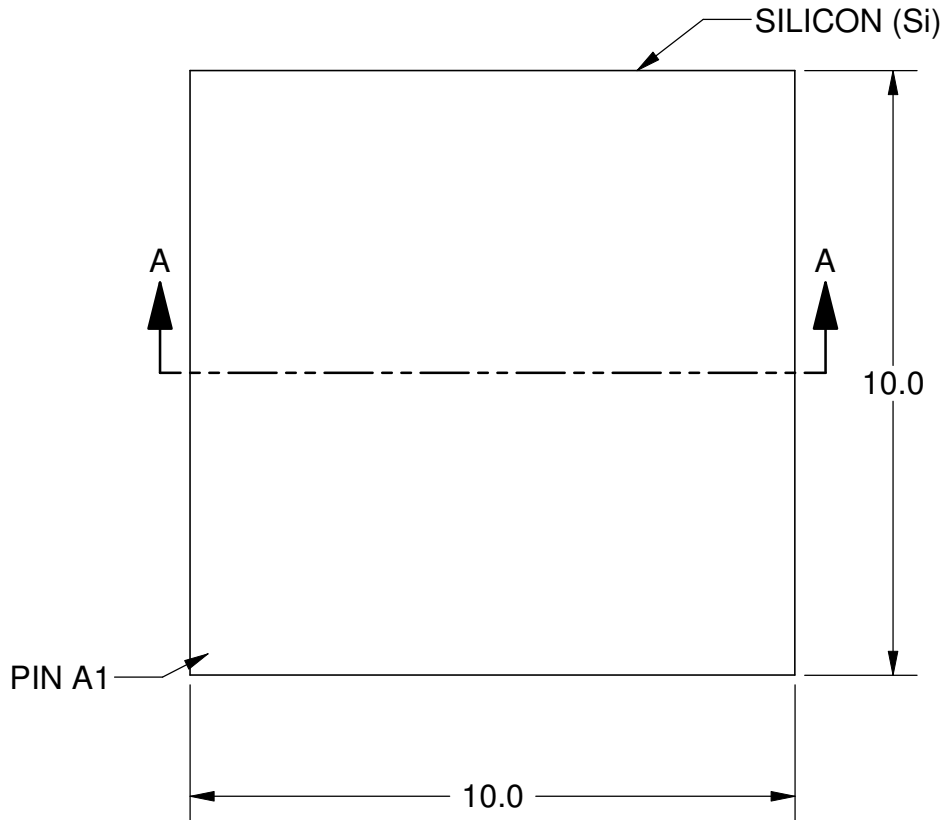


Notes:

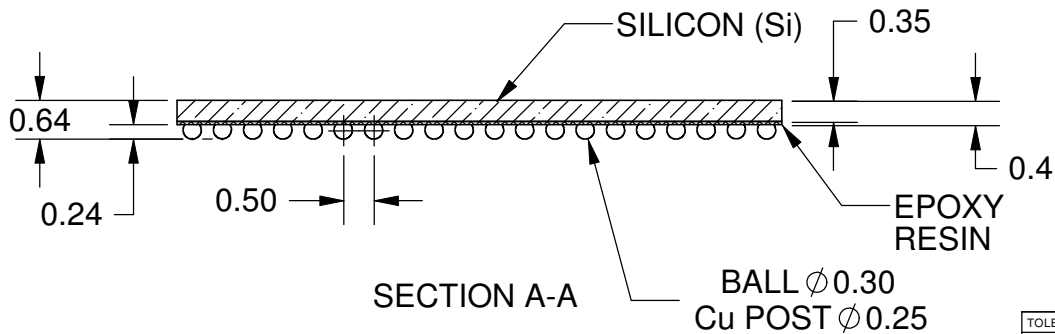
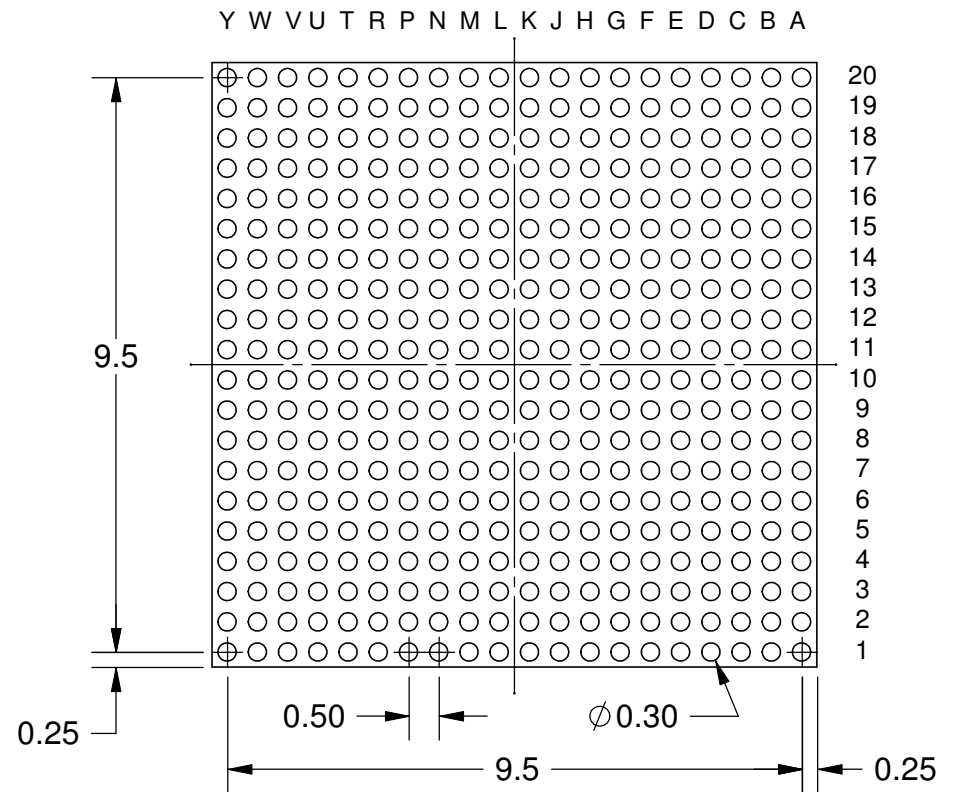
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.20mm (7.9mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

| | | | |
|--|------|-------------|--------------|
| TopLine ® | | | |
| 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




Notes: (Unless Otherwise Specified).

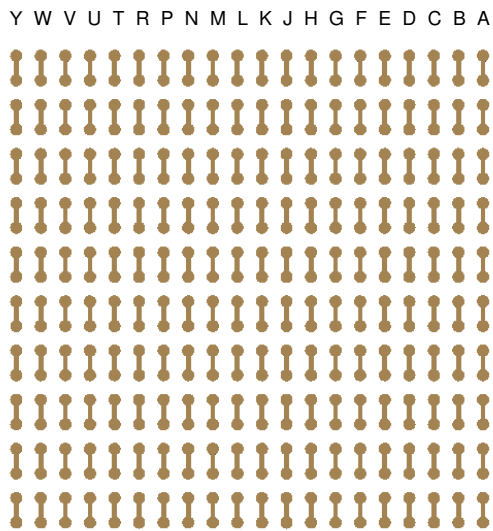
- 1) ALL DIMENSIONS ARE IN MM.
- 2) SOLDER BALL ALLOY:
STANDARD: SAC305 (Sn96.5/Ag3.0/Cu0.5).
SPECIAL: LF35 (Sn98.3/Ag1.2/Cu0.5).
- 3) BALL DIAMETER (BEFORE REFLOW): 0.30mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.25mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

PART NUMBER TABLE

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

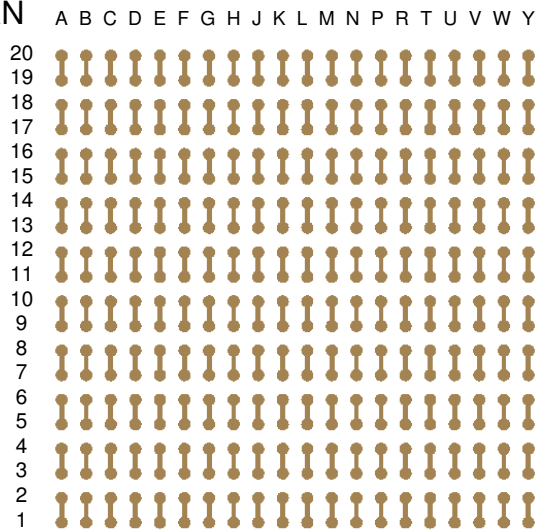
| | | | | | | | | |
|---|-----------|------------------------|--|------------|---|------|-------------|--------------|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE |  | | | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/28/2010 | | | | |
| X.XX | +/- 0.03 | ENG | | | TITLE | | | |
| X.XXX | +/- 0.003 | MFG | | | WLP400T.5C-DC208D | | | |
| ANGLES +/- 0.5° | | THIRD ANGLE PROJECTION | | | 400-BALL P=0.5mm (TEG0510) | | | |
| ALL DIMENSIONS IN | | QA | | | SCALE | SIZE | DRAWING NO. | REV |
| INCHES <input type="checkbox"/> MILLIMETERS <input checked="" type="checkbox"/> | | CUST | | | 8:1 | A | 552082 | A |
| | | REVISED | | | DO NOT SCALE DRAWING | | | SHEET 1 OF 2 |

BALL VIEW

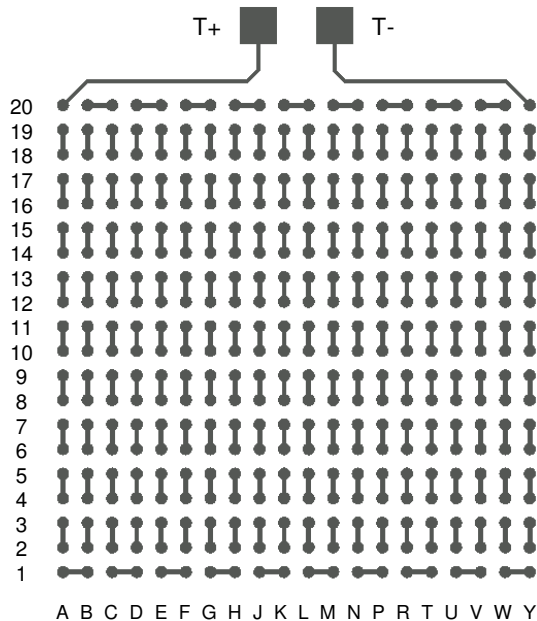


DAISY CHAIN PATTERN

BOTTOM SIDE
(TOP X-RAY VIEW)

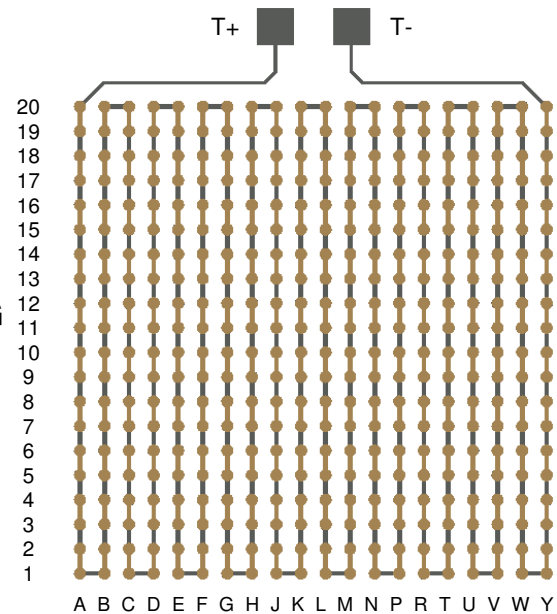


TOP VIEW



TEST VEHICLE BOARD

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

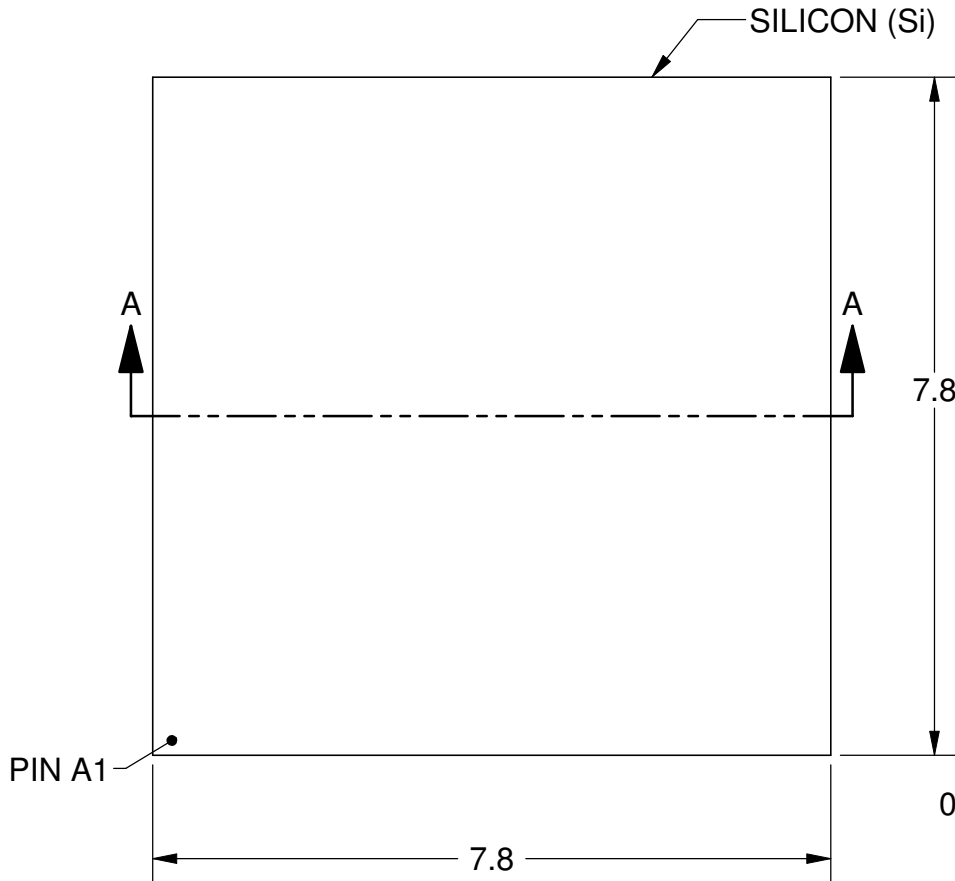


Notes:

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

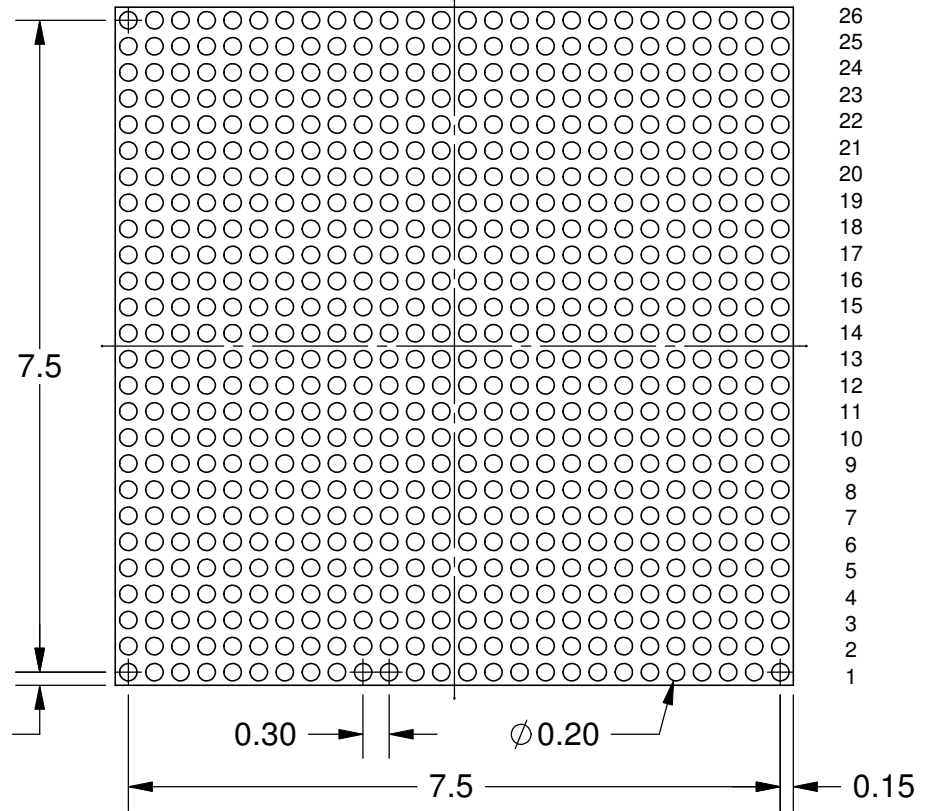
| | | | |
|--|------|-------------|--------------|
| TopLine ® | | | |
| TITLE WLP400T.5C-DC208D 400-BALL P=0.5mm (TEG0510) | | | |
| SCALE | SIZE | DRAWING NO. | REV |
| 6.5:1 | A | 552082 | A |
| DO NOT SCALE DRAWING | | | SHEET 2 OF 2 |

TOP VIEW

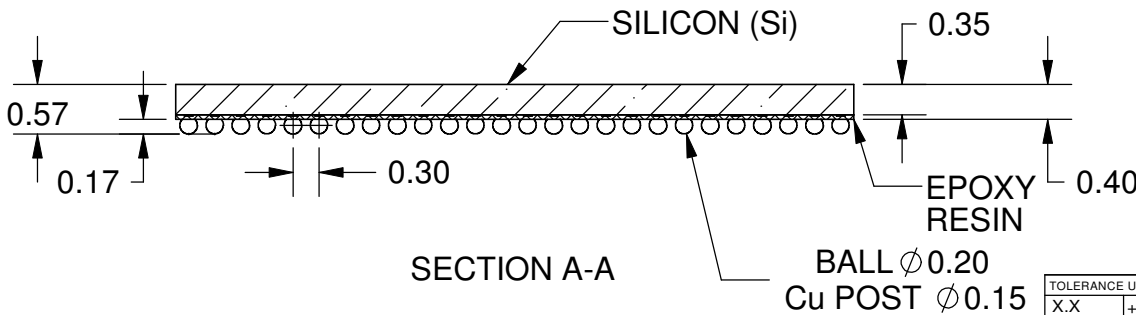


BALL VIEW

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



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1



SECTION A-A

BALL ϕ 0.20
Cu POST ϕ 0.15

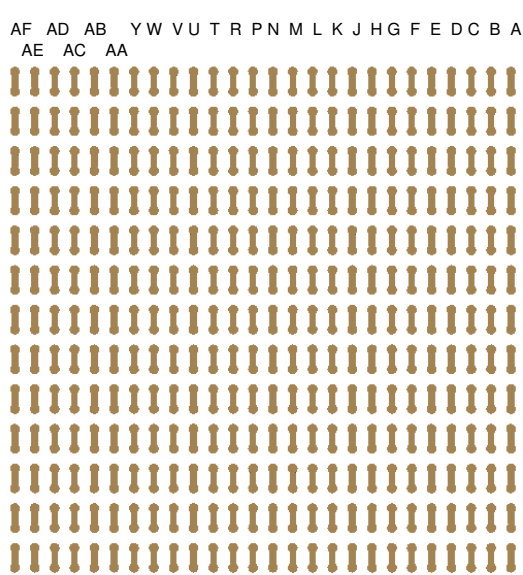
Notes: (Unless Otherwise Specified).

- 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): 0.20mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.15mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

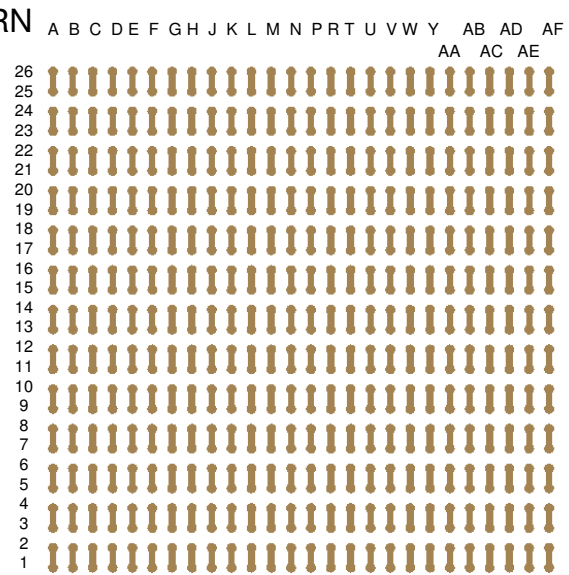
| PART NUMBER TABLE | | | | |
|--------------------|--------------------|---------|------|--------|
| PART NUMBER | BALL ALLOY | Pb-FREE | RoHS | Si DIE |
| WLP676T.3C-DC260D | Sn96.5/Ag3.0/Cu0.5 | YES | YES | YES |
| WLP676T.3C1-DC260D | Sn98.3/Ag1.2/Cu0.5 | YES | YES | YES |

| TOLERANCE UNLESS NOTED | | APPROVALS | DATE | | | | |
|---|-----------|----------------|------------|----------------------------|--------------------|-------|--|
| X.X | +/- 0.3 | DRAWN J. Hines | 12/29/2010 | TITLE WLP676T.3C-DC260D | | | |
| X.XX | +/- 0.03 | | | 676-BALL P=0.3mm (TEG0306) | | | |
| X.XXX | +/- 0.003 | | | SCALE 11.5:1 | | | |
| ANGLES +/- 0.5° | | ENG | | SIZE A | DRAWING NO. 532602 | REV A | |
| ALL DIMENSIONS IN | | MFG | | | | | |
| <input type="checkbox"/> INCHES <input checked="" type="checkbox"/> MILLIMETERS | | QA | | | | | |
| THIRD ANGLE PROJECTION | | CUST | | | | | |
| | | REVISED | | | | | |
| DO NOT SCALE DRAWING | | | | | SHEET 1 OF 2 | | |

BALL VIEW

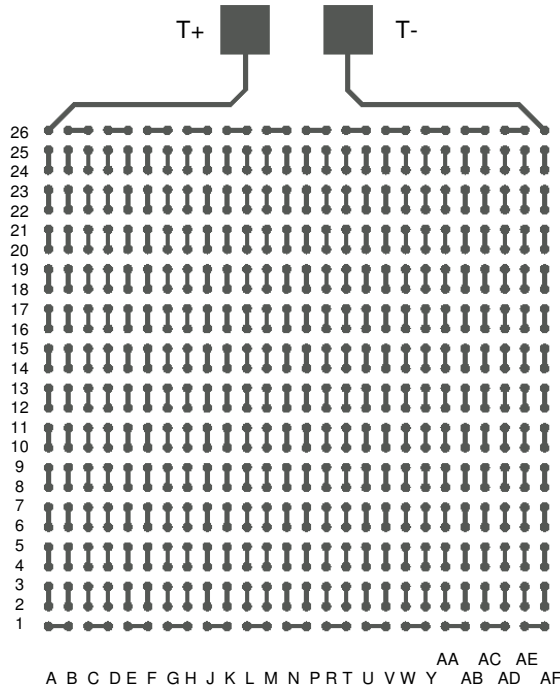


DAISY CHAIN PATTERN

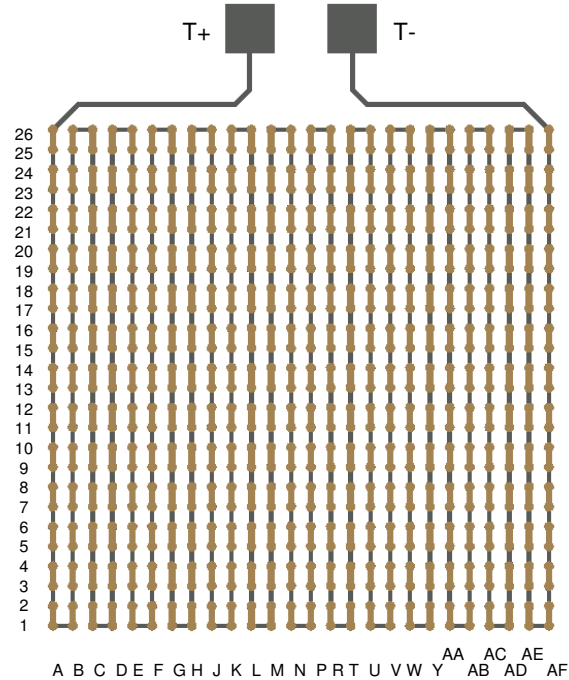


BOTTOM SIDE
(TOP X-RAY VIEW)

TOP VIEW



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



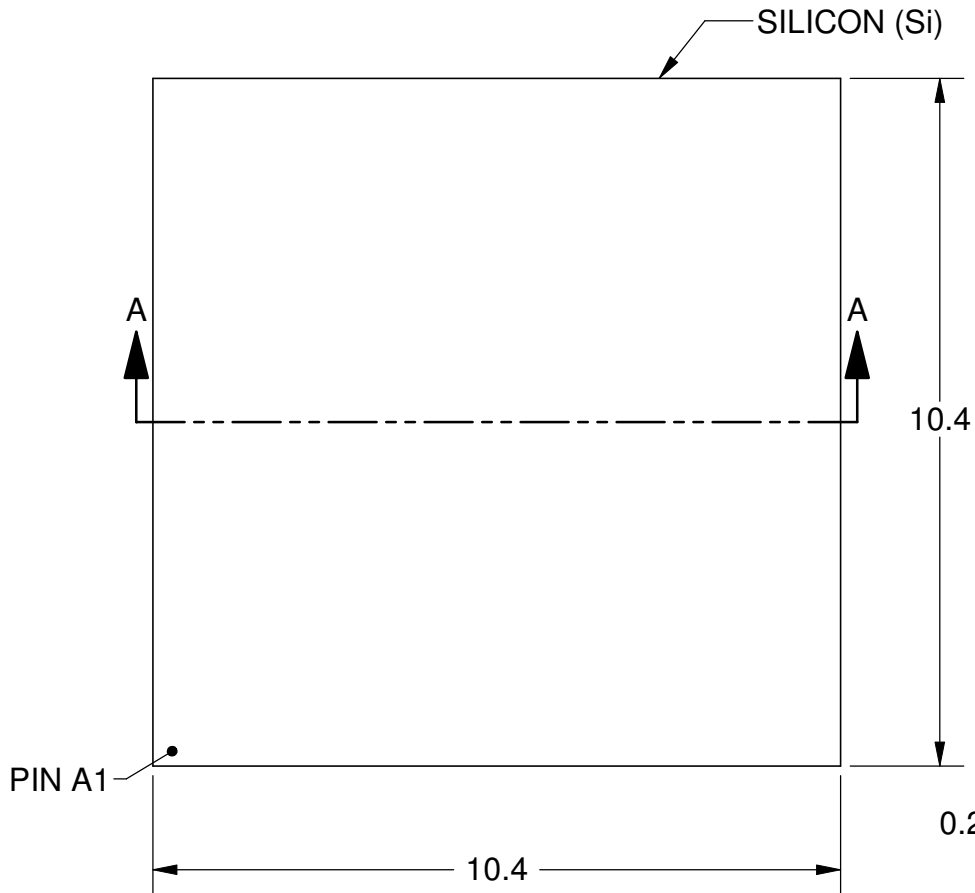
TEST VEHICLE BOARD

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 0.15mm (5.9mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.07mm (3mil).

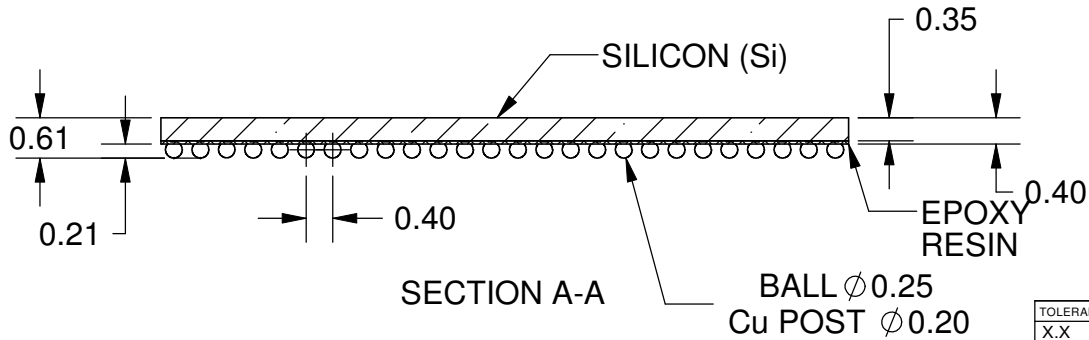
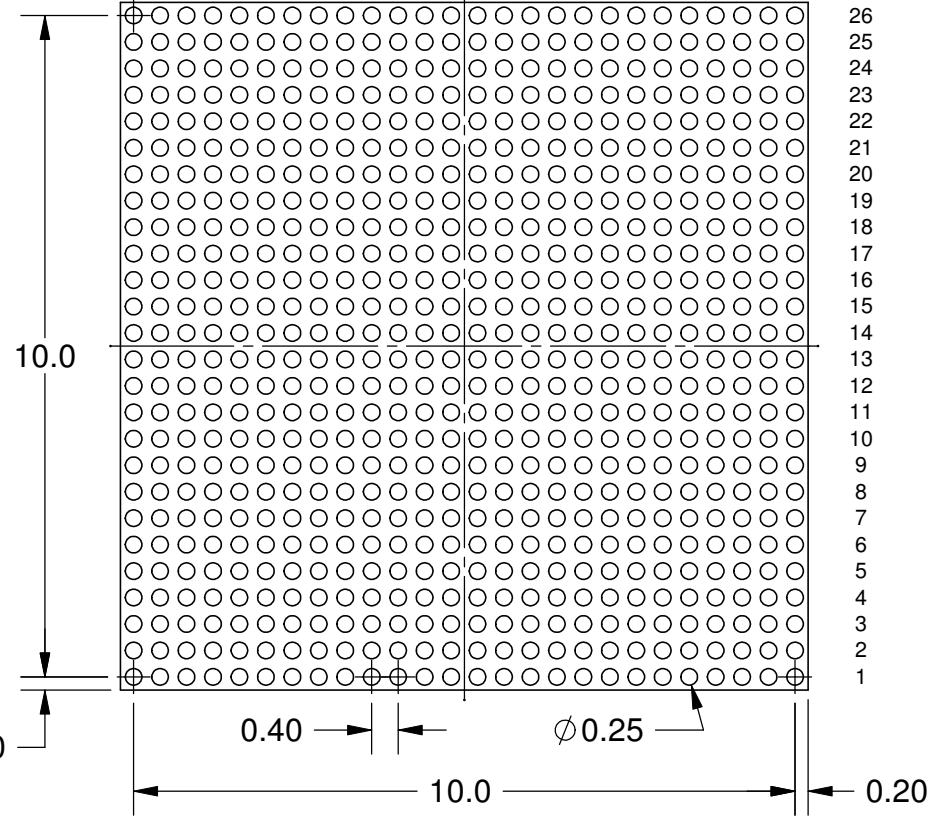
| | | | |
|---|-----------|-----------------------|----------|
| TopLine ® | | | |
| TITLE WLP676T.3C-DC260D 676-BALL P=0.3mm (TEG0306) | | | |
| SCALE 8.75:1 | SIZE A | DRAWING NO. 532602 | REV A |
| DO NOT SCALE DRAWING | | SHEET 2 OF 2 | |

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




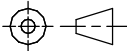
Notes: (Unless Otherwise Specified).

- 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).

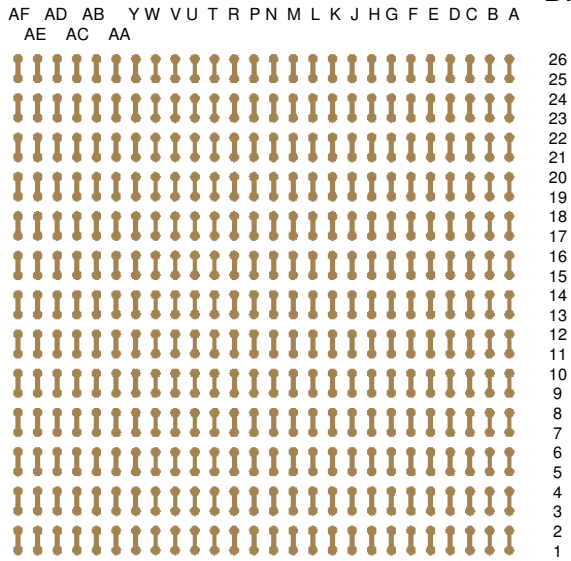
SECTION A-A

BALL ϕ 0.25
Cu POST ϕ 0.20

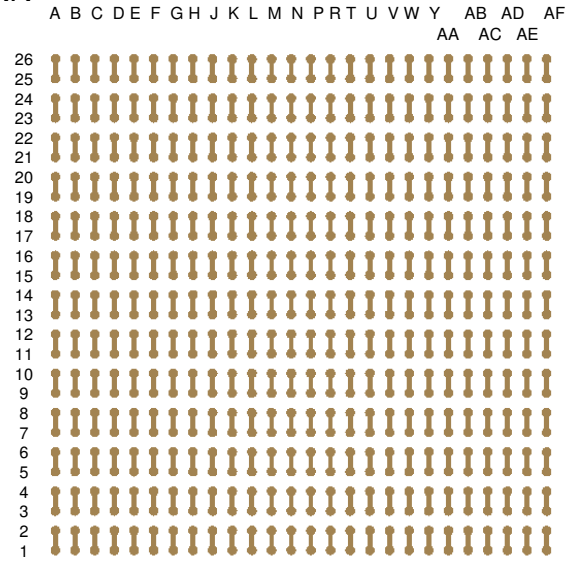
| PART NUMBER TABLE | | | | |
|--------------------|--------------------|---------|------|--------|
| PART NUMBER | BALL ALLOY | Pb-FREE | RoHS | Si DIE |
| WLP676T.4C-DC260D | Sn96.5/Ag3.0/Cu0.5 | YES | YES | YES |
| WLP676T.4C1-DC260D | Sn98.3/Ag1.2/Cu0.5 | YES | YES | YES |

| | | | | | | | | |
|---|-----------|---|--|------------|---|------|-------------|--------------|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE |  | | | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/30/2010 | | | | |
| X.XX | +/- 0.03 | ENG | | | 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 | |  | | | 8.75:1 | A | 542602 | A |
| <input type="checkbox"/> INCHES <input checked="" type="checkbox"/> MILLIMETERS | | REVISED | | | DO NOT SCALE DRAWING | | | SHEET 1 OF 2 |

BALL VIEW

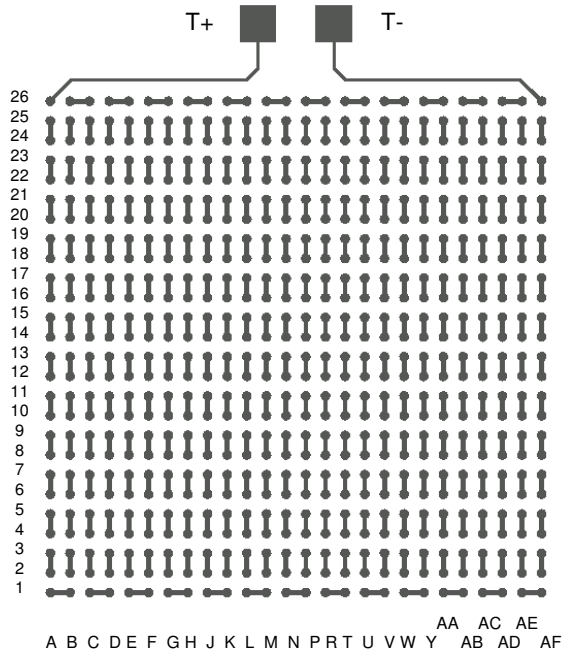


DAISY CHAIN PATTERN

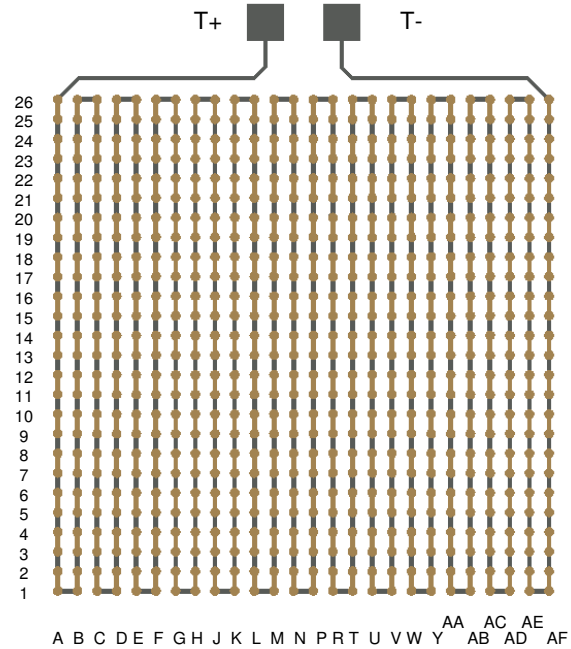


BOTTOM SIDE
(TOP X-RAY VIEW)

TOP VIEW



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



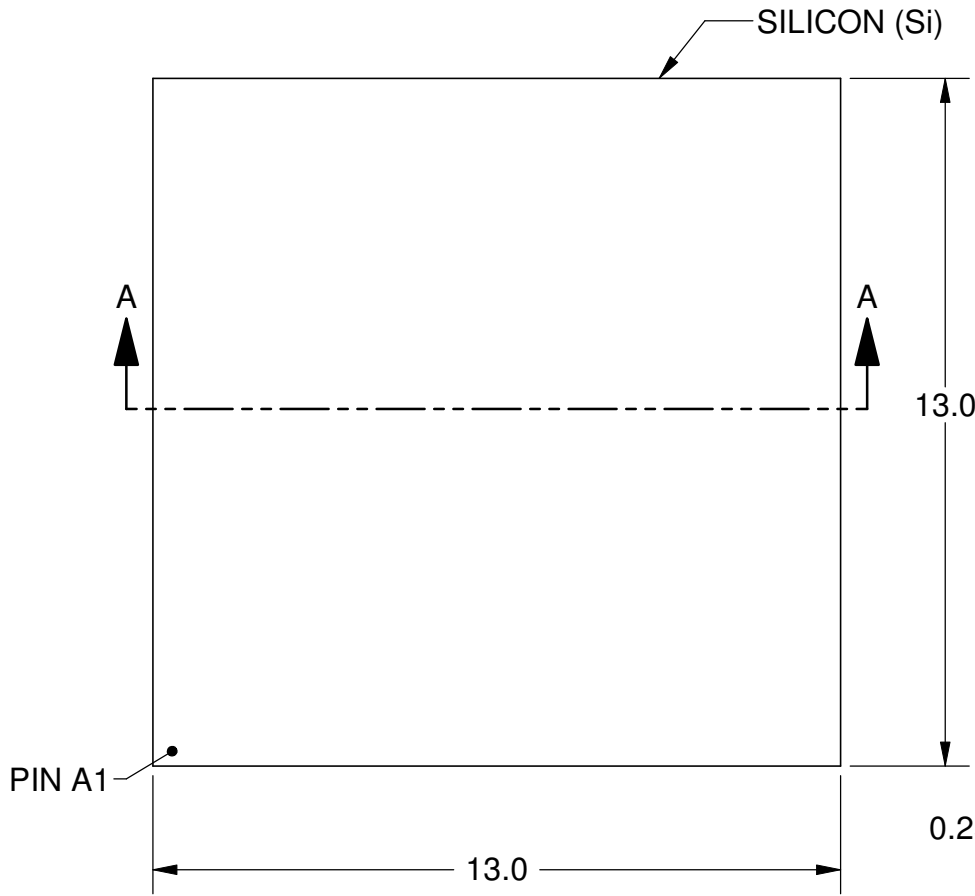
TEST VEHICLE BOARD

Notes:

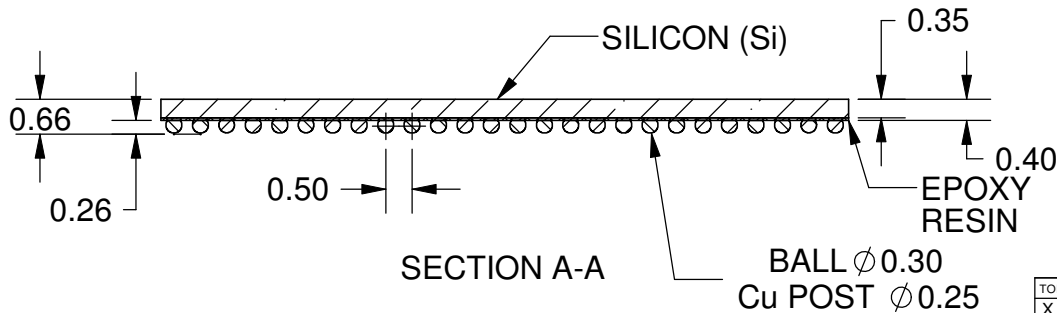
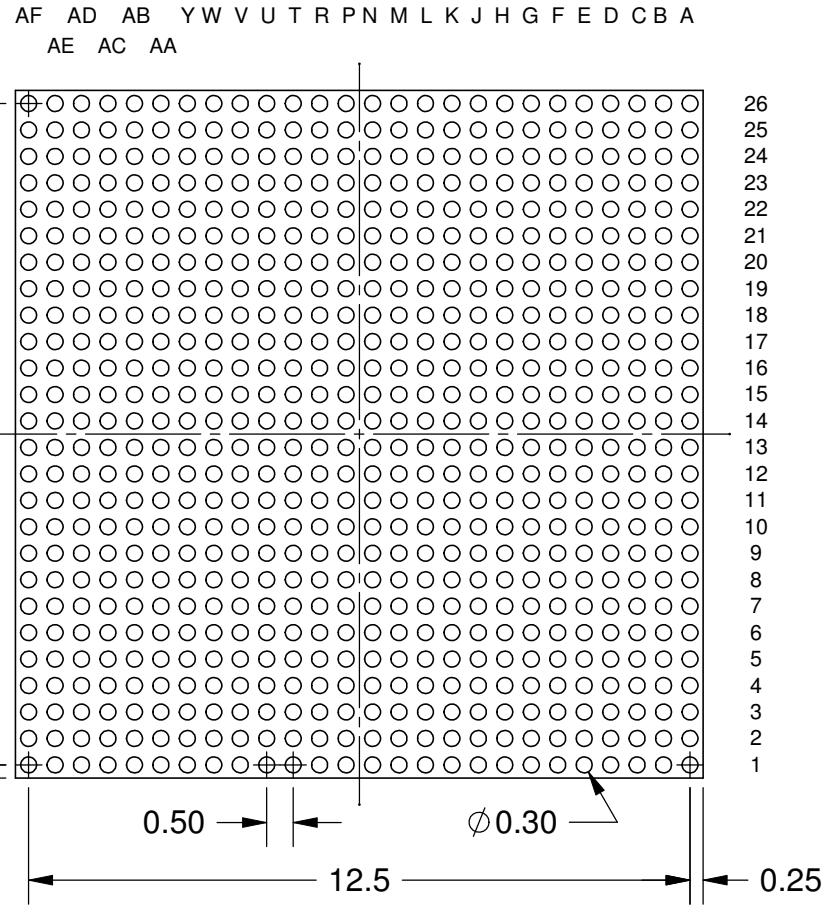
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.20mm (7.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

| | | | |
|---|-----------|-----------------------|----------|
| TopLine ® | | | |
| 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



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): 0.30mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.25mm.
- 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.5C-DC260D | Sn96.5/Ag3.0/Cu0.5 | YES | YES | YES |
| WLP676T.5C1-DC260D | Sn98.3/Ag1.2/Cu0.5 | YES | YES | YES |

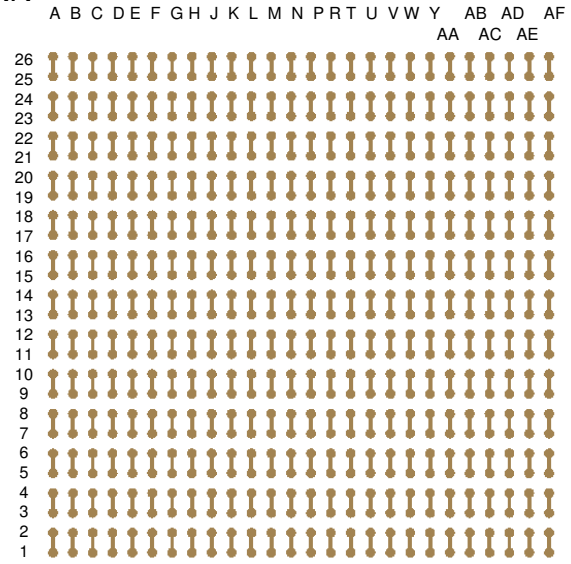
| TOLERANCE UNLESS NOTED | | APPROVALS | DATE |
|---|-----------|----------------|------------|
| X.X | +/- 0.3 | DRAWN J. Hines | 12/28/2010 |
| X.XX | +/- 0.03 | | |
| X.XXX | +/- 0.003 | | |
| ANGLES +/- 0.5° | | ENG | |
| ALL DIMENSIONS IN | | MFG | |
| <input type="checkbox"/> INCHES <input checked="" type="checkbox"/> MILLIMETERS | | QA | |
| THIRD ANGLE PROJECTION | | CUST | |
| | | REVISED | |

| TITLE WLP676T.5C-DC260D | | | |
|----------------------------|--------|--------------------|--------------|
| 676-BALL P=0.5mm (TEG0510) | | | |
| SCALE 7:1 | SIZE A | DRAWING NO. 552602 | REV A |
| DO NOT SCALE DRAWING | | | SHEET 1 OF 2 |

BALL VIEW

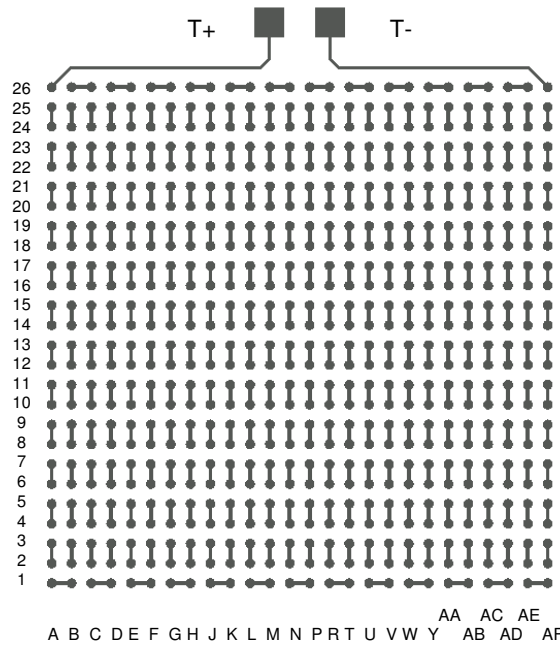


DAISY CHAIN PATTERN

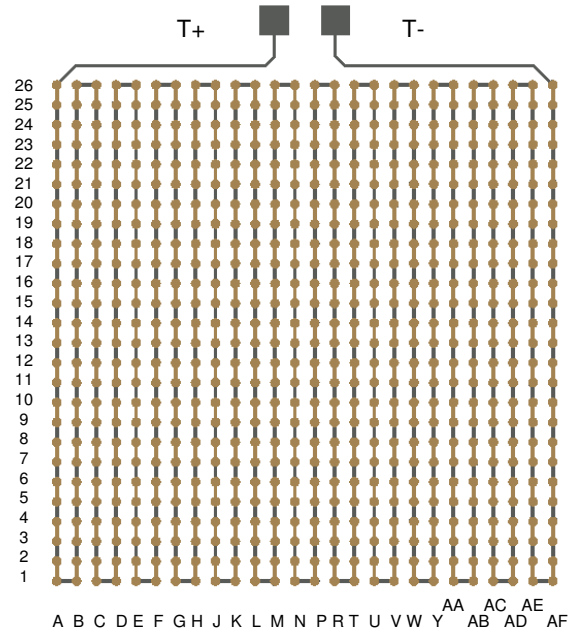


BOTTOM SIDE
(TOP X-RAY VIEW)

TOP VIEW



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



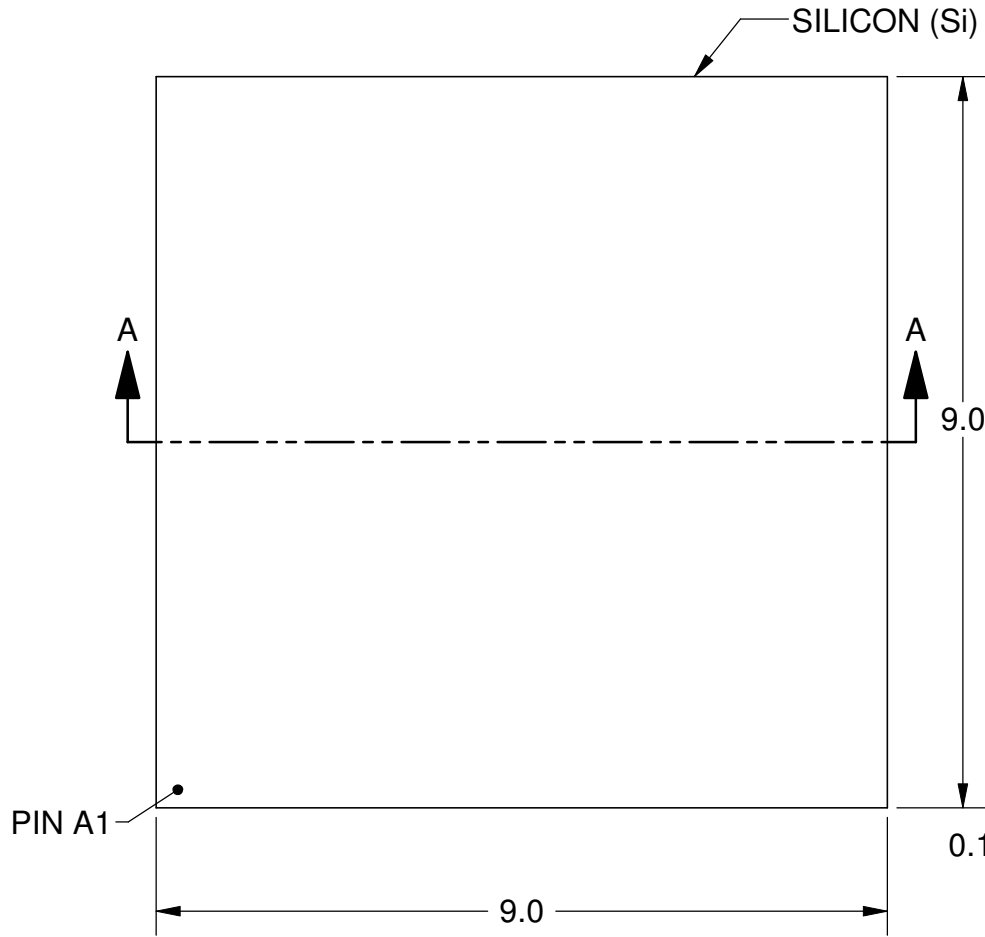
TEST VEHICLE BOARD

Notes:

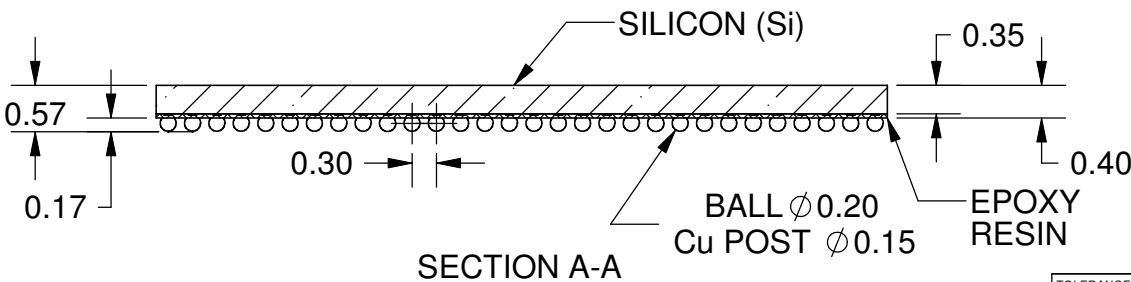
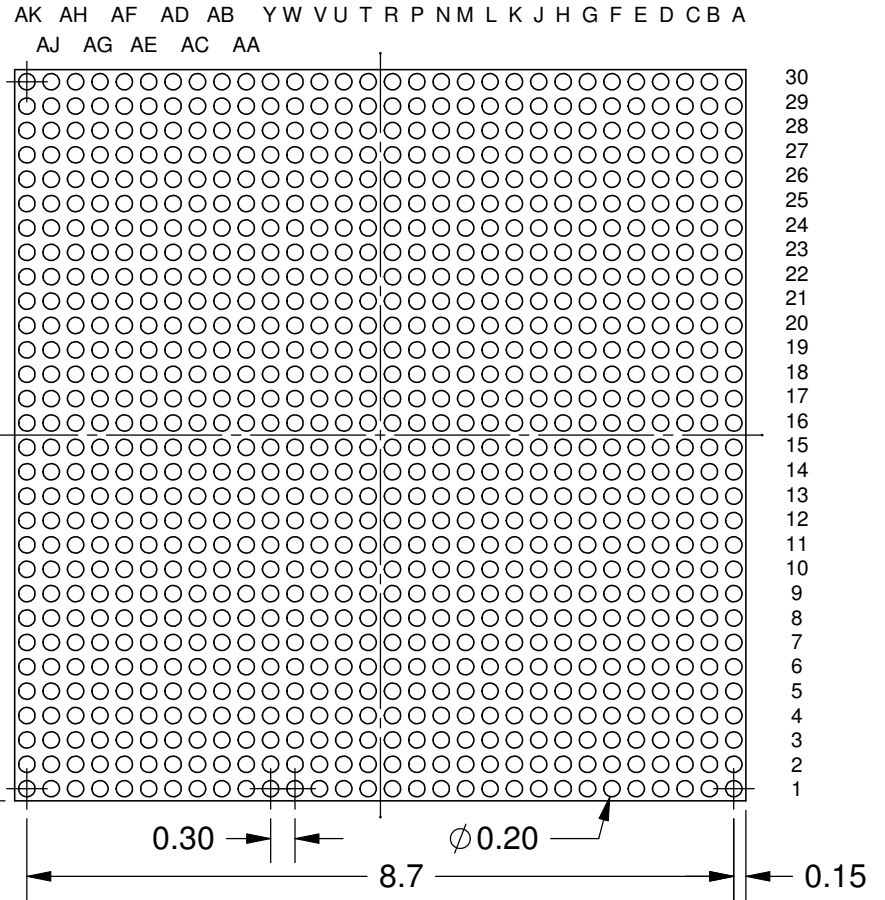
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.25mm (9.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

| | | | |
|---|-----------|-----------------------|----------|
| TopLine ® | | | |
| TITLE WLP676T.5C-DC260D 676-BALL P=0.5mm (TEG0510) | | | |
| SCALE 5.25:1 | SIZE A | DRAWING NO. 552602 | 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): 0.20mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.15mm.
- 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.3C-DC307D | Sn96.5/Ag3.0/Cu0.5 | YES | YES | YES |
| WLP900T.3C1-DC307D | Sn98.3/Ag1.2/Cu0.5 | YES | YES | YES |

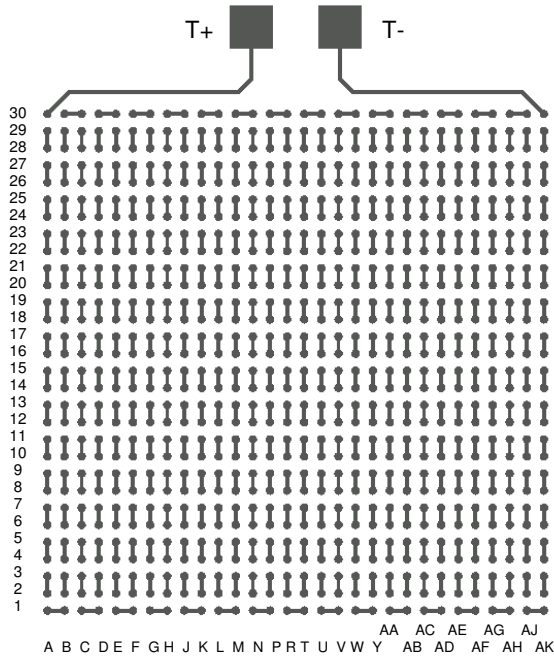
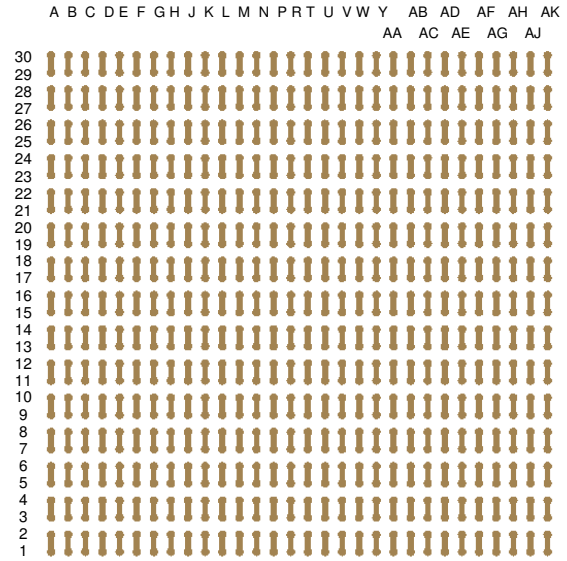
| | | | | | | | | |
|------------------------|-----------|---|------|------------|---|------|--------------|-----|
| TOLERANCE UNLESS NOTED | | APPROVALS | | DATE |  | | | |
| X.X | +/- 0.3 | DRAWN J. Hines | | 12/29/2010 | | | | |
| X.XX | +/- 0.03 | ENG | | | | | | |
| X.XXX | +/- 0.003 | MFG | | | TITLE | | | |
| ANGLES +/- 0.5° | | THIRD ANGLE PROJECTION | | | WLP900T.3C-DC307D | | | |
| ALL DIMENSIONS IN | | <input type="checkbox"/> INCHES <input checked="" type="checkbox"/> MILLIMETERS | | | 900-BALL P=0.3mm (TEG0306) | | | |
| | | QA | CUST | REVISED | SCALE | SIZE | DRAWING NO. | REV |
| | | | | | 10.75:1 | A | 533072 | A |
| | | | | | DO NOT SCALE DRAWING | | SHEET 1 OF 2 | |

DAISY CHAIN PATTERN



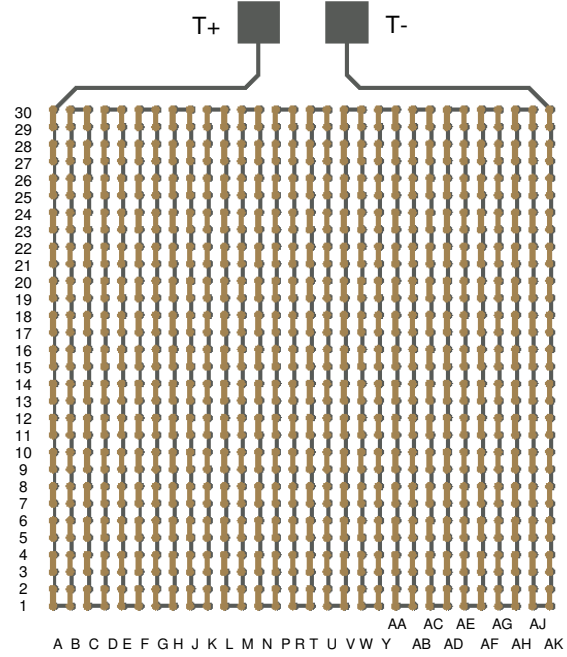
BALL VIEW

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 0.15mm (5.9mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.07mm (3mil).

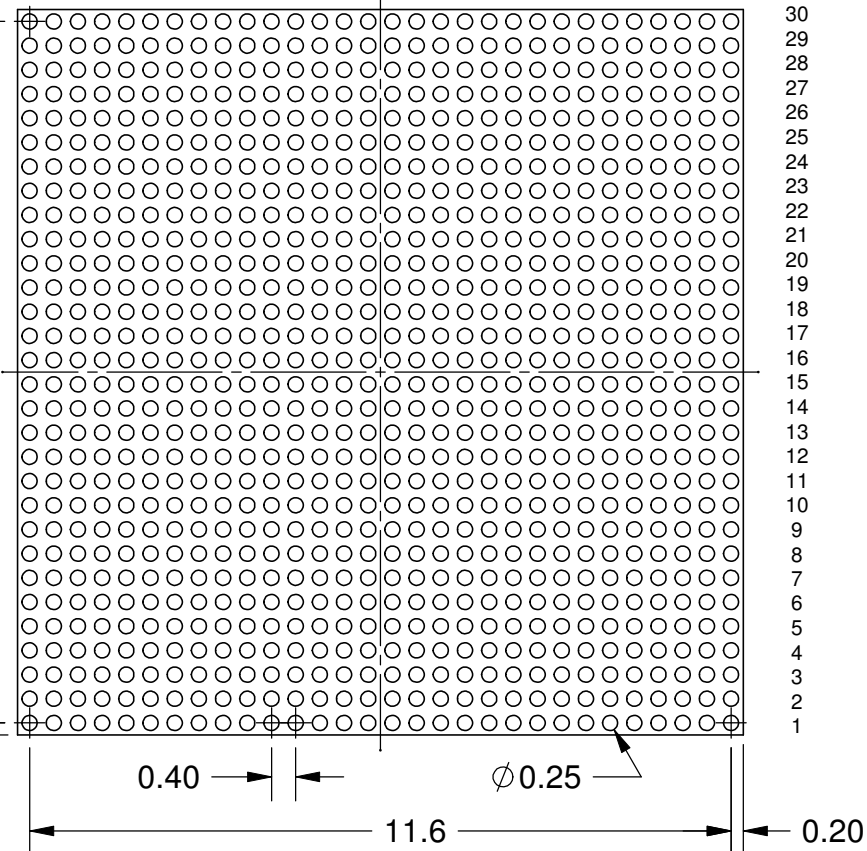
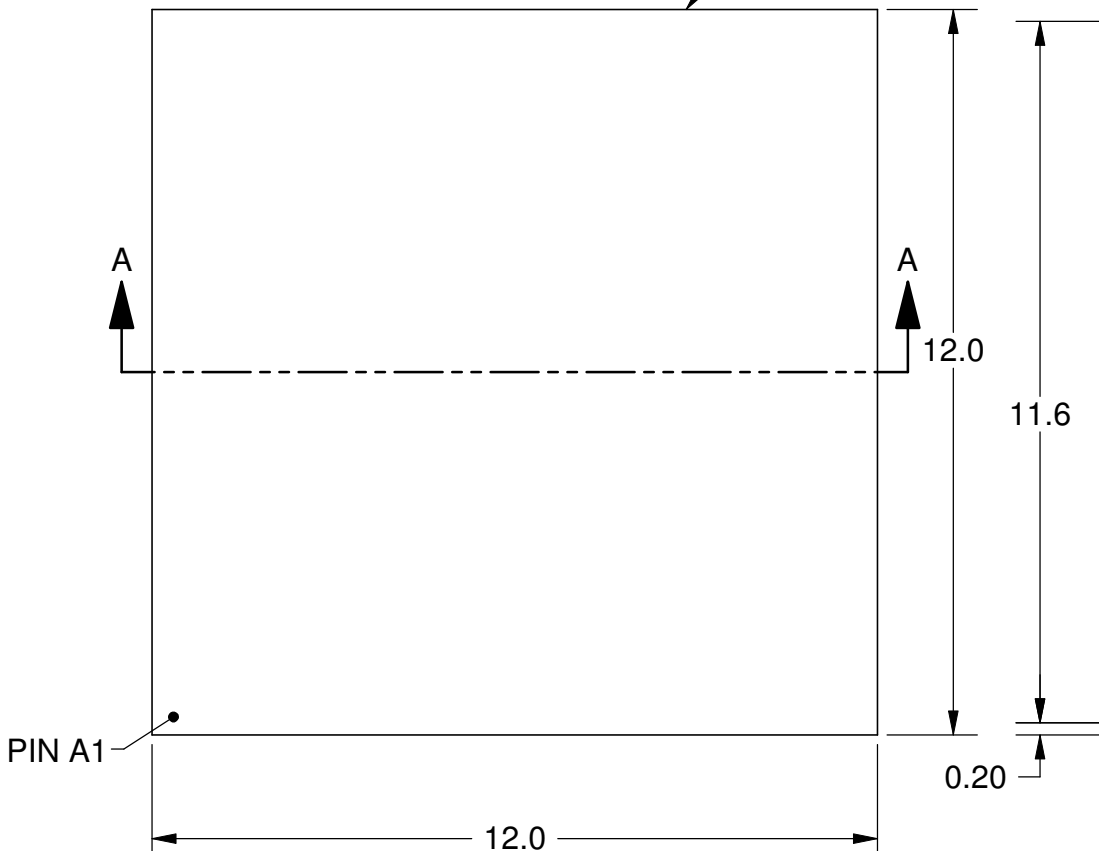
| | | | |
|---|-----------|-----------------------|----------|
| TopLine ® | | | |
| TITLE WLP900T.3C-DC307D 900-BALL P=0.3mm (TEG0306) | | | |
| SCALE 7.55:1 | SIZE A | DRAWING NO. 533072 | REV A |
| DO NOT SCALE DRAWING | | SHEET 2 OF 2 | |

TOP VIEW

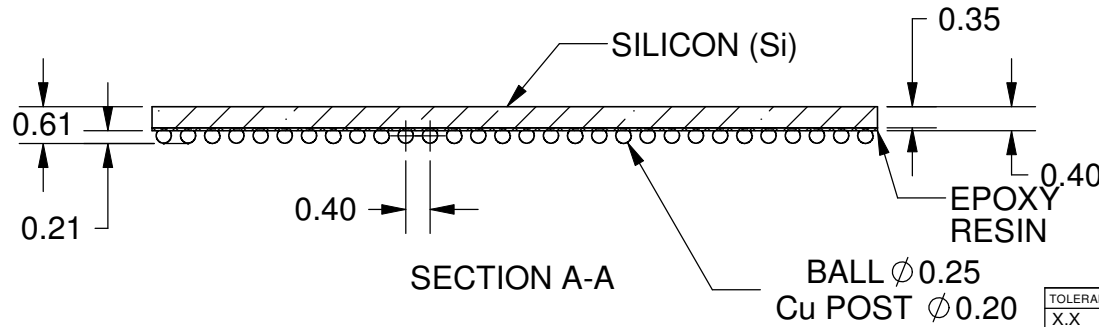
BALL VIEW

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 | | |
| X.XX | +/- 0.03 | DRAWN J. Hines | 12/30/2010 |
| X.XXX | +/- 0.003 | | |
| ANGLES +/- 0.5° | | ENG | |
| ALL DIMENSIONS IN | | MFG | |
| <input type="checkbox"/> INCHES | <input checked="" type="checkbox"/> MILLIMETERS | QA | |
| THIRD ANGLE PROJECTION | | CUST | |
| | | REVISED | |

TopLine®

TITLE **WLP900T.4C-DC307D**
900-BALL P=0.4mm (TEG0408)

| | | | |
|-----------|--------|--------------------|-------|
| SCALE 8:1 | SIZE A | DRAWING NO. 543072 | REV A |
|-----------|--------|--------------------|-------|

DO NOT SCALE DRAWING

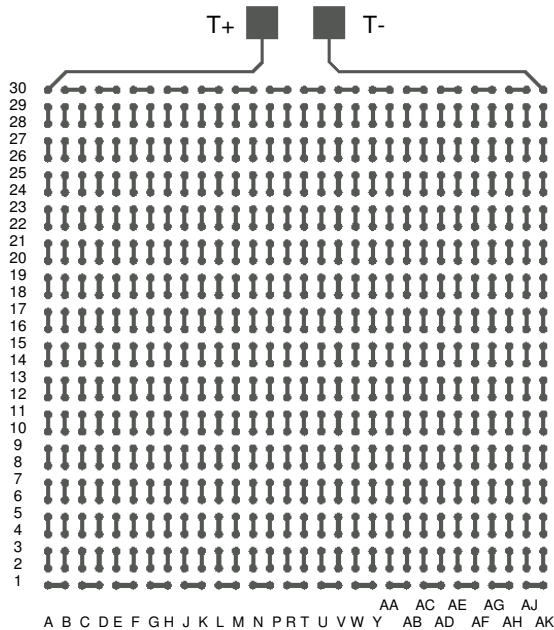
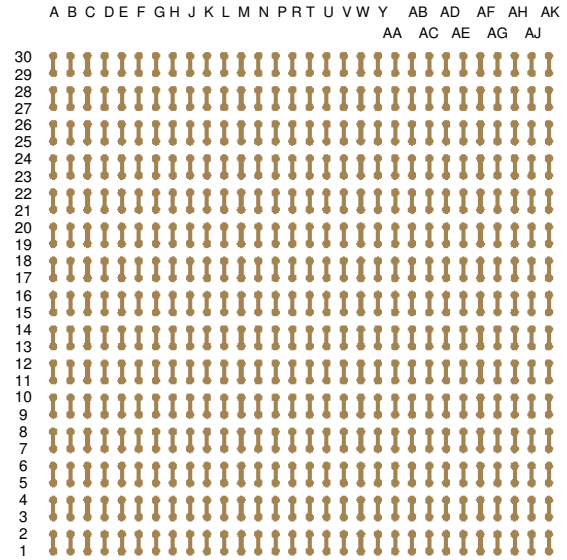
SHEET 1 OF 2

DAISY CHAIN PATTERN



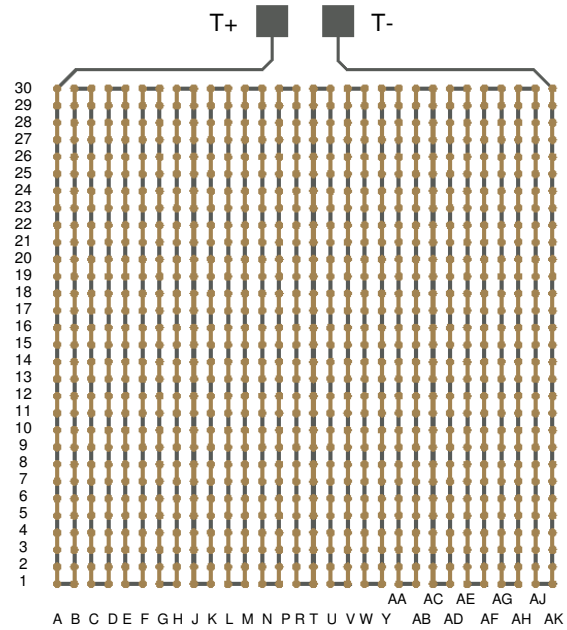
BALL VIEW

BOTTOM SIDE
(TOP X-RAY VIEW)



TOP VIEW

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



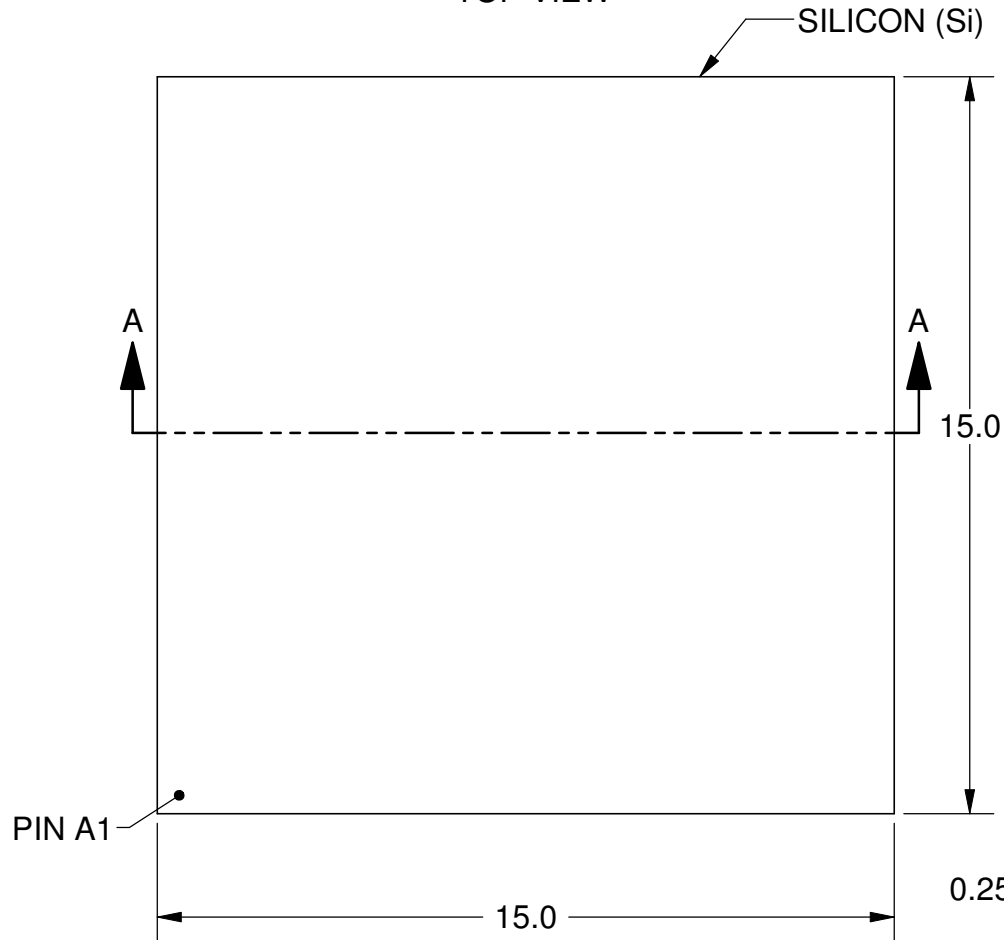
TEST VEHICLE BOARD

Notes:

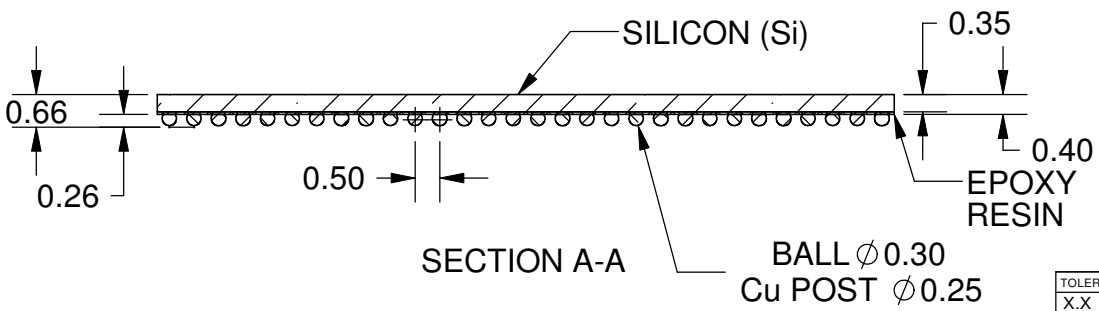
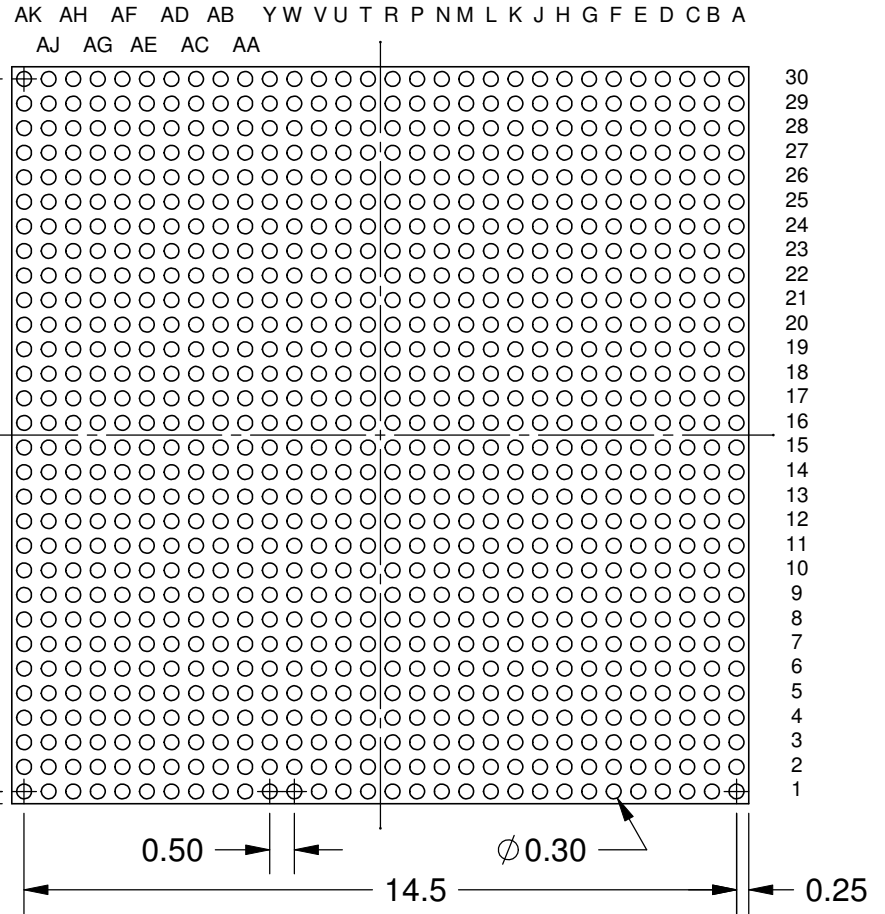
- 1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
- 2) PCB Cu BALL PAD DIAMETER 0.20mm (7.8mil).
- 3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

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

TOP VIEW



BALL VIEW



Notes: (Unless Otherwise Specified).

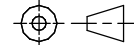
- 1) ALL DIMENSIONS ARE IN MM.
- 2) SOLDER BALL ALLOY:
STANDARD: SAC305 (Sn96.5/Ag3.0/Cu0.5).
SPECIAL: LF35 (Sn98.3/Ag1.2/Cu0.5).
- 3) BALL DIAMETER (BEFORE REFLOW): 0.30mm.
- 4) NON-SOLDER MASK DEFINED PAD.
- 5) PAD Cu DIAMETER: 0.25mm.
- 6) SUBSTRATE MATERIAL: Si (SILICON).
- 7) DAISY CHAIN PATTERN (SEE PAGE 2).

PART NUMBER TABLE

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

| | |
|---------------------------------|---|
| TOLERANCE UNLESS NOTED | |
| X.X | +/- 0.3 |
| X.XX | +/- 0.03 |
| X.XXX | +/- 0.003 |
| ANGLES | +/- 0.5° |
| ALL DIMENSIONS IN | |
| <input type="checkbox"/> INCHES | <input checked="" type="checkbox"/> MILLIMETERS |

THIRD ANGLE PROJECTION



| | |
|----------------|------------|
| APPROVALS | DATE |
| DRAWN J. Hines | 12/28/2010 |
| ENG | |
| MFG | |
| QA | |
| CUST | |
| REVISED | |

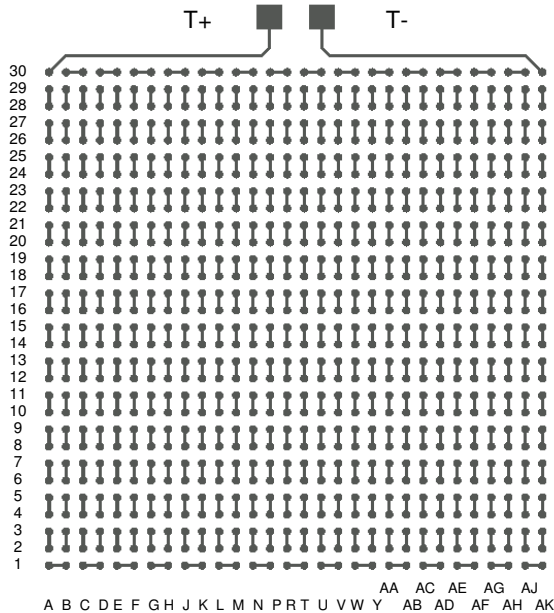
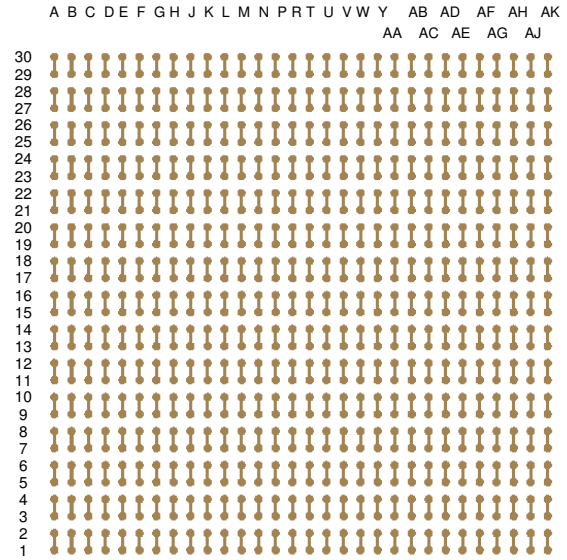
| | | | |
|---|------|-------------|--------------|
| TopLine | | | |
| TITLE WLP900T.5C-DC307D 900-BALL P=0.5mm (TEG0510) | | | |
| SCALE | SIZE | DRAWING NO. | REV |
| 6.5:1 | A | 553072 | A |
| DO NOT SCALE DRAWING | | | SHEET 1 OF 2 |

DAISY CHAIN PATTERN



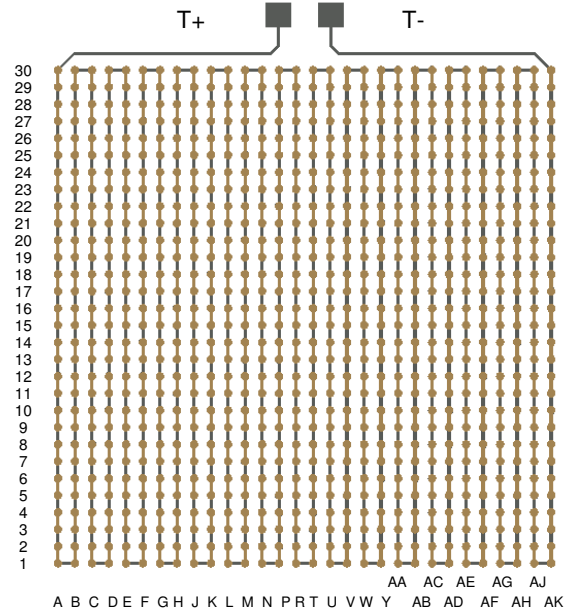
BALL VIEW

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

| | | | |
|---|-----------|-----------------------|----------|
| TopLine ® | | | |
| TITLE WLP900T.5C-DC307D 900-BALL P=0.5mm (TEG0510) | | | |
| SCALE 4.5:1 | SIZE A | DRAWING NO. 553072 | REV A |
| DO NOT SCALE DRAWING | | SHEET 2 OF 2 | |