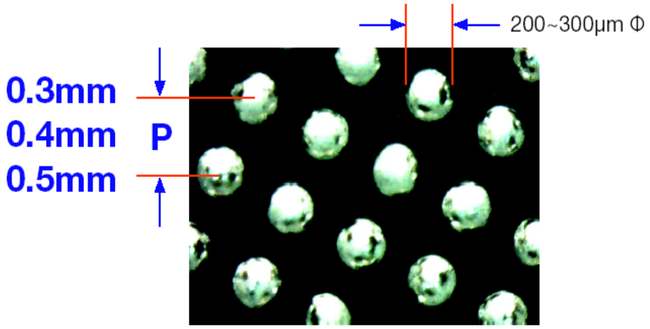
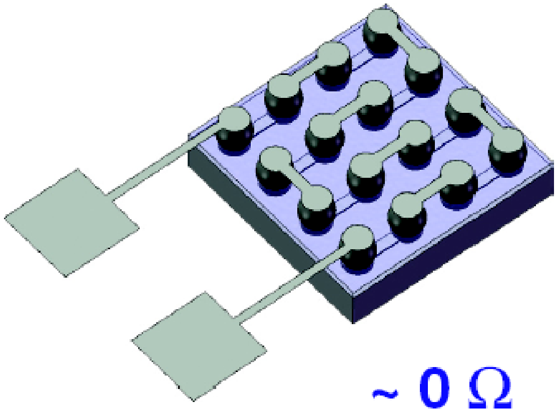
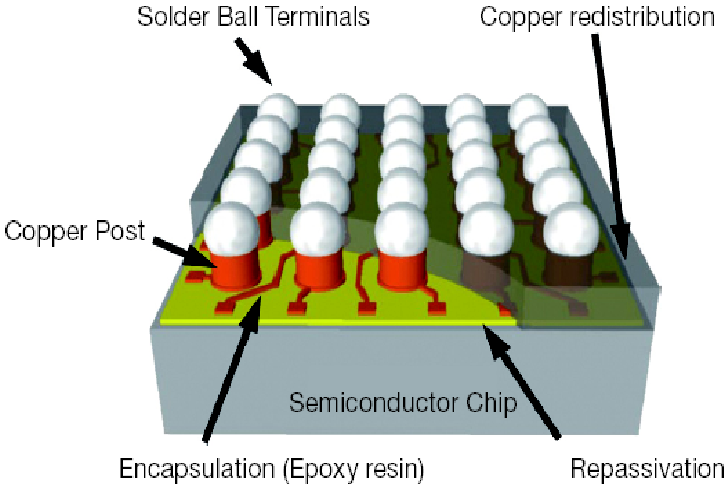
WLP OutLine Drawings

16 ~ 900 Balls



Daisy Chain





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

WLP Daisy Chain (Full Array)

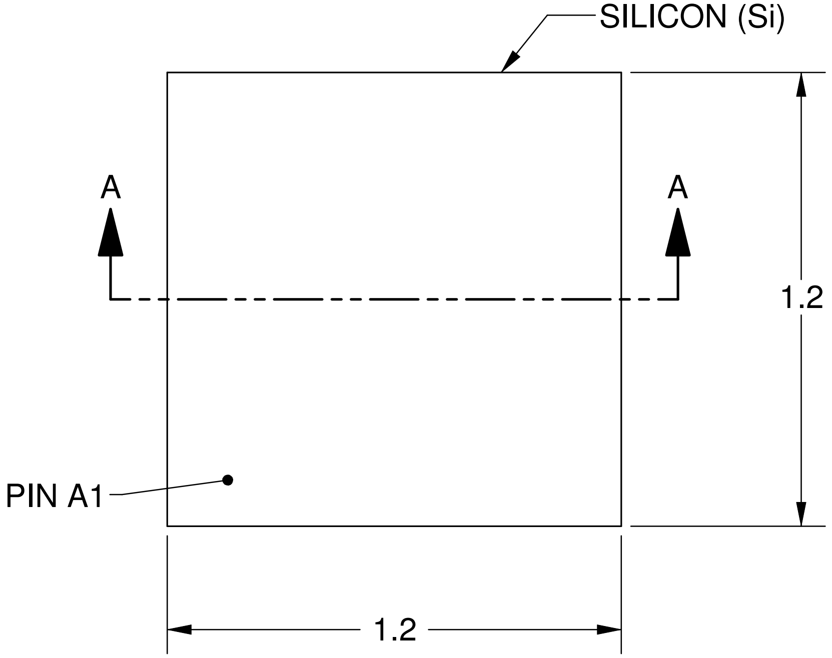
Ball Count	Ball Matrix	Daisy Chain	Body Size (mm)			Page
			P=0.3mm	P=0.4mm	P=0.5mm	
16	4x4	DC048	1.2mm	1.6mm	2.0mm	3~8
36	6x6	DC067	1.8mm	2.4mm	3.0mm	9~14
64	8x8	DC088	2.4mm	3.2mm	4.0mm	15~20
100	10x10	DC108	3.0mm	4.0mm	5.0mm	21~26
144	12x12	DC127	3.6mm	4.8mm	6.0mm	27~32
196	14x14	DC148	4.2mm	5.6mm	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

TopLine®

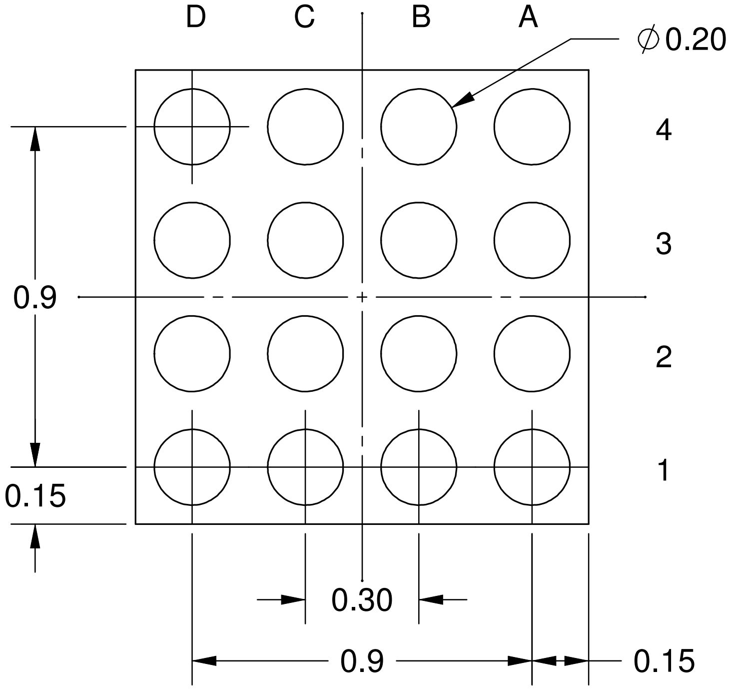
Contact: Sales@TopLine.tv
Tel 1-800-776-9888

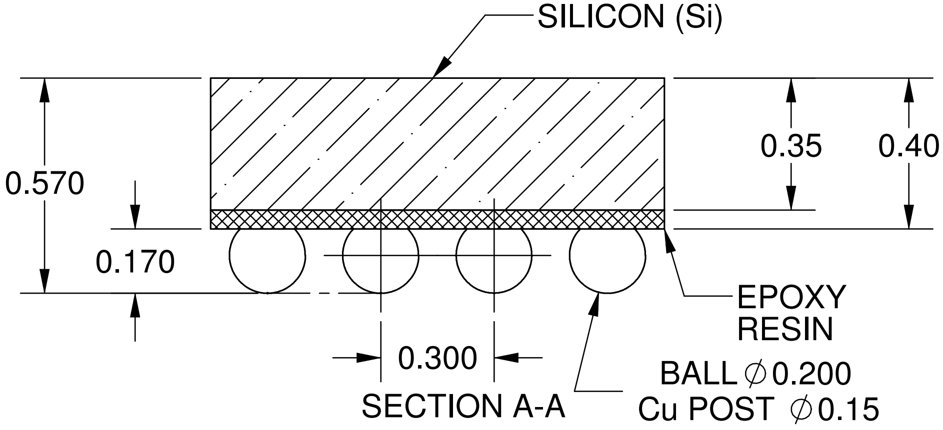
More Details:
www.topline.tv/WLP.html

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
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	
X.X	+/- 0.3
X.XX	+/- 0.03
X.XXX	+/- 0.003
ANGLES	+/- 0.5°

ALL DIMENSIONS IN
☐ INCHES ☒ MILLIMETERS

THIRD ANGLE PROJECTION

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

TopLine®

TITLE WLP16T.3C-DC048D
16-BALL P=0.3mm (TEG0306)

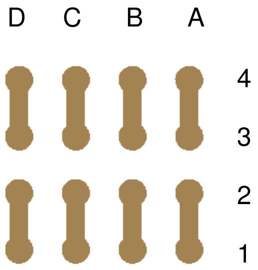
SCALE	SIZE	DRAWING NO.	REV
50:1	A	530482	A

DO NOT SCALE DRAWING

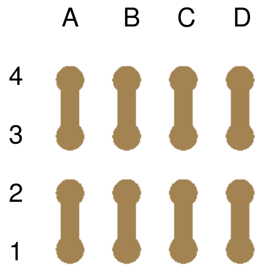
SHEET 1 OF 2

DAISY CHAIN PATTERN

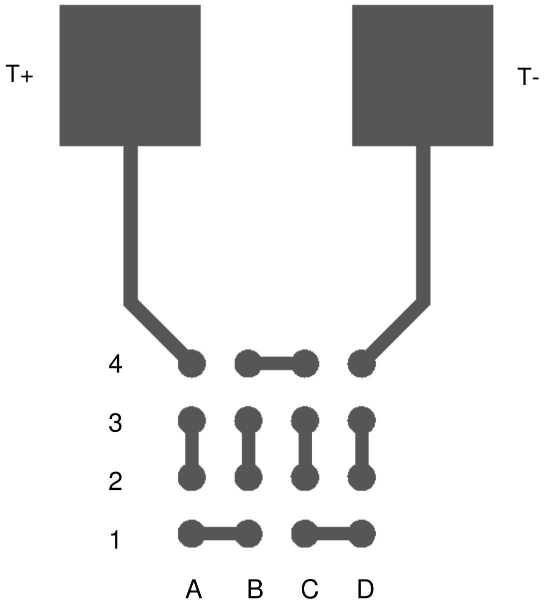
BALL VIEW



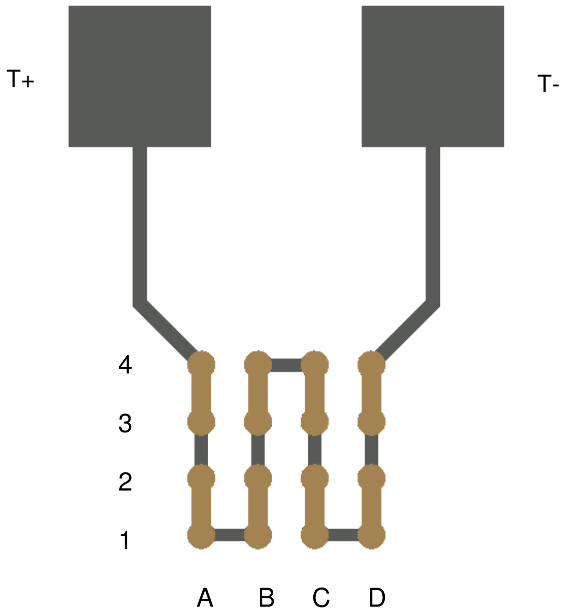
BOTTOM SIDE
(TOP X-RAY VIEW)



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).

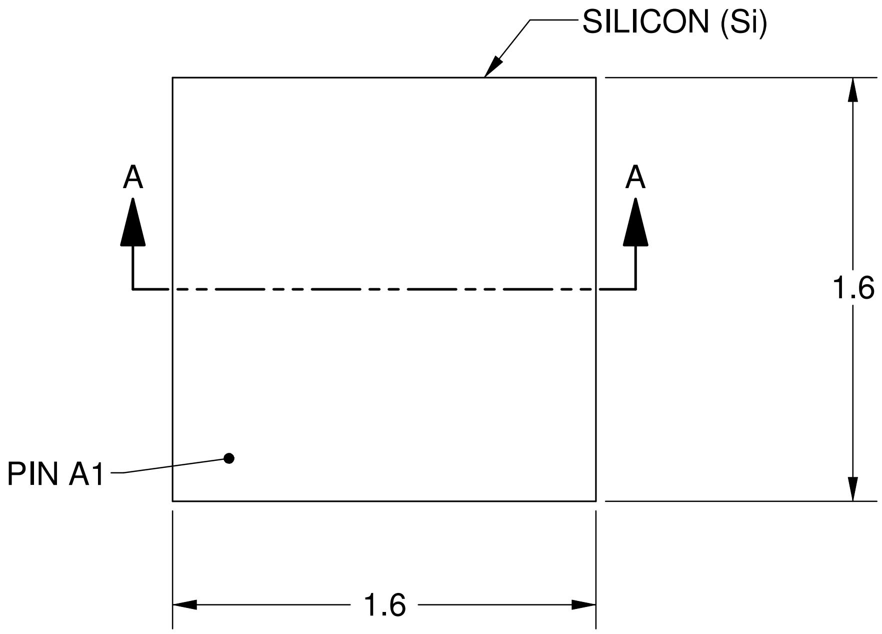
TopLine®

TITLE WLP16T.3C-DC048D
16-BALL P=0.3mm (TEG0306)

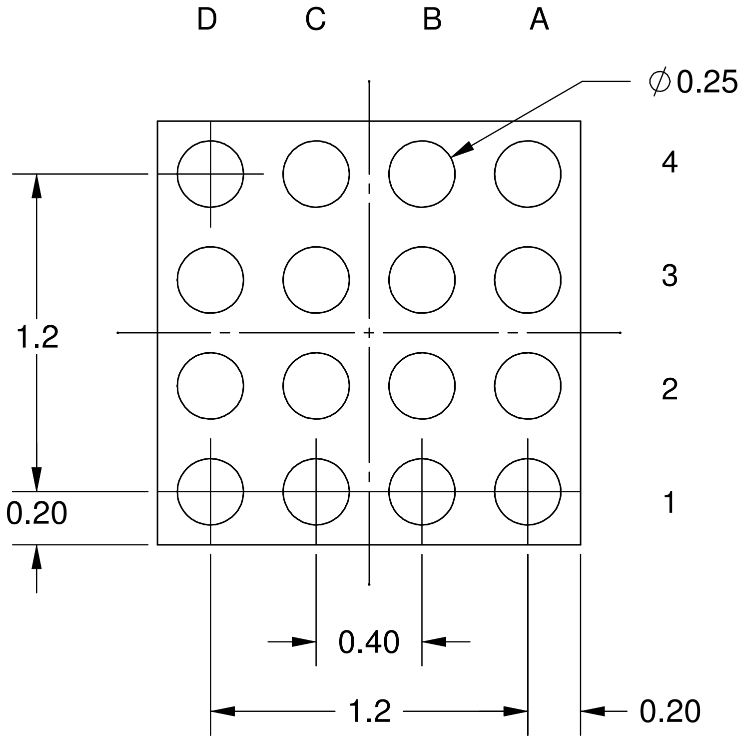
SCALE	SIZE	DRAWING NO.	REV
25:1	A	530482	A

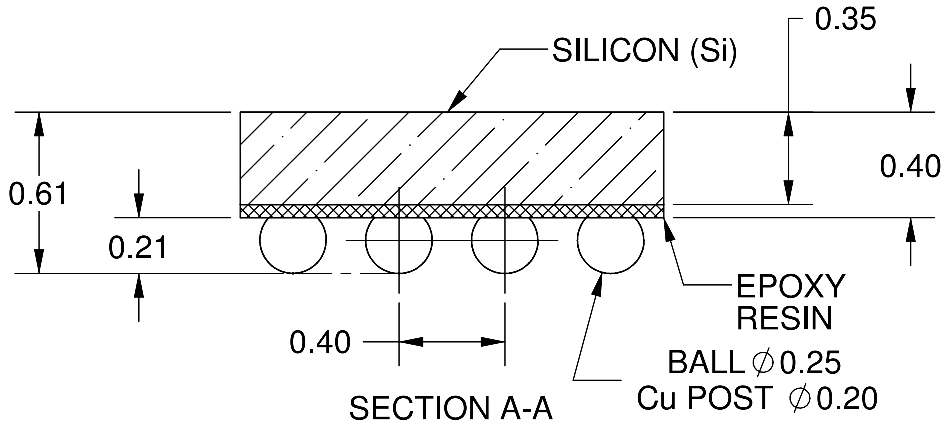
DO NOT SCALE DRAWING
SHEET 2 OF 2

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
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	
X.X	+/- 0.3
X.XX	+/- 0.03
X.XXX	+/- 0.003
ANGLES	+/- 0.5°

ALL DIMENSIONS IN
☐ INCHES ☒ MILLIMETERS

THIRD ANGLE
PROJECTION

APPROVALS		DATE
DRAWN	J. Hines	12/30/2010
ENG		
MFG		
QA		
CUST		
REVISED		

TopLine®

TITLE WLP16T.4C-DC048D
16-BALL P=0.4mm (TEG0408)

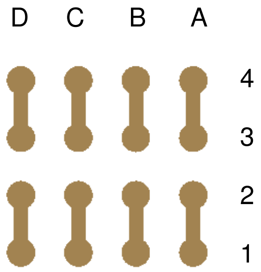
SCALE	SIZE	DRAWING NO.	REV
35:1	A	540482	A

DO NOT SCALE DRAWING

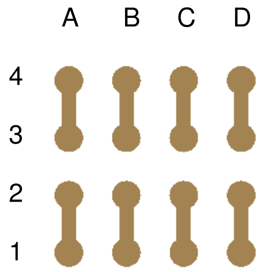
SHEET 1 OF 2

DAISY CHAIN PATTERN

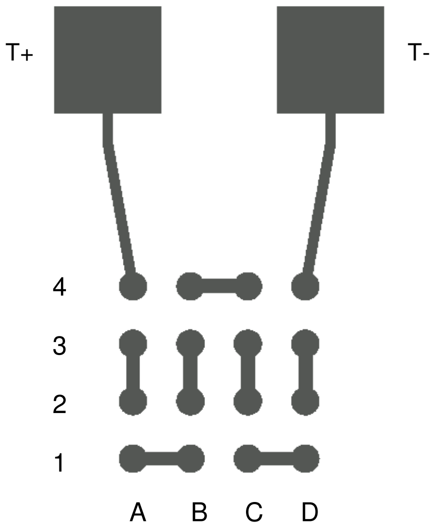
BALL VIEW



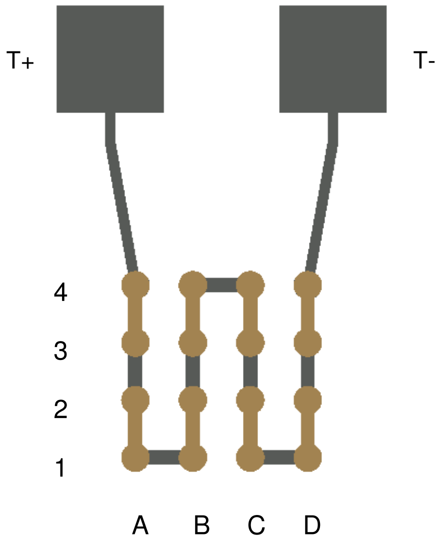
BOTTOM SIDE
(TOP X-RAY VIEW)



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®

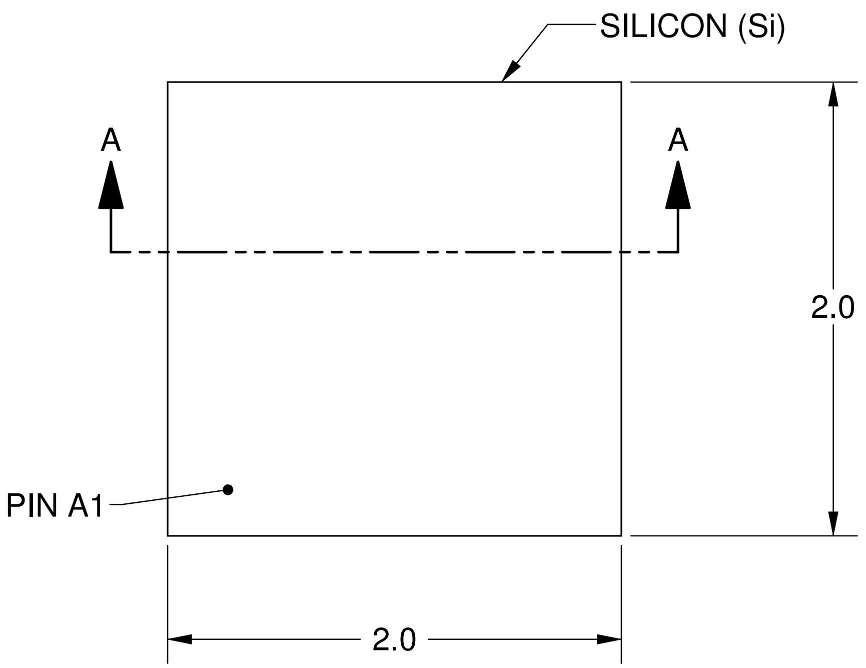
TITLE WLP16T.4C-DC048D
16-BALL P=0.4mm (TEG0408)

SCALE	SIZE	DRAWING NO.	REV
19:1	A	540482	A

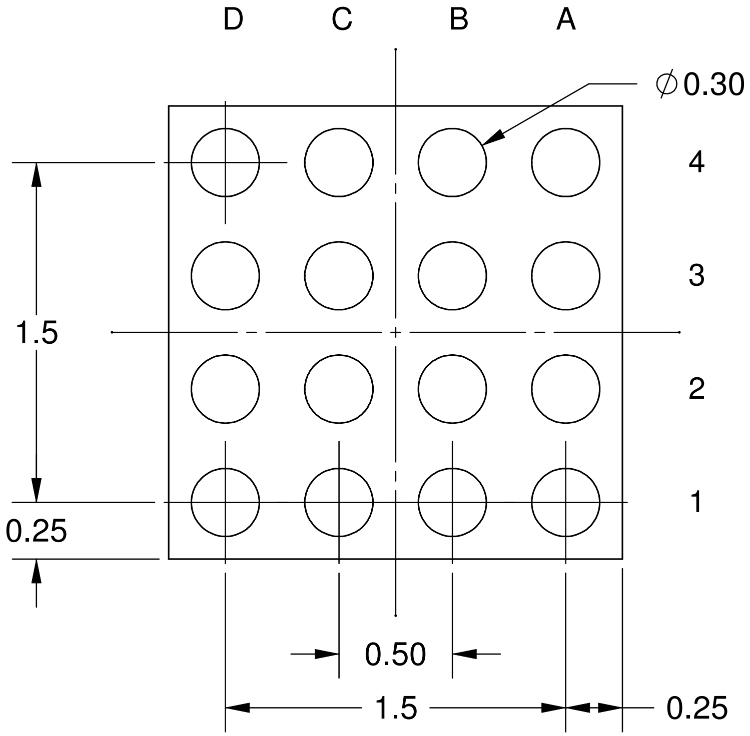
DO NOT SCALE DRAWING

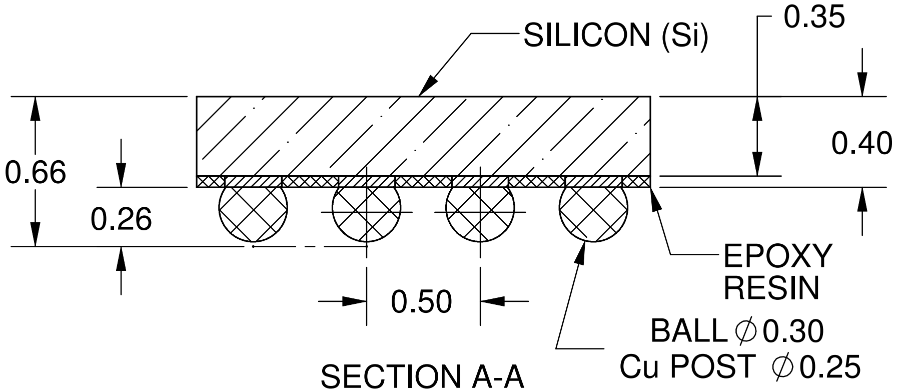
SHEET 2 OF 2

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
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		
X.XX	+/- 0.03	DRAWN J. Hines	12/28/2010
X.XXX	+/- 0.003		
ANGLES	+/- 0.5°	ENG	
ALL DIMENSIONS IN ☐ INCHES ☒ MILLIMETERS		MFG	
THIRD ANGLE PROJECTION		QA	
		CUST	
		REVISED	

TopLine®

TITLE WLP16T.5C-DC048D
16-BALL P=0.5mm (TEG0510)

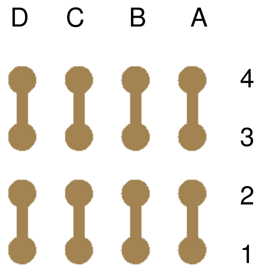
SCALE	SIZE	DRAWING NO.	REV
30:1	A	550482	A

DO NOT SCALE DRAWING

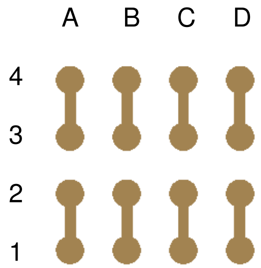
SHEET 1 OF 2

DAISY CHAIN PATTERN

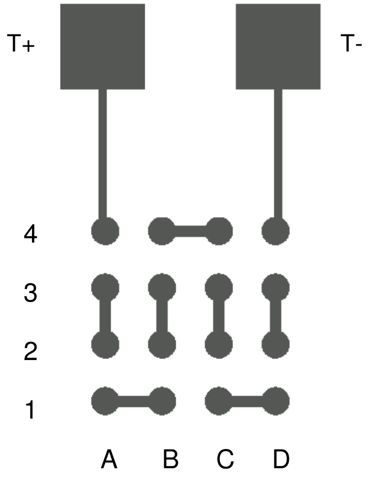
BALL VIEW



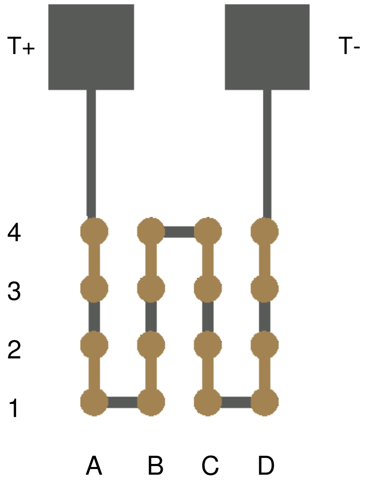
BOTTOM SIDE
(TOP X-RAY VIEW)



TOP VIEW



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



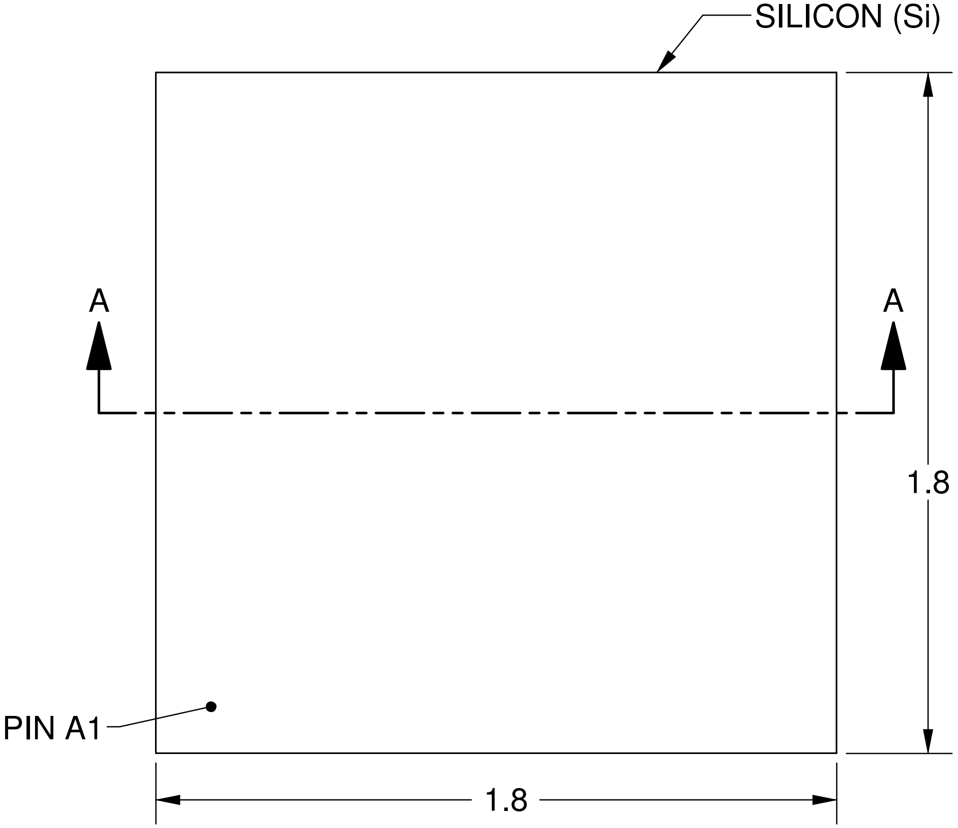
TEST VEHICLE BOARD

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).

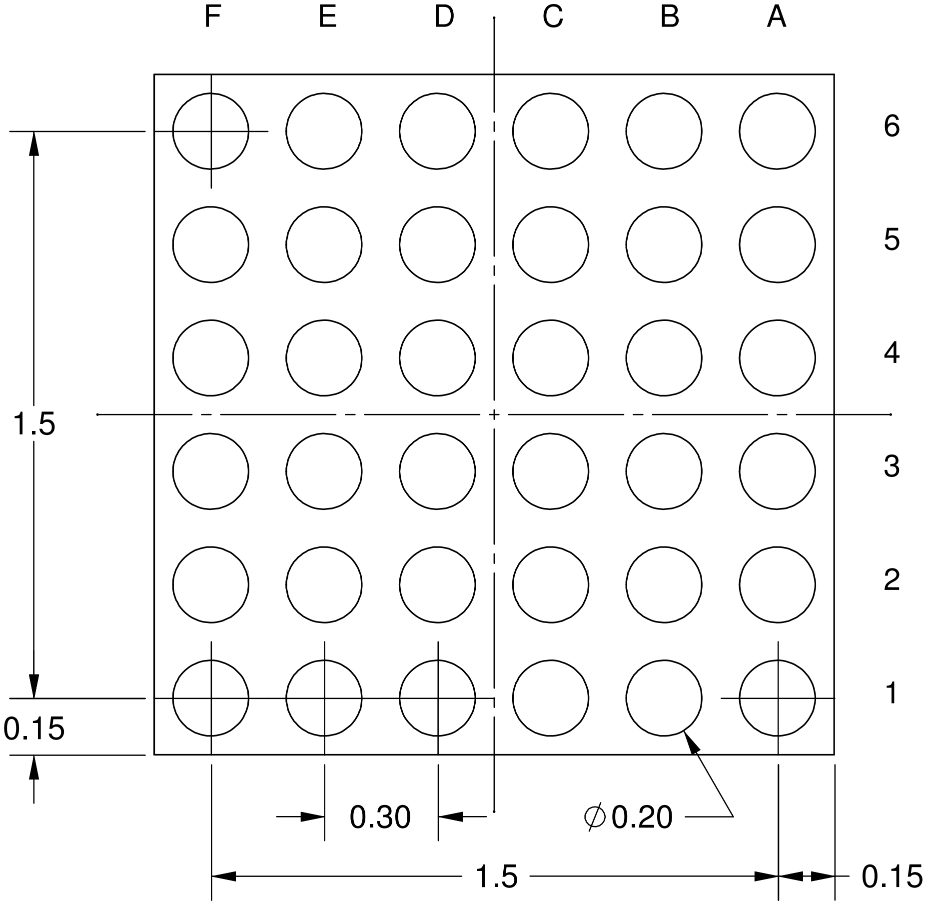
TopLine®

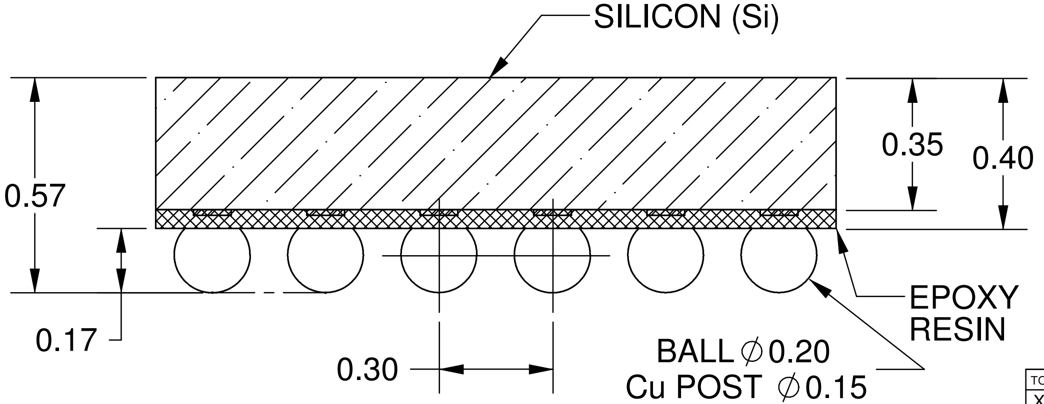
TITLE	WLP16T.5C-DC048D 16-BALL P=0.5mm (TEG0510)		
SCALE 15:1	SIZE A	DRAWING NO. 550482	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	

TOP VIEW



BALL VIEW





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
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	
X.X	+/- 0.3
X.XX	+/- 0.03
X.XXX	+/- 0.003
ANGLES	+/- 0.5°

ALL DIMENSIONS IN
☐ INCHES ☒ MILLIMETERS

THIRD ANGLE PROJECTION

APPROVALS		DATE
DRAWN	J. Hines	12/29/2010
ENG		
MFG		
QA		
CUST		
REVISED		

TopLine®

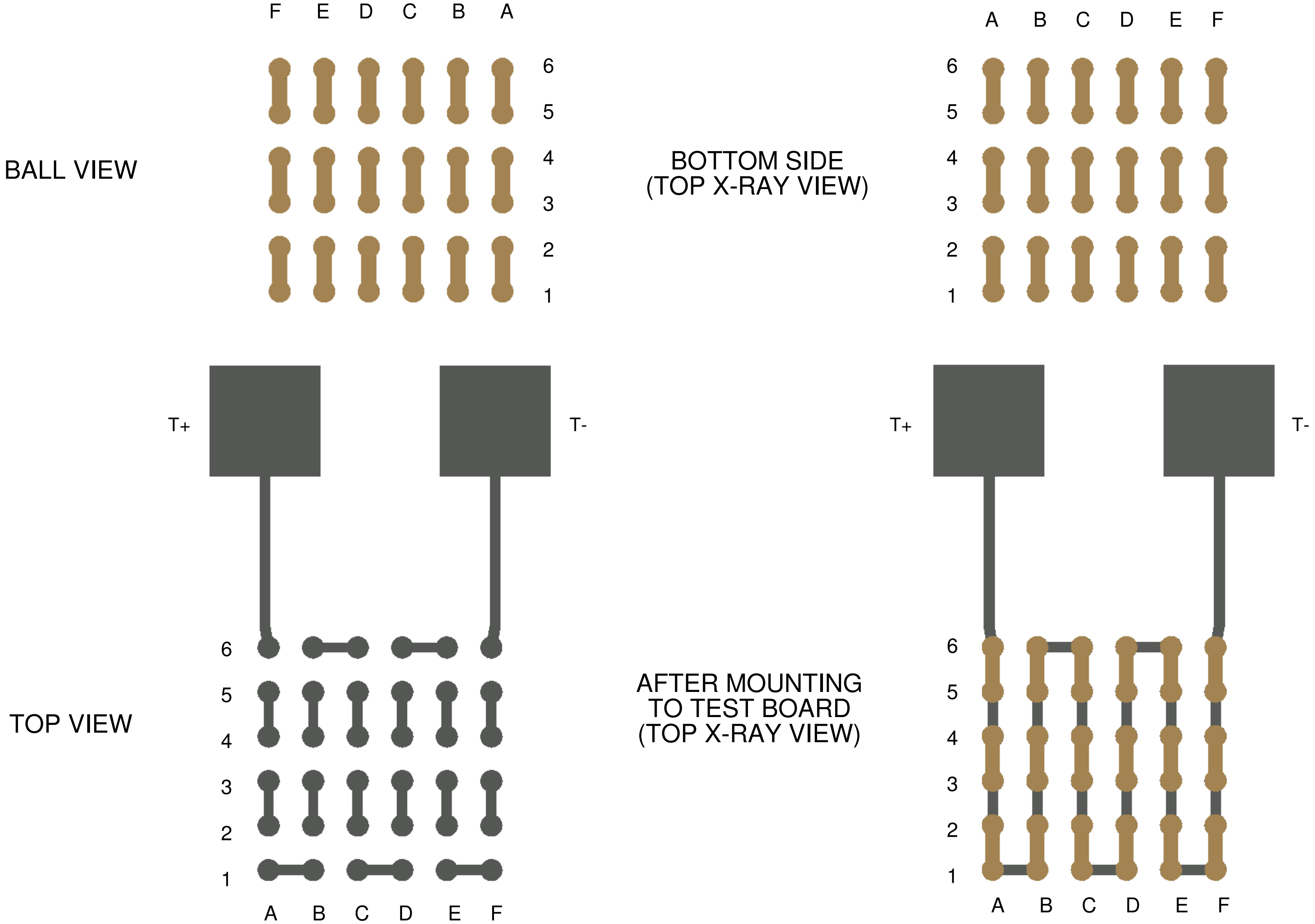
TITLE WLP36T.3C-DC067D
36-BALL P=0.3mm (TEG0306)

SCALE	SIZE	DRAWING NO.	REV
50:1	A	530672	A

DO NOT SCALE DRAWING

SHEET 1 OF 2

DAISY CHAIN PATTERN



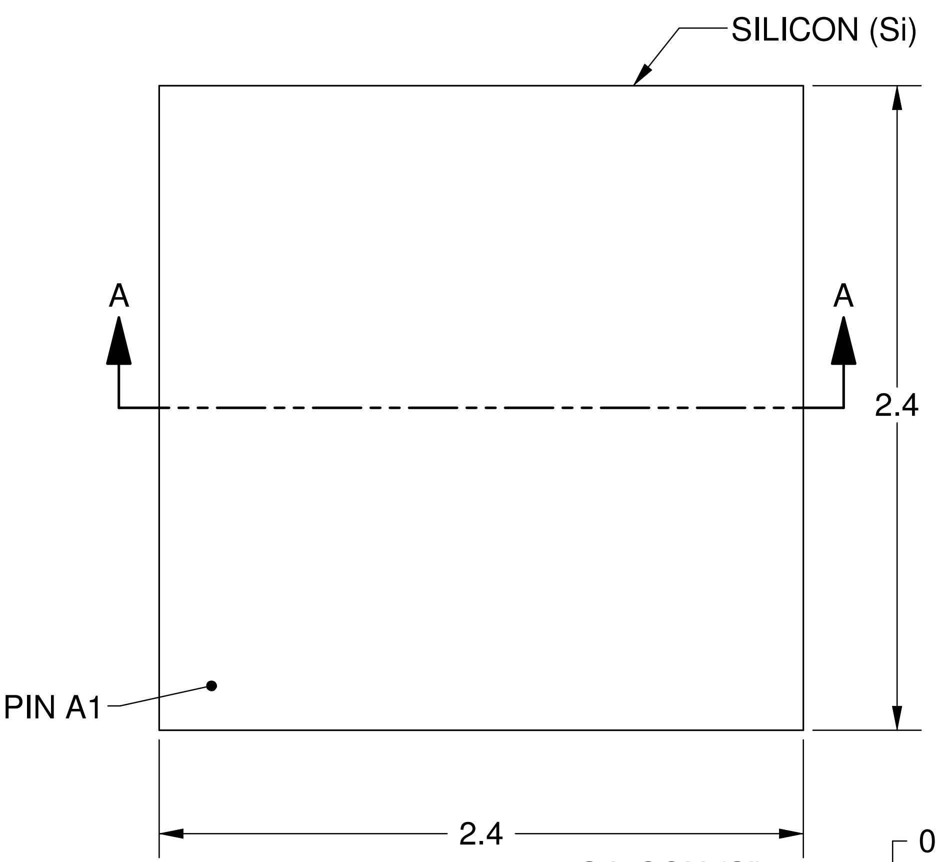
TEST VEHICLE BOARD

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).

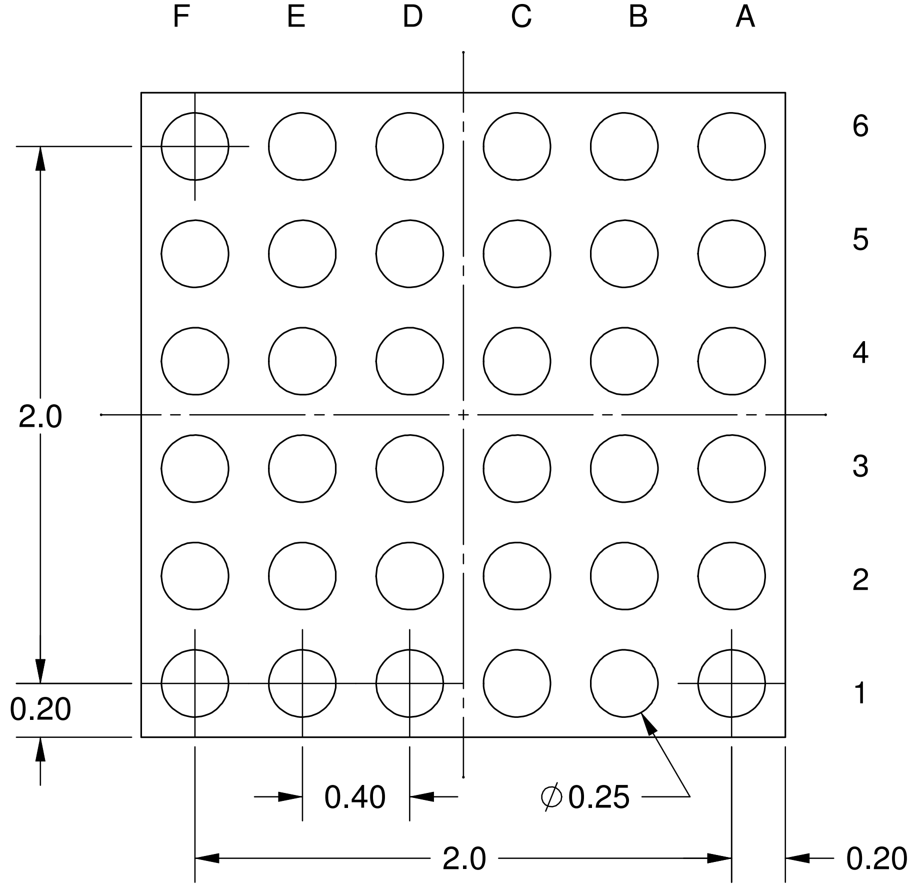
TopLine®

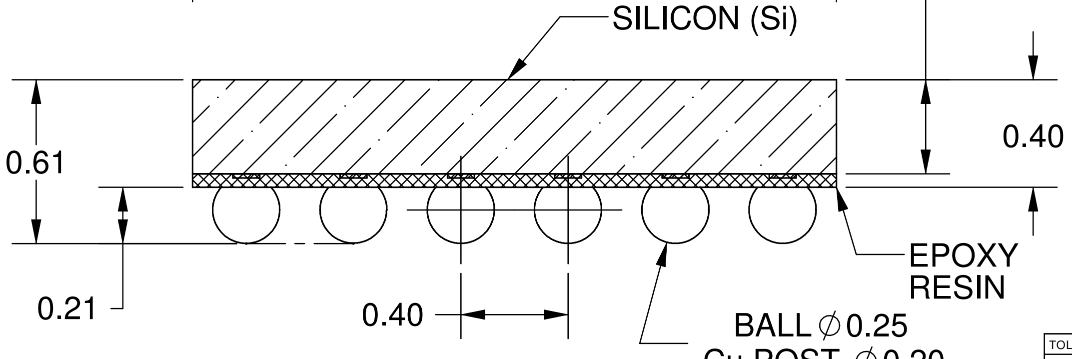
TITLE WLP36T.3C-DC067D 36-BALL P=0.3mm (TEG0306)			
SCALE 25:1	SIZE A	DRAWING NO. 530672	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	

TOP VIEW



BALL VIEW





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
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	
X.X	+/- 0.3
X.XX	+/- 0.03
X.XXX	+/- 0.003
ANGLES	+/- 0.5°

ALL DIMENSIONS IN
☐ INCHES ☒ MILLIMETERS

THIRD ANGLE
PROJECTION

APPROVALS		DATE
DRAWN	J. Hines	12/30/2010
ENG		
MFG		
QA		
CUST		
REVISED		

TopLine®

TITLE WLP36T.4C-DC067D
36-BALL P=0.4mm (TEG0408)

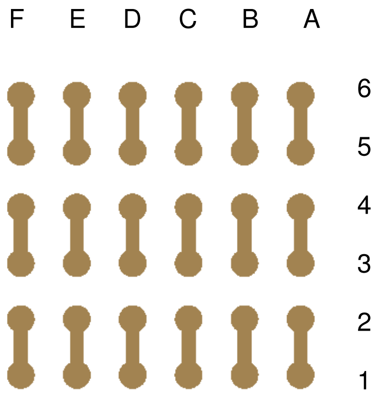
SCALE	SIZE	DRAWING NO.	REV
35.5:1	A	540682	A

DO NOT SCALE DRAWING

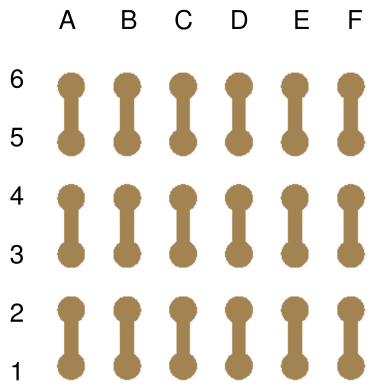
SHEET 1 OF 2

DAISY CHAIN PATTERN

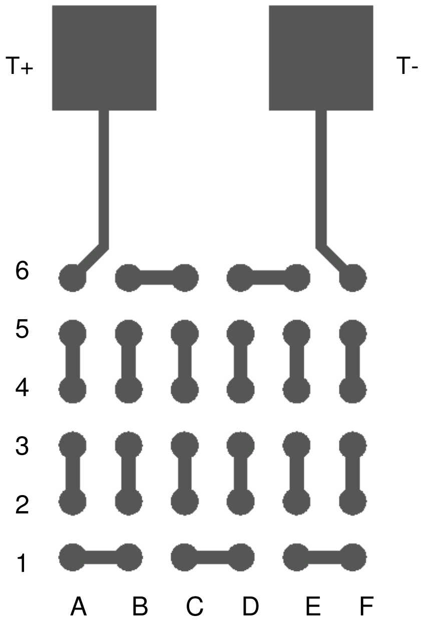
BALL VIEW



BOTTOM SIDE
(TOP X-RAY VIEW)

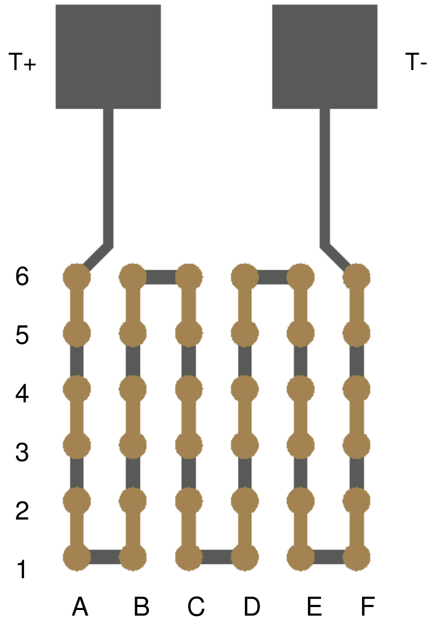


TOP VIEW



TEST VEHICLE BOARD

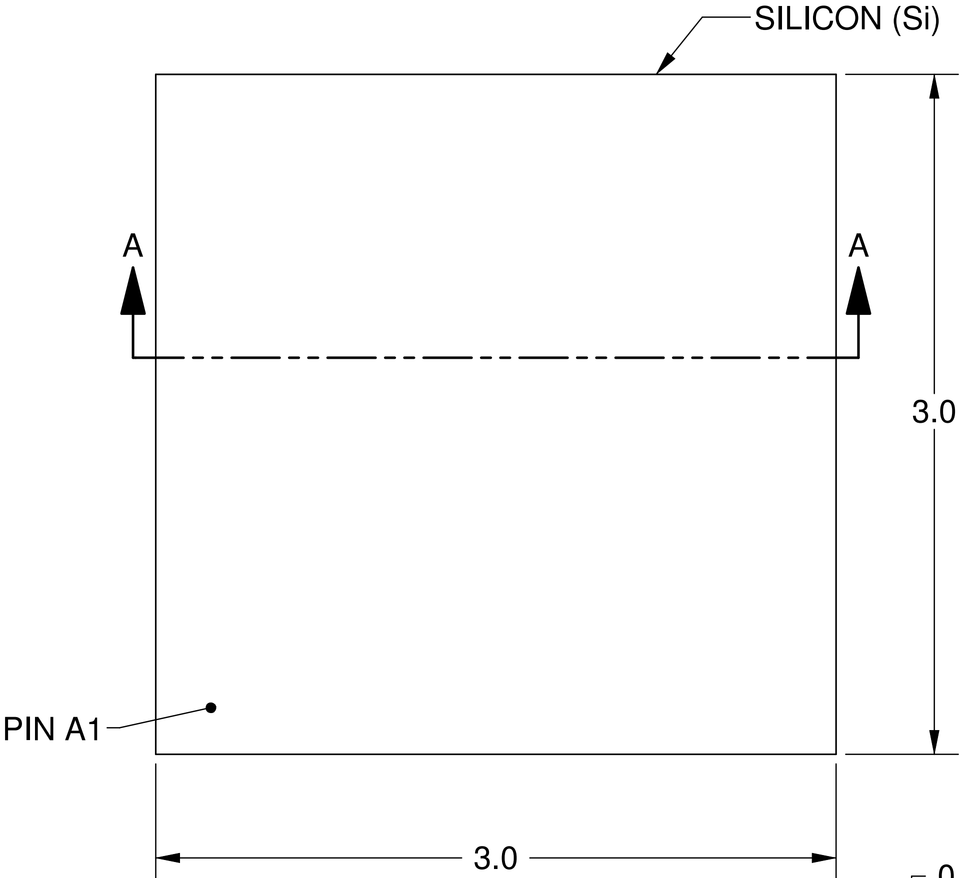
AFTER MOUNTING
TO TEST BOARD
(TOP X-RAY VIEW)



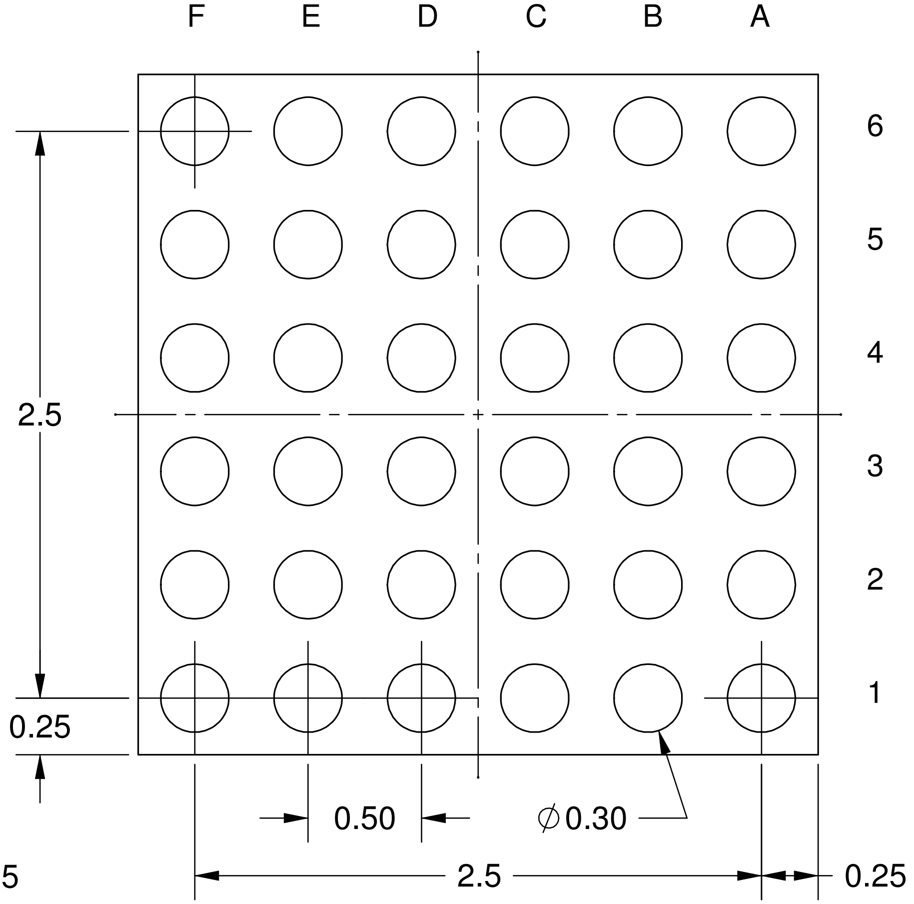
Notes:
1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE.
DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
2) PCB Cu BALL PAD DIAMETER 0.20mm (7.8mil).
3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

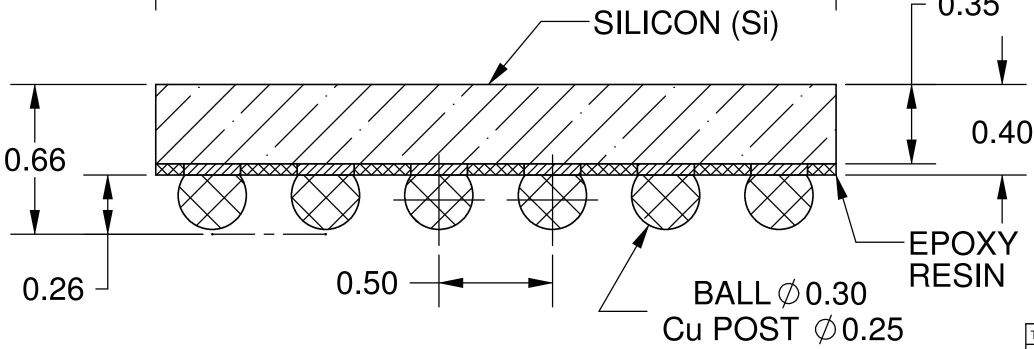
TopLine®			
TITLE WLP36T.4C-DC067D 36-BALL P=0.4mm (TEG0408)			
SCALE 18.5:1	SIZE A	DRAWING NO. 540682	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	

TOP VIEW



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
WLP36T.5C-DC067D	Sn96.5/Ag3.0/Cu0.5	YES	YES	YES
WLP36T.5C1-DC067D	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
☐ INCHES ☒ MILLIMETERS

THIRD ANGLE PROJECTION

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

TopLine®

TITLE WLP36T.5C-DC067D
36-BALL P=0.5mm (TEG0510)

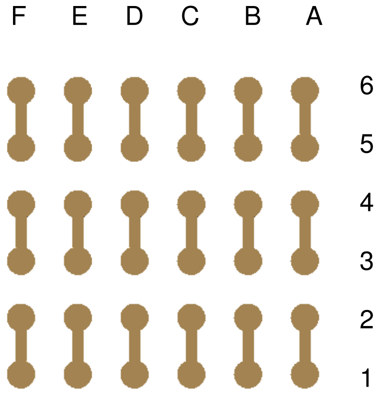
SCALE	SIZE	DRAWING NO.	REV
30:1	A	550672	A

DO NOT SCALE DRAWING

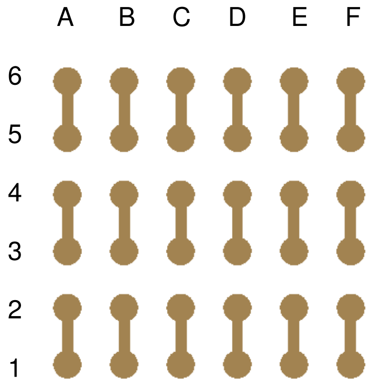
SHEET 1 OF 2

DAISY CHAIN PATTERN

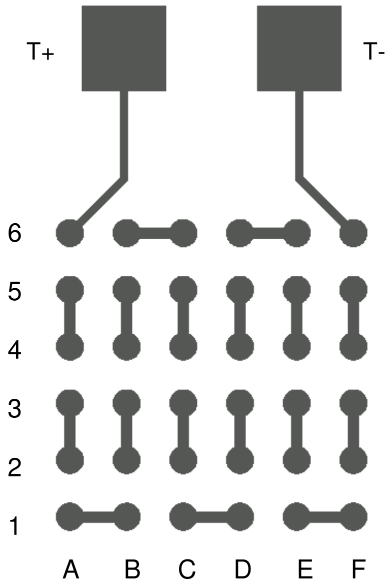
BALL VIEW



BOTTOM SIDE
(TOP X-RAY VIEW)

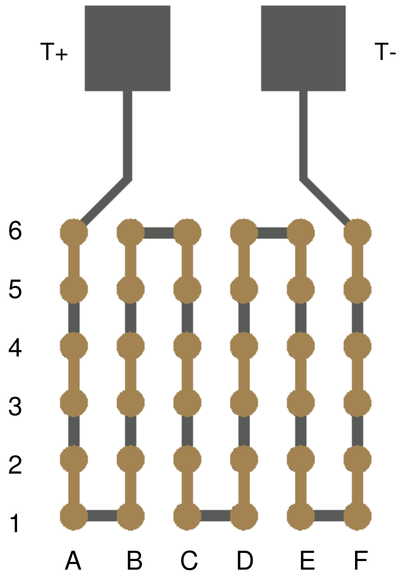


TOP VIEW



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).

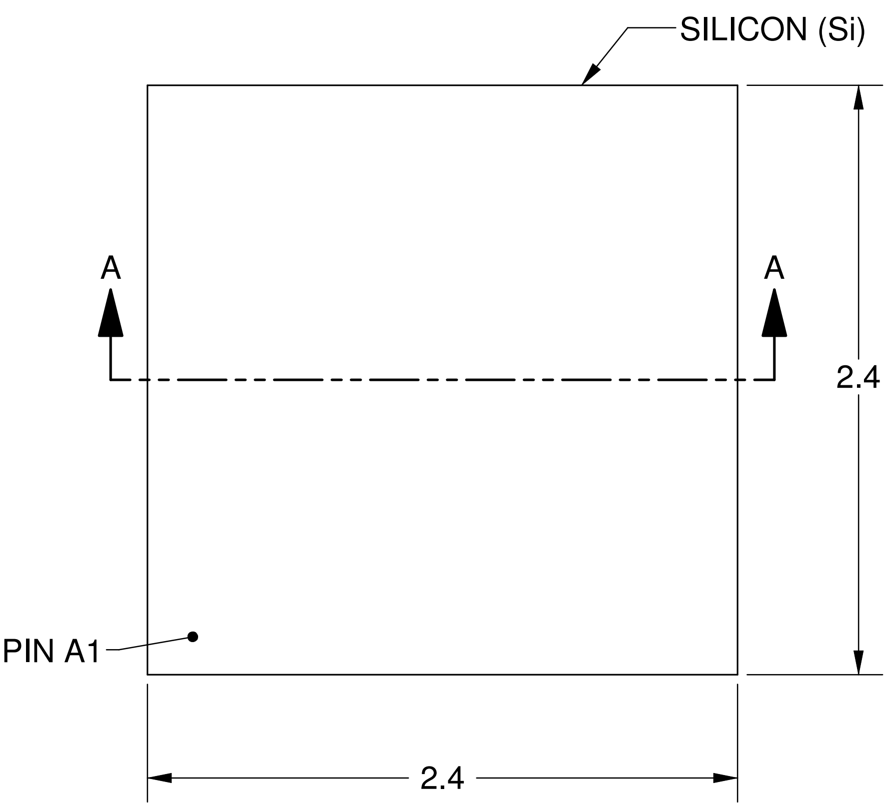
TopLine®

TITLE WLP36T.5C-DC067D
36-BALL P=0.5mm (TEG0510)

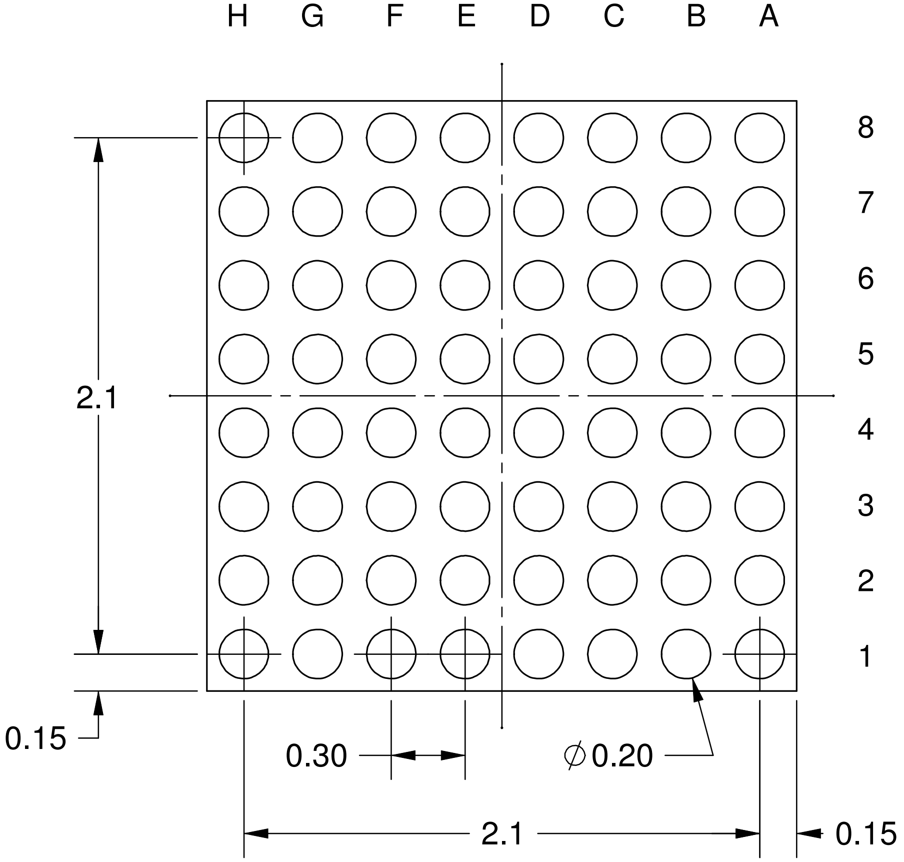
SCALE	SIZE	DRAWING NO.	REV
15:1	A	550672	A

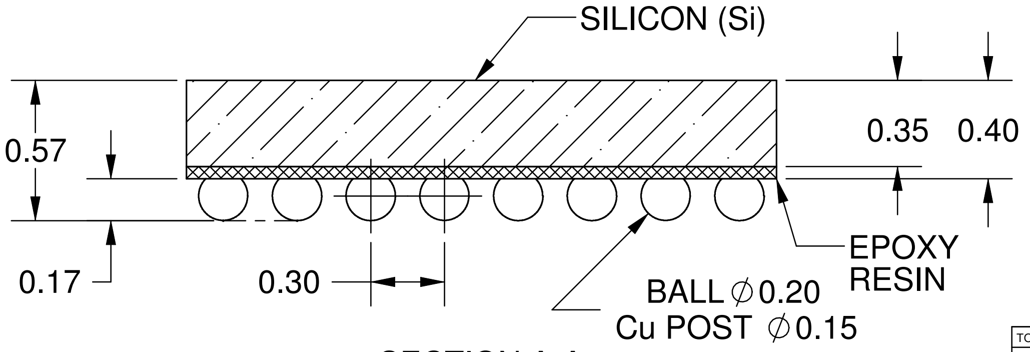
DO NOT SCALE DRAWING
SHEET 2 OF 2

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	
X.X	+/- 0.3
X.XX	+/- 0.03
X.XXX	+/- 0.003
ANGLES	+/- 0.5°

ALL DIMENSIONS IN
☐ INCHES ☒ MILLIMETERS

THIRD ANGLE PROJECTION

APPROVALS		DATE
DRAWN	J. Hines	12/29/2010
ENG		
MFG		
QA		
CUST		
REVISED		

TopLine®

TITLE WLP64T.3C-DC088D
64-BALL P=0.3mm (TEG0306)

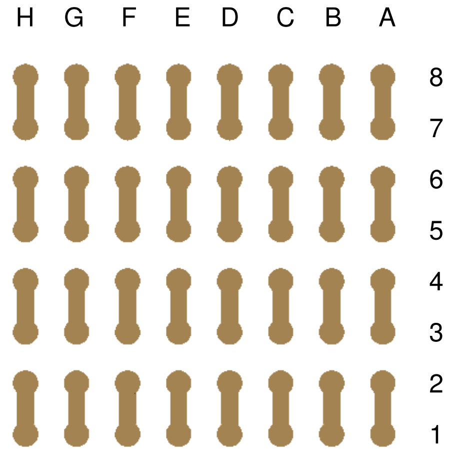
SCALE	SIZE	DRAWING NO.	REV
32.5:1	A	530882	A

DO NOT SCALE DRAWING

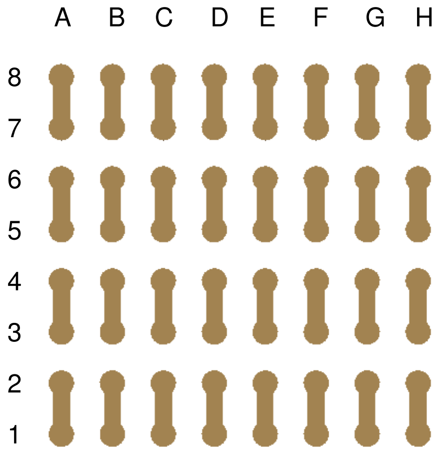
SHEET 1 OF 2

DAISY CHAIN PATTERN

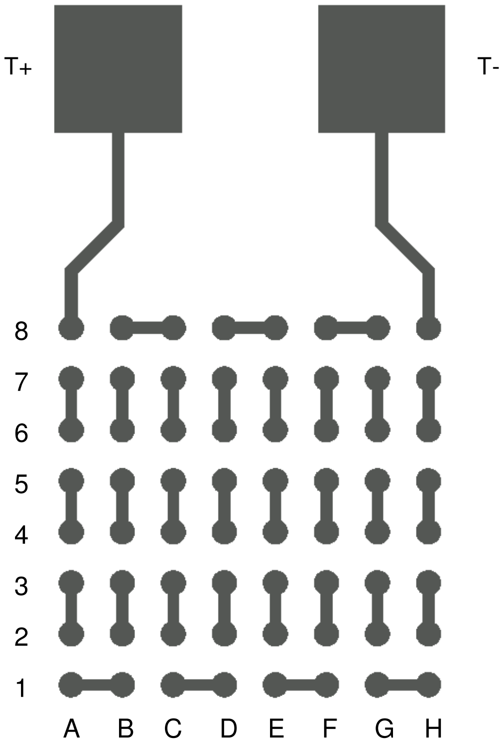
BALL VIEW



BOTTOM SIDE
(TOP X-RAY VIEW)

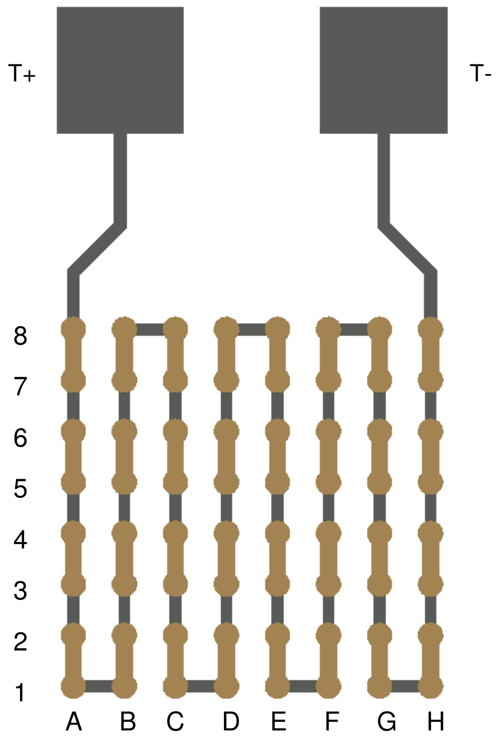


TOP VIEW



TEST VEHICLE BOARD

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

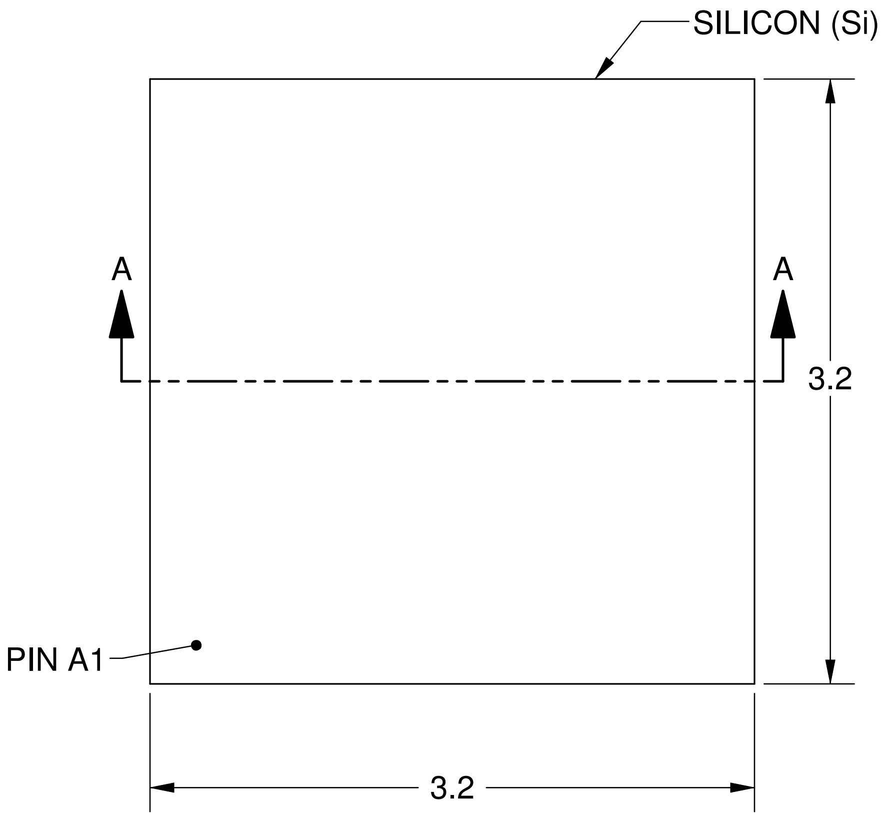


Notes:
1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
2) PCB Cu BALL PAD DIAMETER 0.15mm (5.9mil).
3) PCB DAISY CHAIN TRACING LINE WIDTH 0.07mm (3mil).

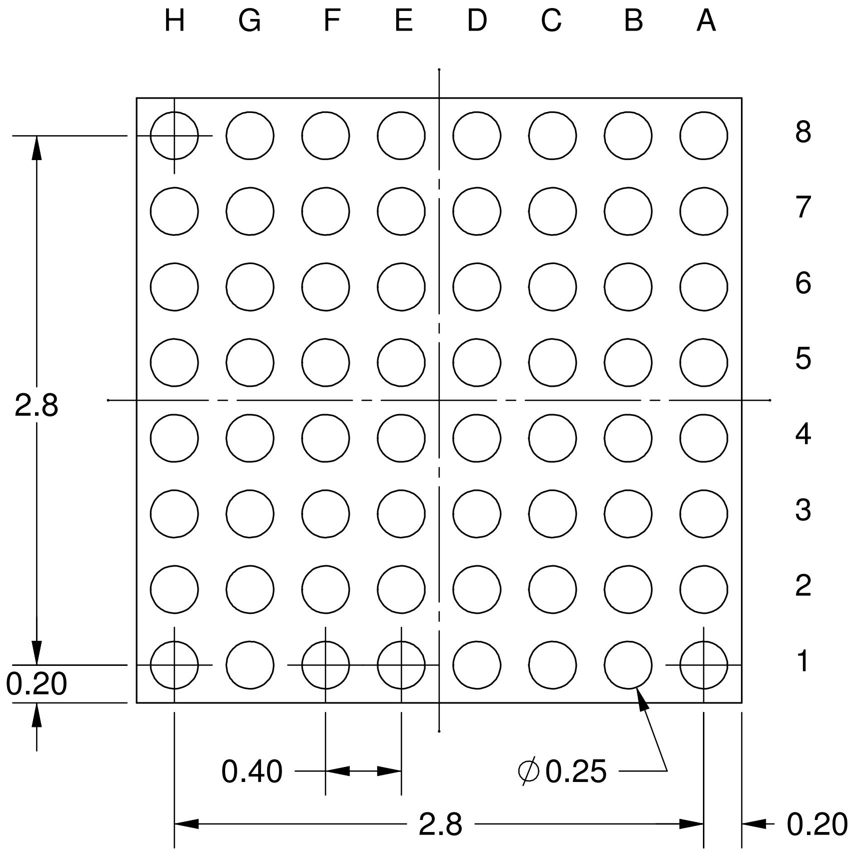
TopLine®

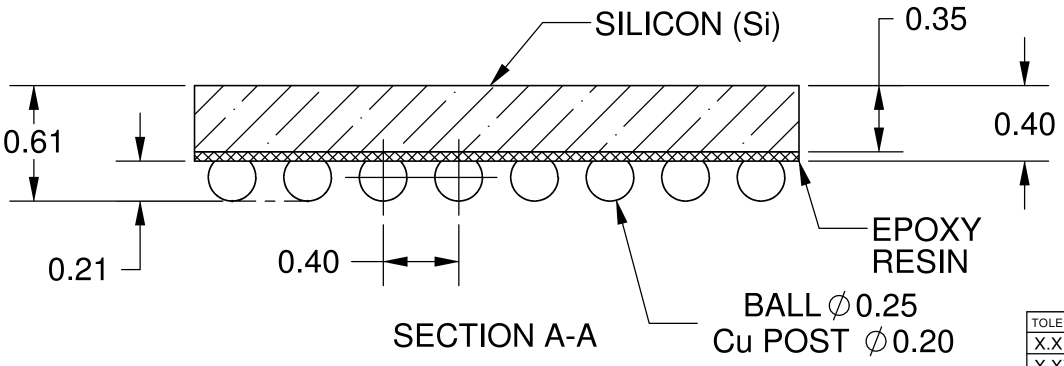
TITLE	WLP64T.3C-DC088D 64-BALL P=0.3mm (TEG0306)		
SCALE 22.5:1	SIZE A	DRAWING NO. 530882	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	

TOP VIEW



BALL VIEW





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
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	
X.X	+/- 0.3
X.XX	+/- 0.03
X.XXX	+/- 0.003
ANGLES	+/- 0.5°

ALL DIMENSIONS IN
☐ INCHES ☒ MILLIMETERS

THIRD ANGLE
PROJECTION

APPROVALS	DATE
DRAWN J. Hines	12/30/2010
ENG	
MFG	
QA	
CUST	
REVISED	

TopLine®

TITLE WLP64T.4C-DC088D
64-BALL P=0.4mm (TEG0408)

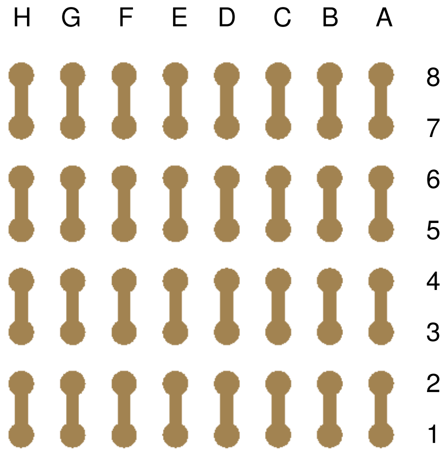
SCALE	SIZE	DRAWING NO.	REV
25:1	A	540882	A

DO NOT SCALE DRAWING

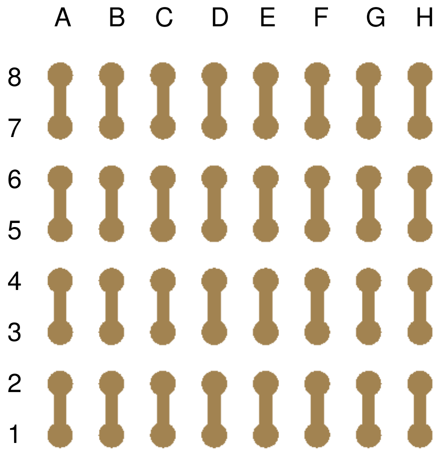
SHEET 1 OF 2

DAISY CHAIN PATTERN

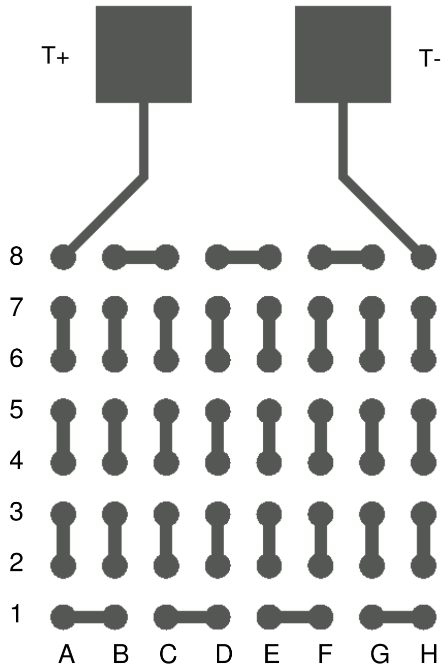
BALL VIEW



BOTTOM SIDE
(TOP X-RAY VIEW)

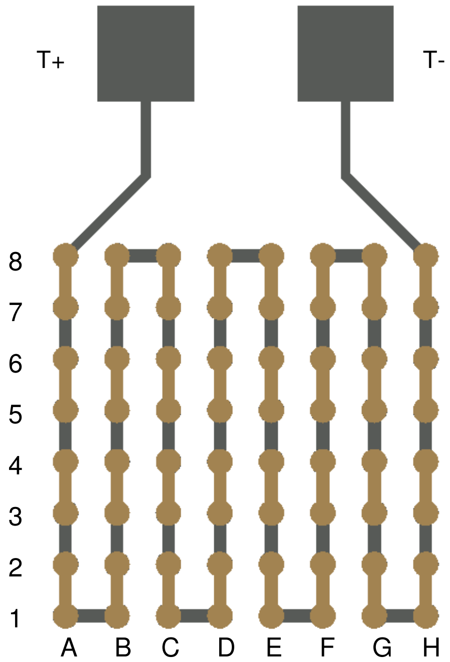


TOP VIEW



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®

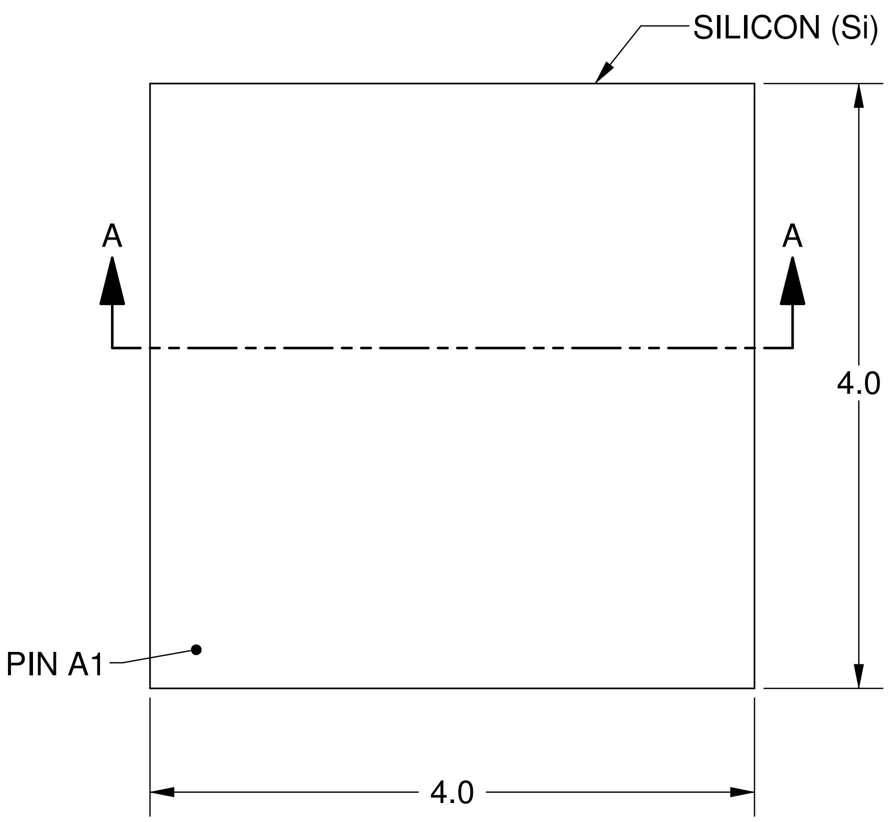
TITLE
WLP64T.4C-DC088D
64-BALL P=0.4mm (TEG0408)

SCALE	SIZE	DRAWING NO.	REV
17:1	A	540882	A

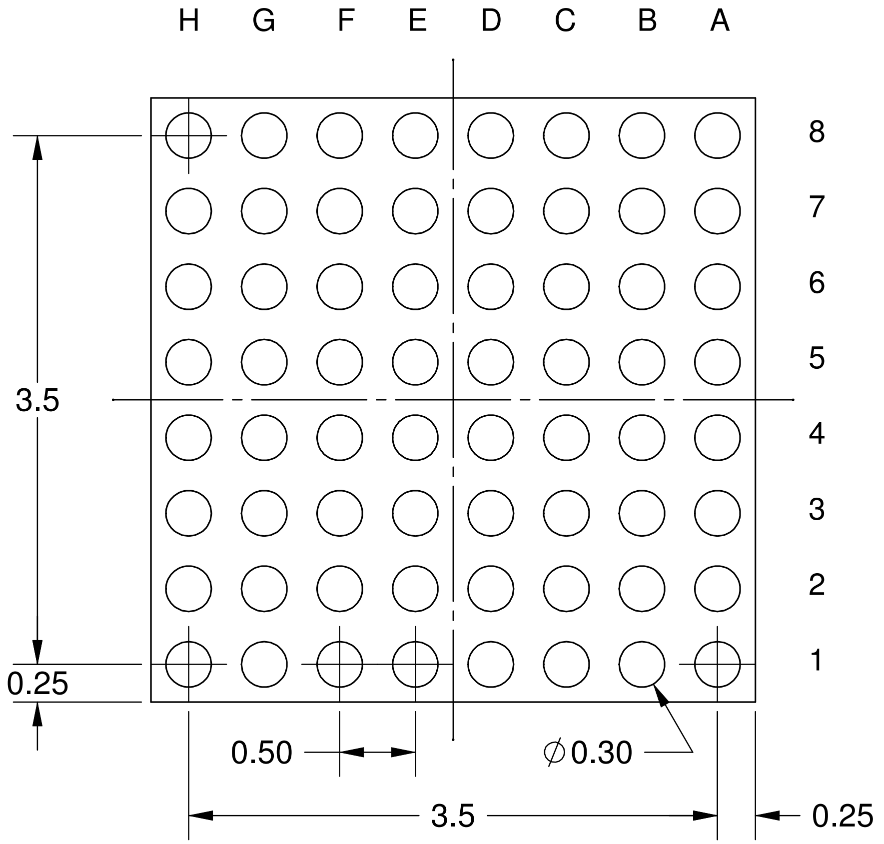
DO NOT SCALE DRAWING

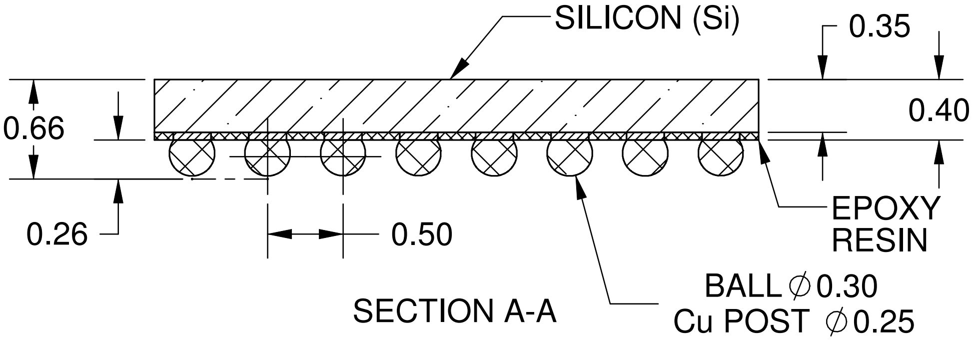
SHEET 2 OF 2

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
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	
X.X	+/- 0.3
X.XX	+/- 0.03
X.XXX	+/- 0.003
ANGLES	+/- 0.5°

ALL DIMENSIONS IN
☐ INCHES ☒ MILLIMETERS

THIRD ANGLE PROJECTION

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

TopLine®

TITLE WLP64T.5C-DC088D
64-BALL P=0.5mm (TEG0510)

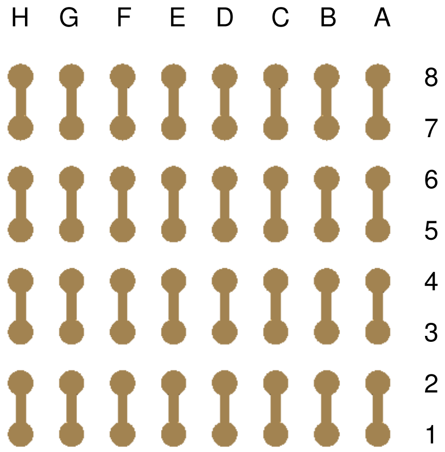
SCALE	SIZE	DRAWING NO.	REV
20:1	A	550882	A

DO NOT SCALE DRAWING

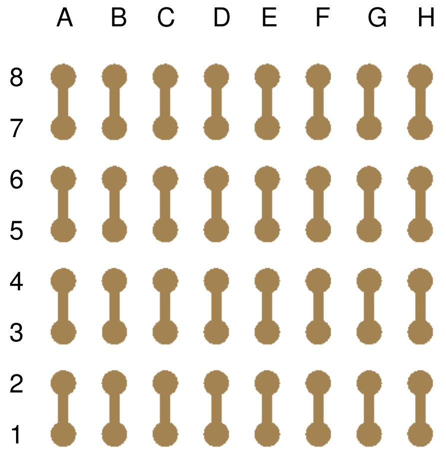
SHEET 1 OF 2

DAISY CHAIN PATTERN

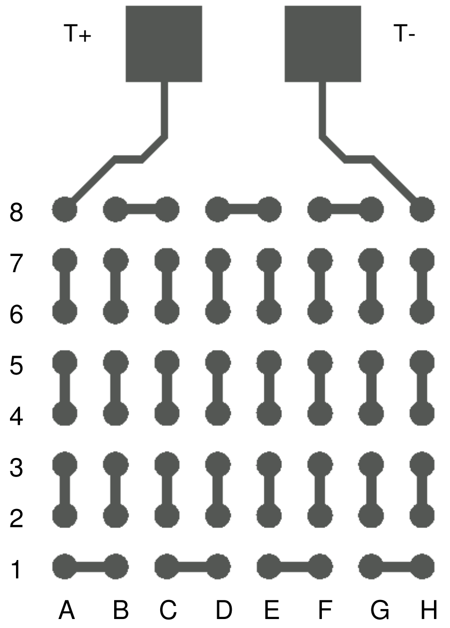
BALL VIEW



BOTTOM SIDE
(TOP X-RAY VIEW)

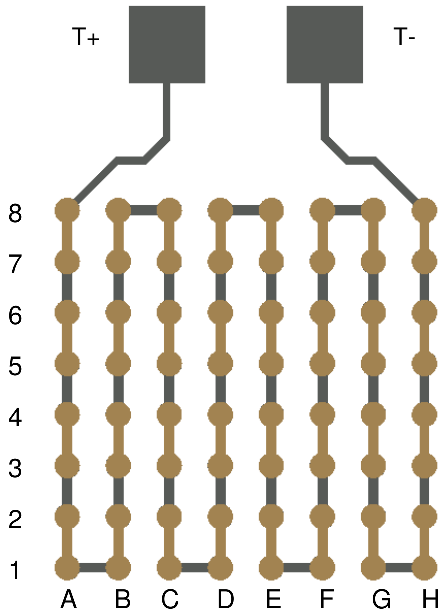


TOP VIEW



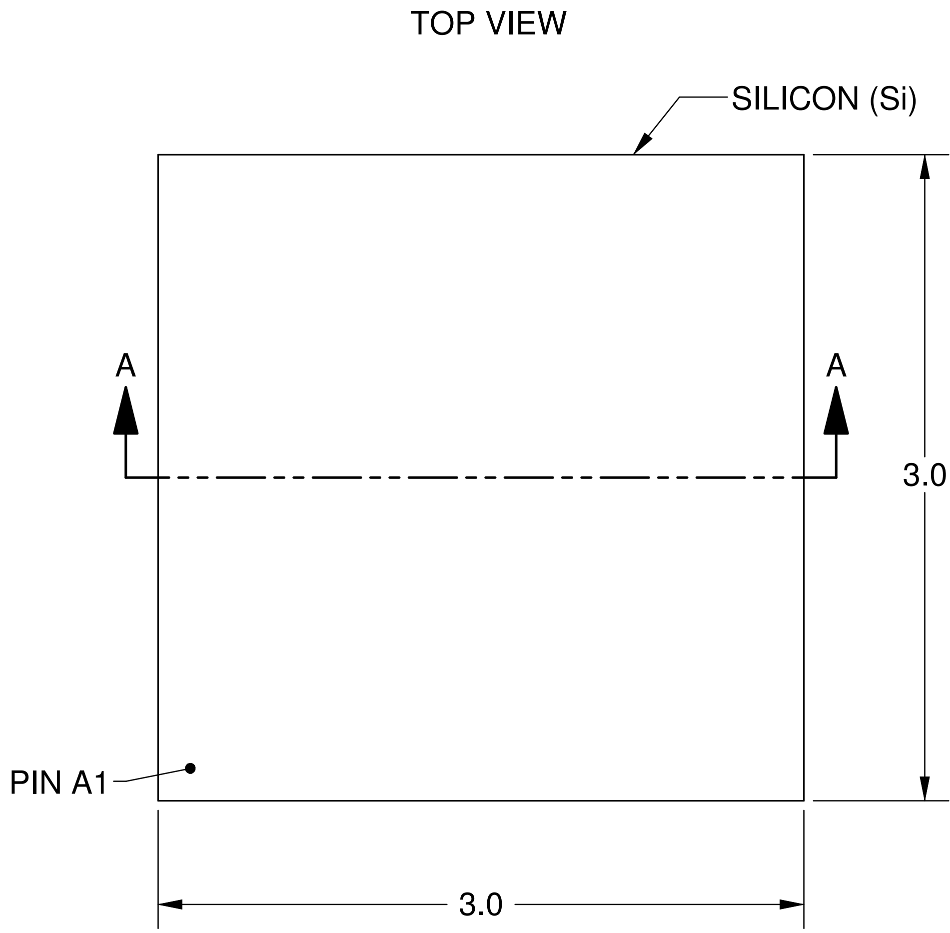
TEST VEHICLE BOARD

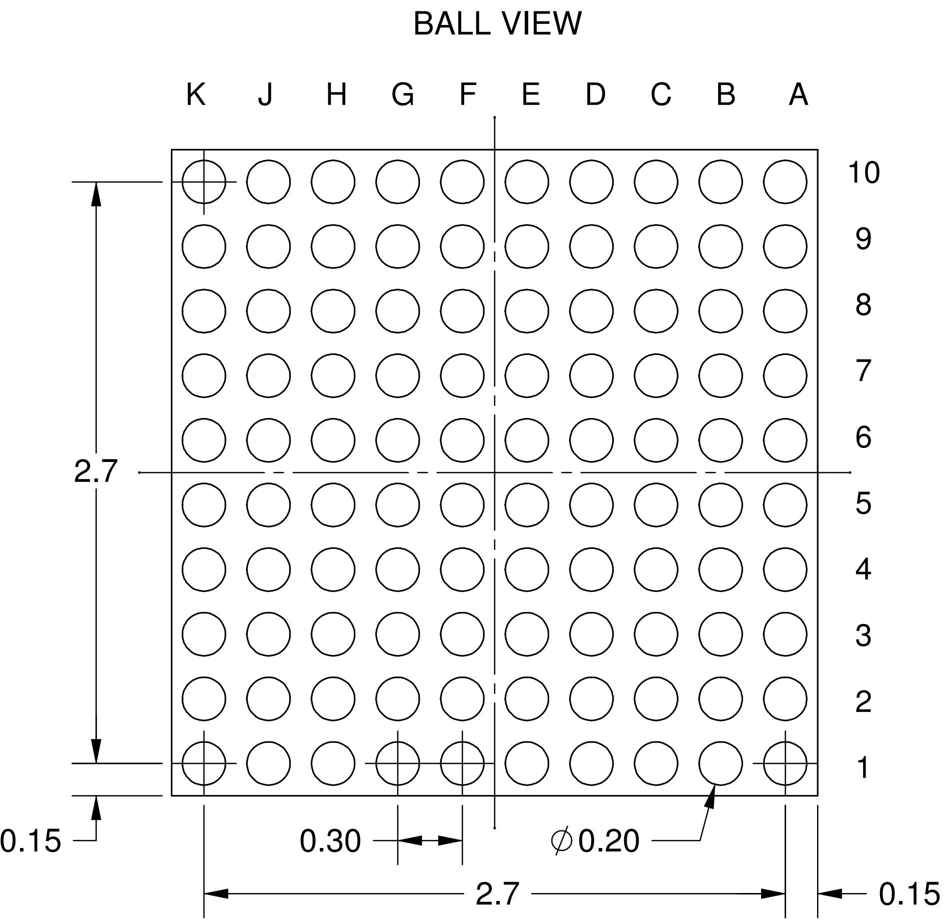
AFTER MOUNTING
TO TEST BOARD
(TOP X-RAY VIEW)

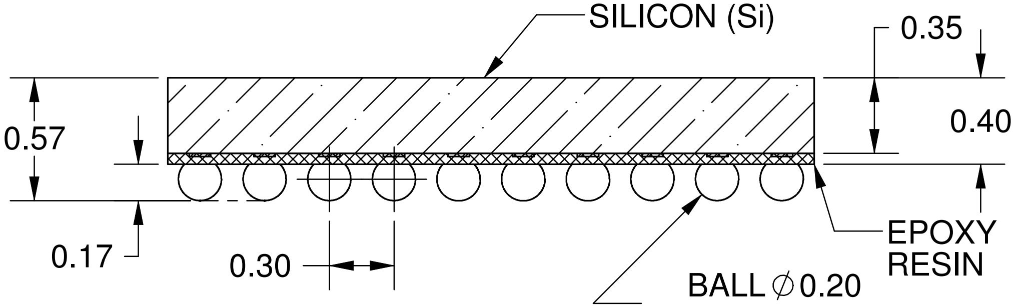


Notes:
1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
2) PCB Cu BALL PAD DIAMETER 0.25mm (9.8mil).
3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

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	







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
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	
X.X	+/- 0.3
X.XX	+/- 0.03
X.XXX	+/- 0.003
ANGLES	+/- 0.5°

ALL DIMENSIONS IN
☐ INCHES ☒ MILLIMETERS

THIRD ANGLE PROJECTION

APPROVALS		DATE
DRAWN	J. Hines	12/29/2010
ENG		
MFG		
QA		
CUST		
REVISED		

TopLine®

TITLE WLP100T.3C-DC108D
100-BALL P=0.3mm (TEG0306)

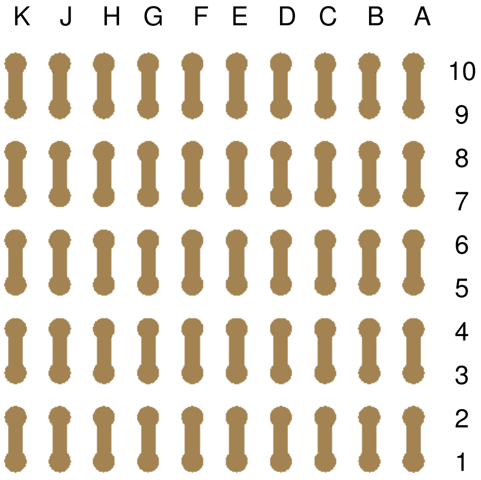
SCALE	SIZE	DRAWING NO.	REV
28.5:1	A	531082	A

DO NOT SCALE DRAWING

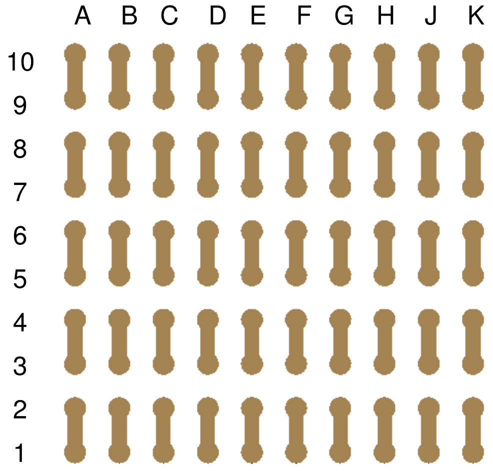
SHEET 1 OF 2

DAISY CHAIN PATTERN

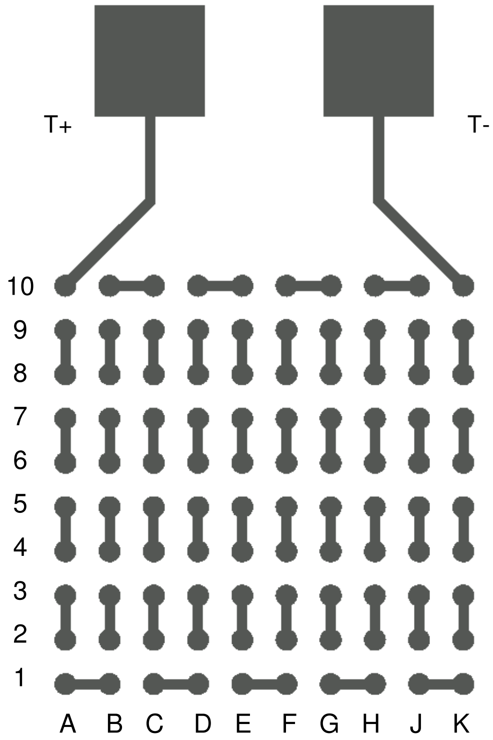
BALL VIEW



BOTTOM SIDE
(TOP X-RAY VIEW)

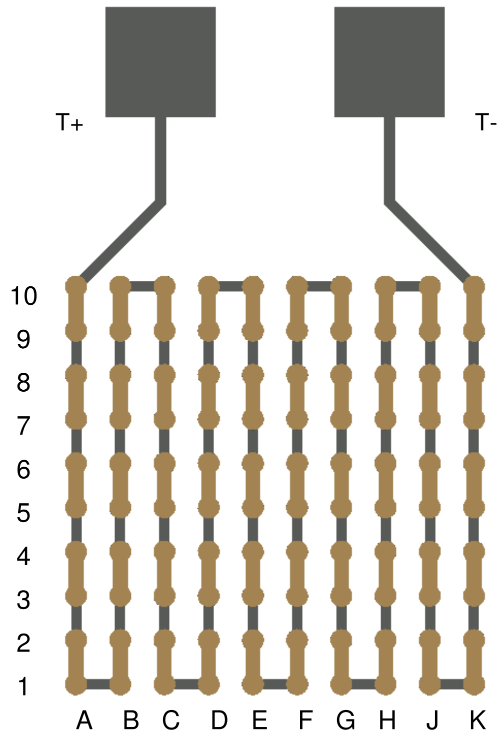


TOP VIEW



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 0.07mm (3mil).

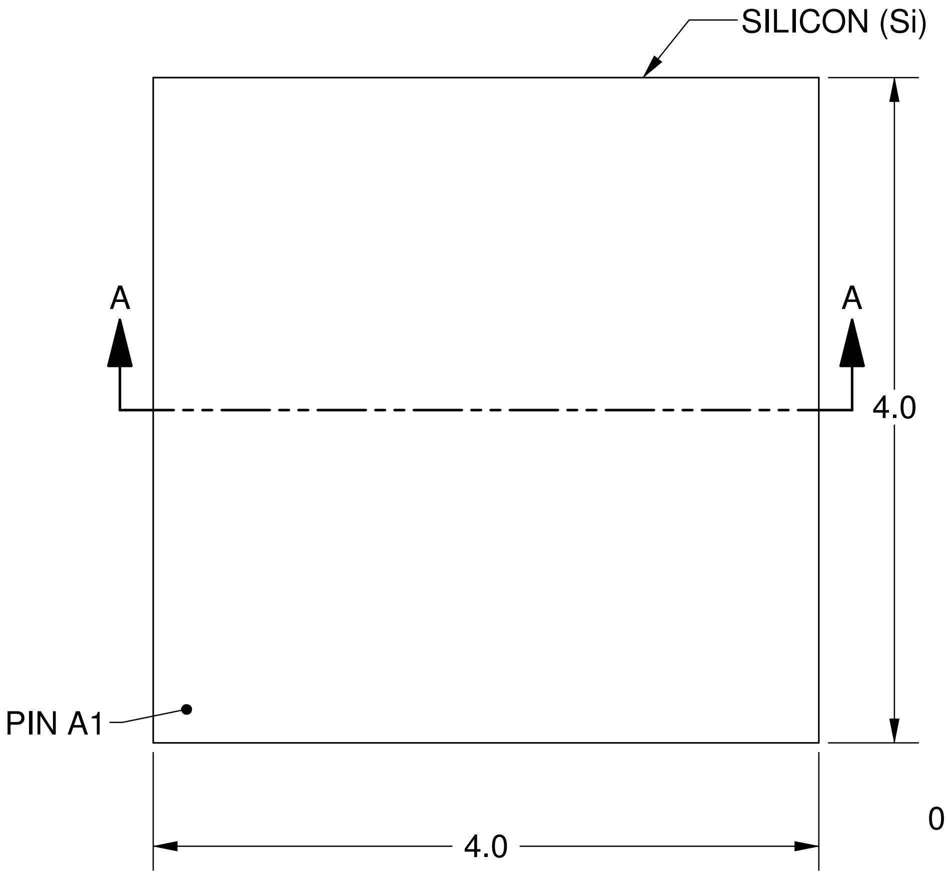
TopLine®

TITLE WLP100T.3C-DC108D
100-BALL P=0.3mm (TEG0306)

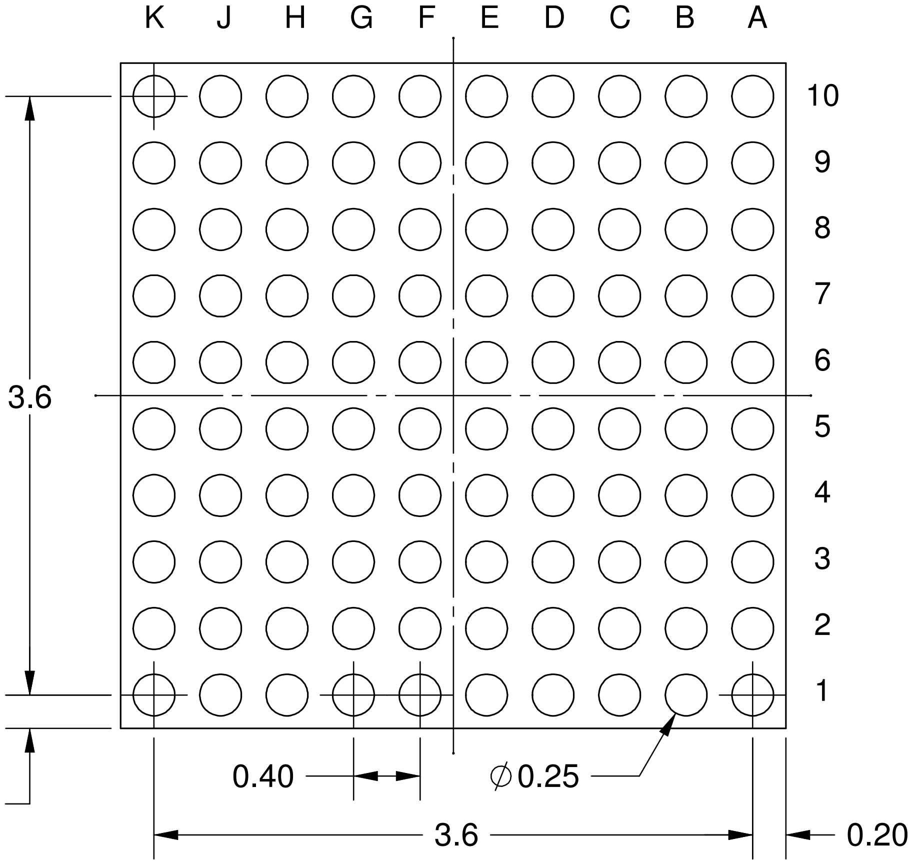
SCALE	SIZE	DRAWING NO.	REV
19.5:1	A	531082	A

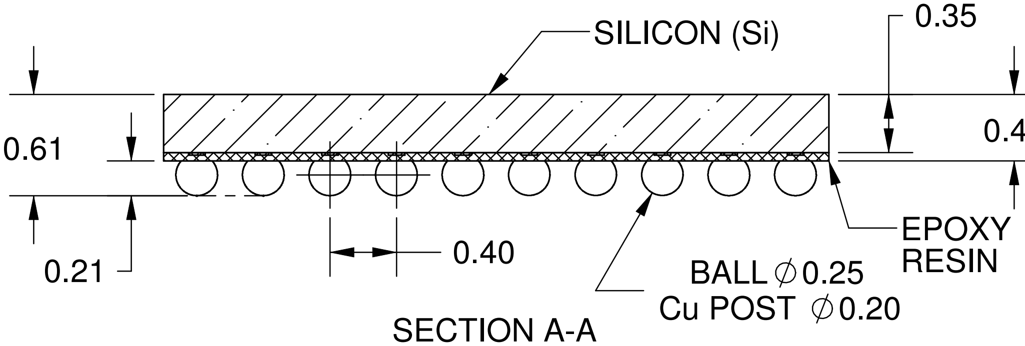
DO NOT SCALE DRAWING
SHEET 2 OF 2

TOP VIEW



BALL VIEW





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
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	
X.X	+/- 0.3
X.XX	+/- 0.03
X.XXX	+/- 0.003
ANGLES	+/- 0.5°

ALL DIMENSIONS IN
☐ INCHES ☒ MILLIMETERS

THIRD ANGLE PROJECTION

APPROVALS		DATE
DRAWN	J. Hines	12/30/2010
ENG		
MFG		
QA		
CUST		
REVISED		

TopLine®

TITLE WLP100T.4C-DC108D
100-BALL P=0.4mm (TEG0408)

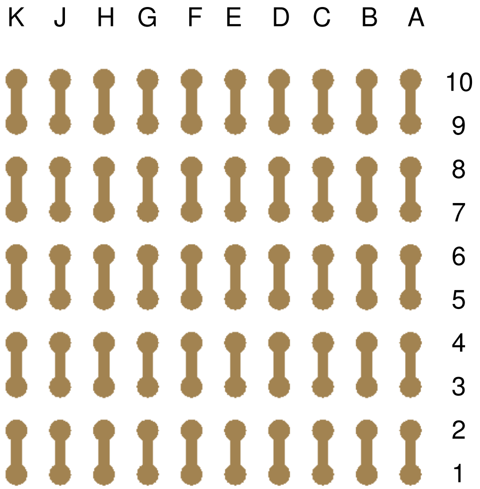
SCALE	SIZE	DRAWING NO.	REV
22:1	A	541082	A

DO NOT SCALE DRAWING

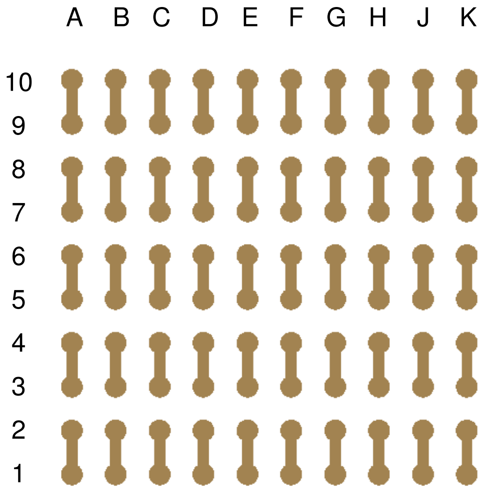
SHEET 1 OF 2

DAISY CHAIN PATTERN

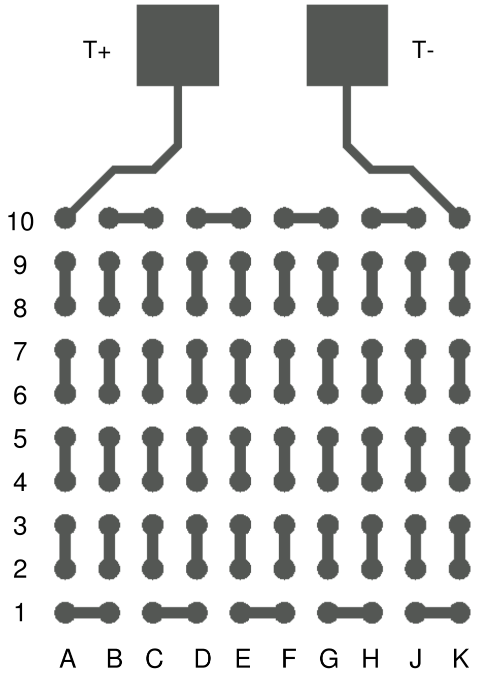
BALL VIEW



BOTTOM SIDE
(TOP X-RAY VIEW)

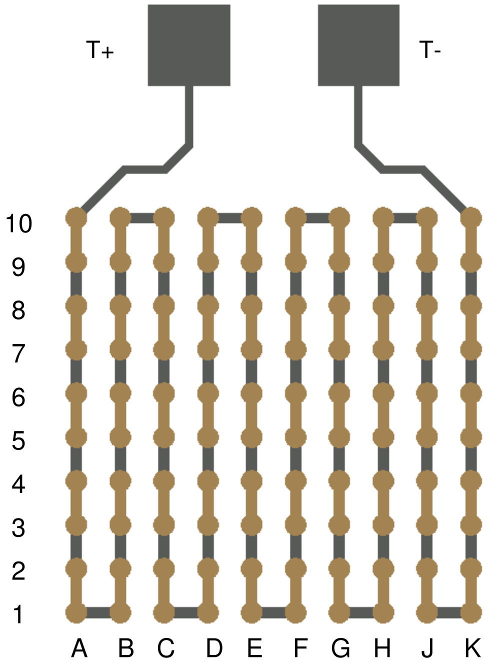


TOP VIEW



TEST VEHICLE BOARD

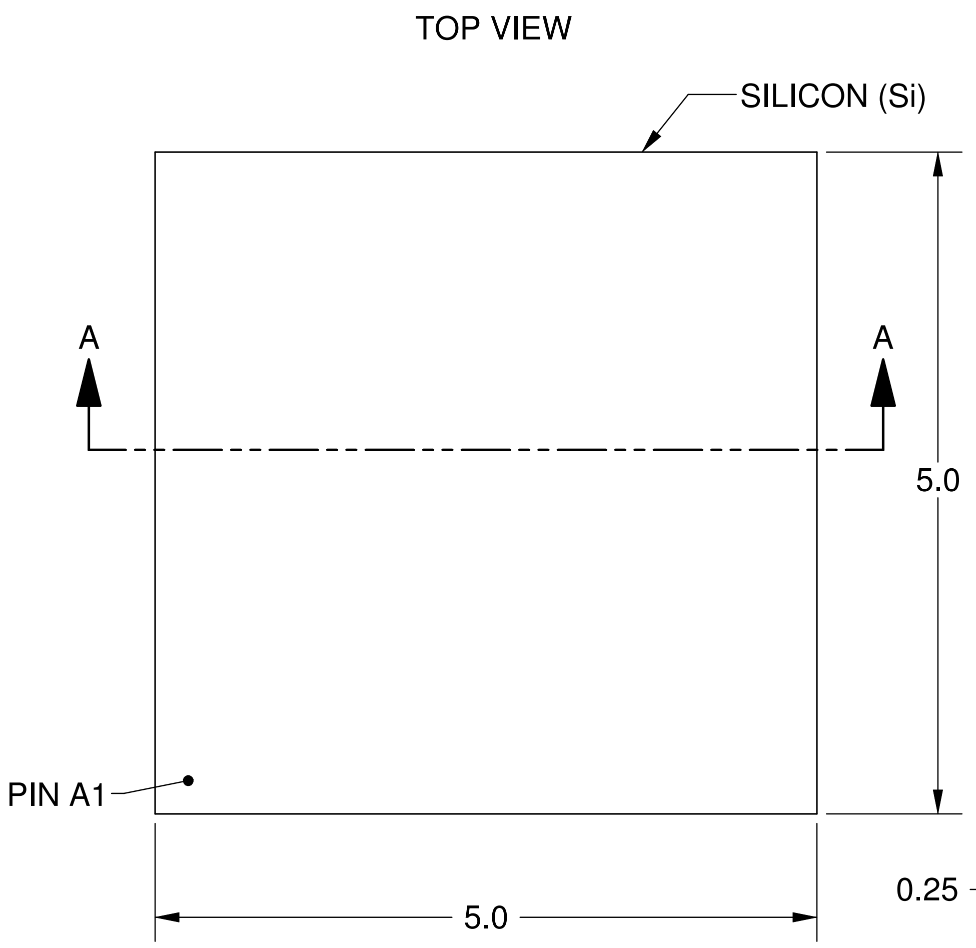
AFTER MOUNTING
TO TEST BOARD
(TOP X-RAY VIEW)

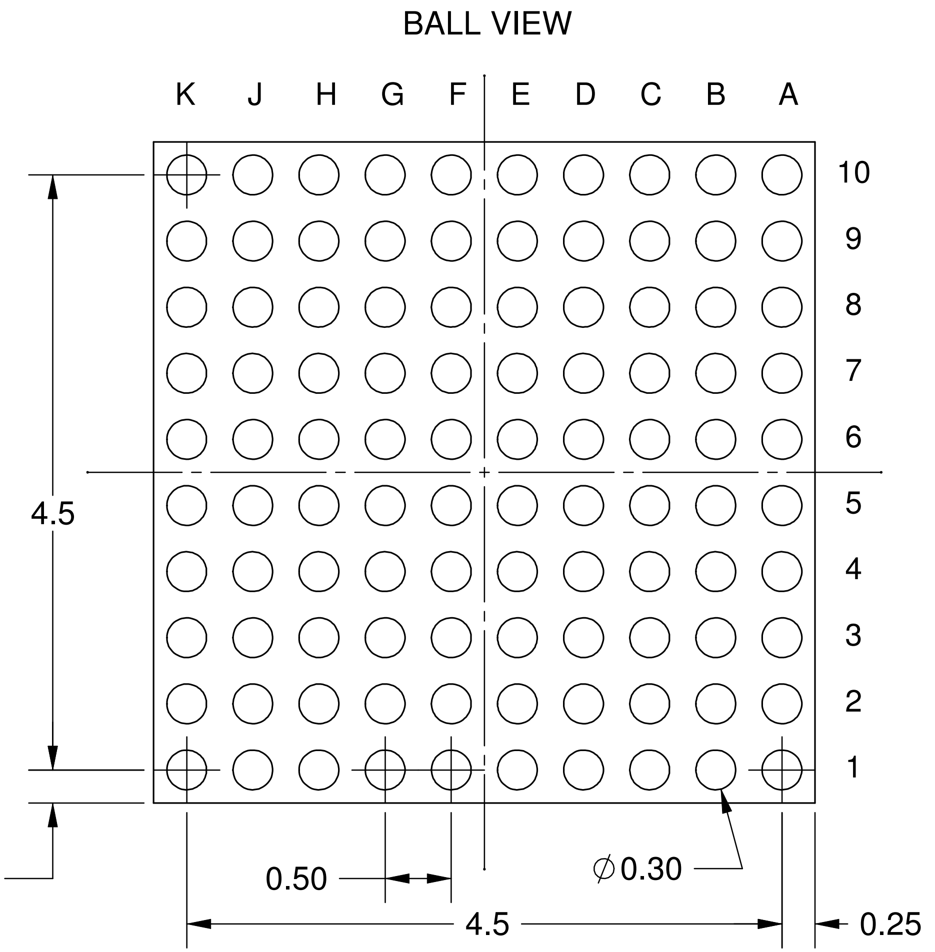


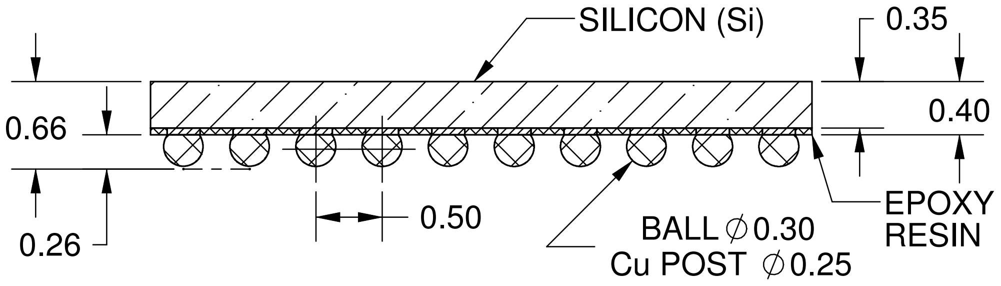
Notes:
1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
2) PCB Cu BALL PAD DIAMETER 0.20mm (7.8mil).
3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

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	







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	
X.X	+/- 0.3
X.XX	+/- 0.03
X.XXX	+/- 0.003
ANGLES	+/- 0.5°

ALL DIMENSIONS IN
☐ INCHES ☒ MILLIMETERS

THIRD ANGLE PROJECTION

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

TopLine®

TITLE WLP100T.5C-DC108D
100-BALL P=0.5mm (TEG0510)

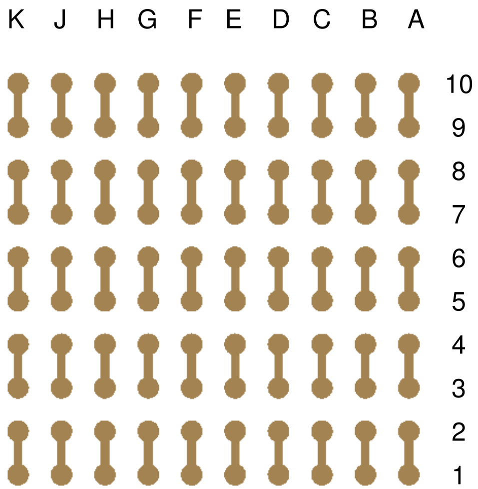
SCALE	SIZE	DRAWING NO.	REV
17.5:1	A	551082	A

DO NOT SCALE DRAWING

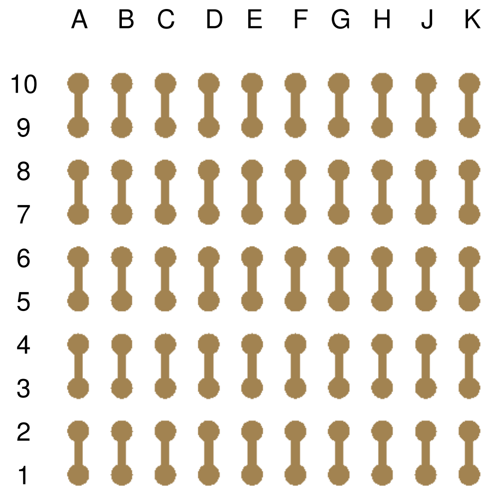
SHEET 1 OF 2

DAISY CHAIN PATTERN

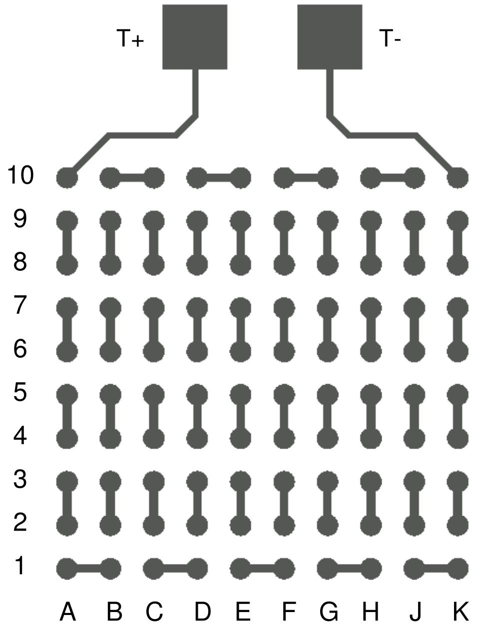
BALL VIEW



BOTTOM SIDE
(TOP X-RAY VIEW)

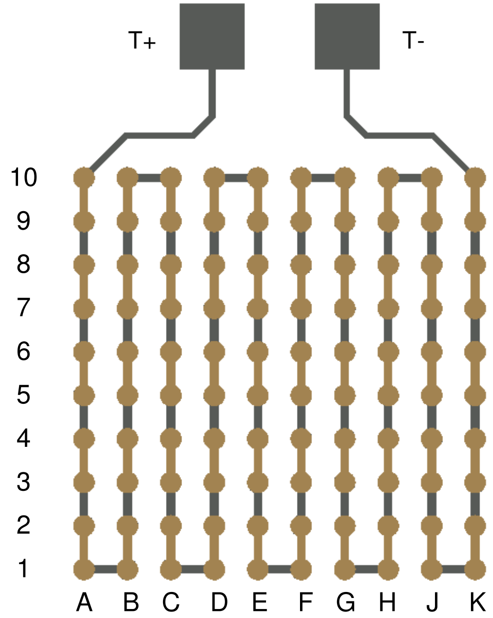


TOP VIEW



TEST VEHICLE BOARD

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

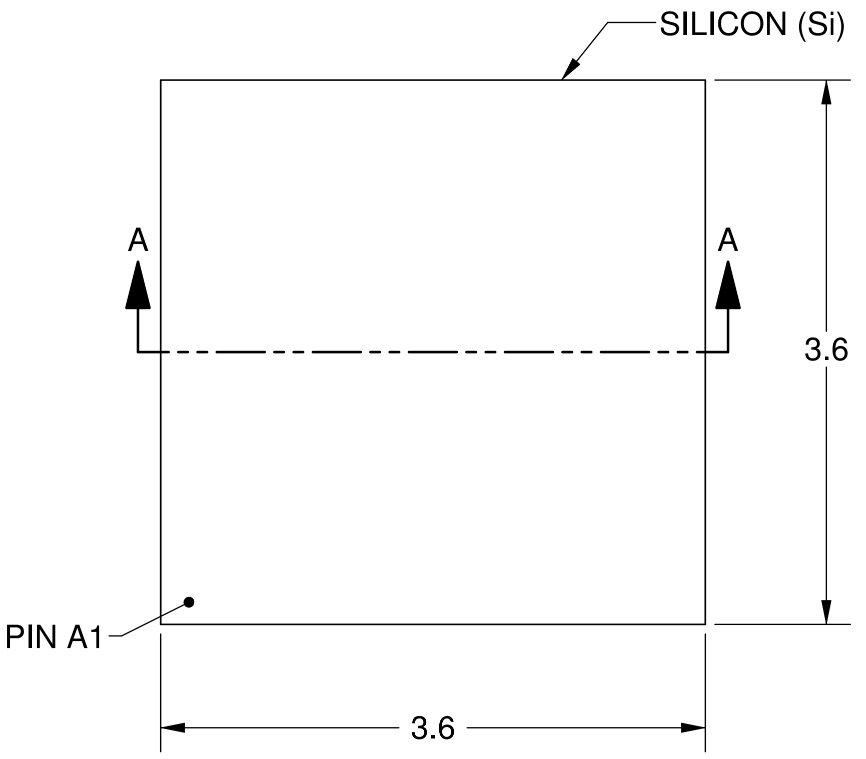


Notes:
1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
2) PCB Cu BALL PAD DIAMETER 0.25mm (9.8mil).
3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

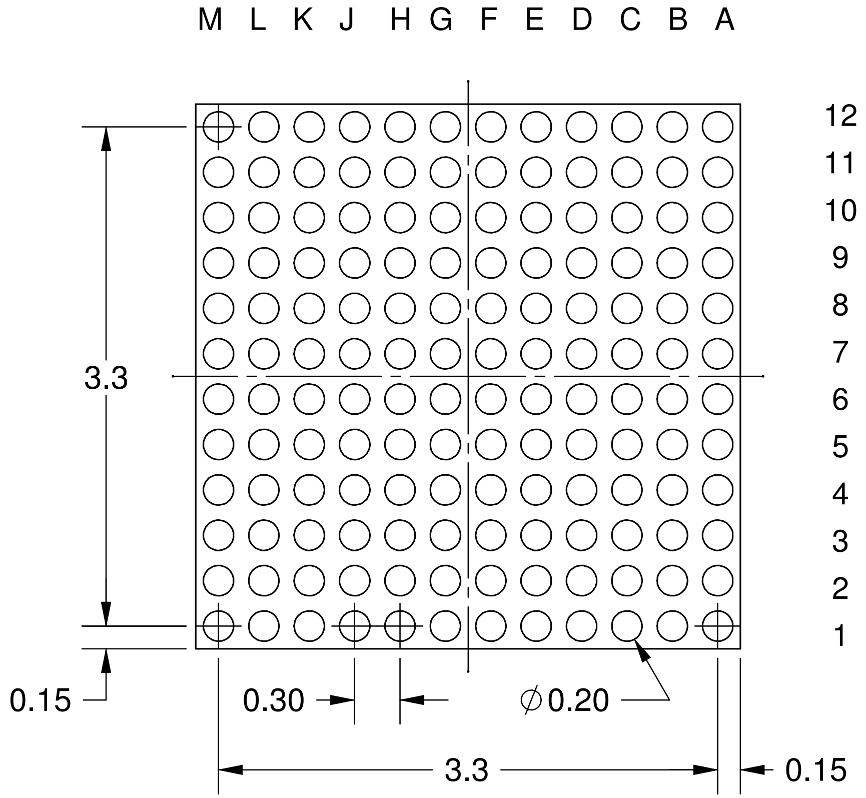
TopLine®

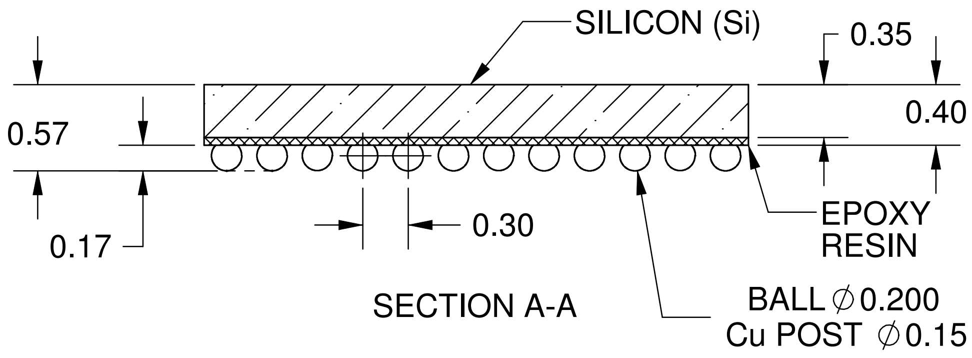
TITLE WLP100T.5C-DC108D 100-BALL P=0.5mm (TEG0510)			
SCALE 11.5:1	SIZE A	DRAWING NO. 551082	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	

TOP VIEW



BALL VIEW





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
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	
X.X	+/- 0.3
X.XX	+/- 0.03
X.XXX	+/- 0.003
ANGLES	+/- 0.5°

ALL DIMENSIONS IN
☐ INCHES ☒ MILLIMETERS

THIRD ANGLE PROJECTION

APPROVALS		DATE
DRAWN	J. Hines	12/29/2010
ENG		
MFG		
QA		
CUST		
REVISED		

TopLine®

TITLE WLP144T.3C-DC127D
144-BALL P=0.3mm (TEG0306)

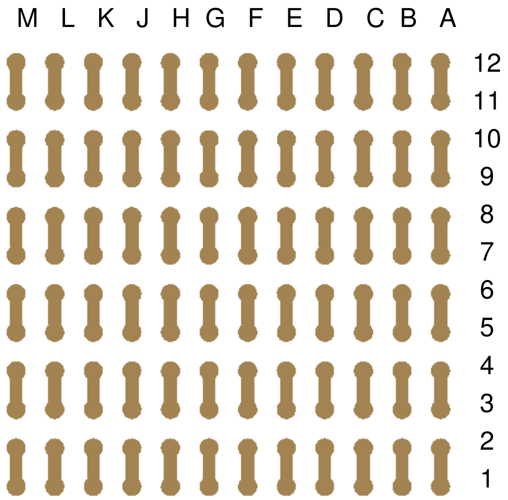
SCALE	SIZE	DRAWING NO.	REV
20:1	A	531272	A

DO NOT SCALE DRAWING

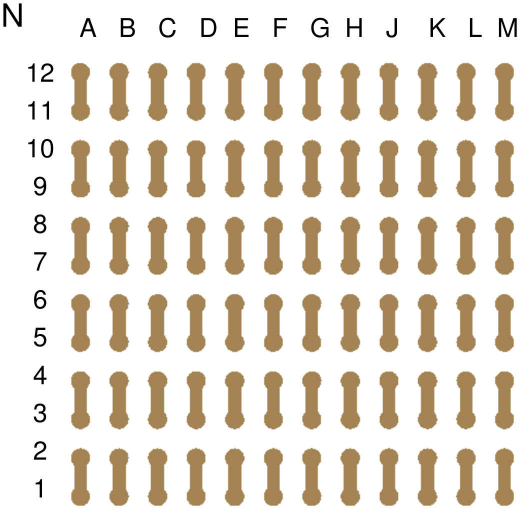
SHEET 1 OF 2

DAISY CHAIN PATTERN

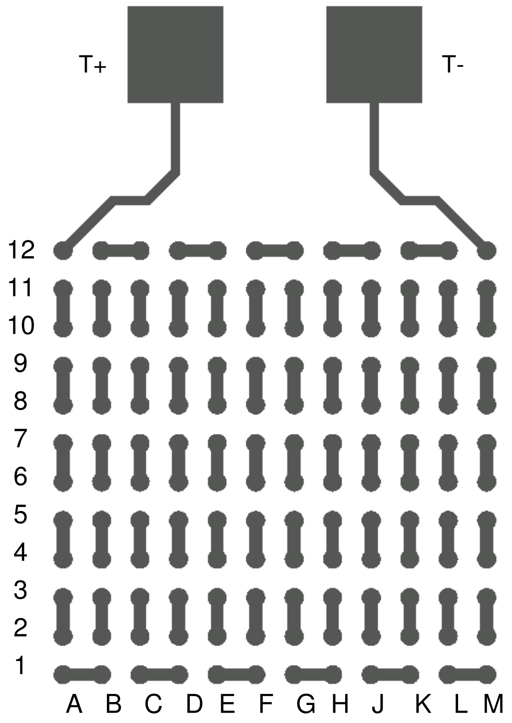
BALL VIEW



BOTTOM SIDE
(TOP X-RAY VIEW)

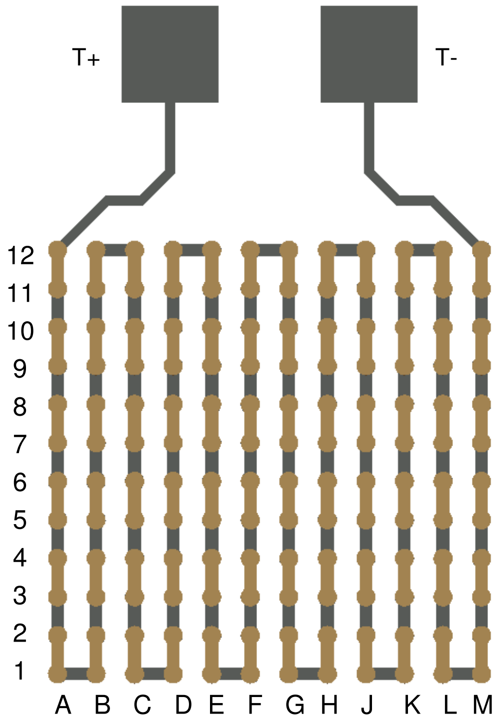


TOP VIEW



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 0.07mm (3mil).

TopLine®

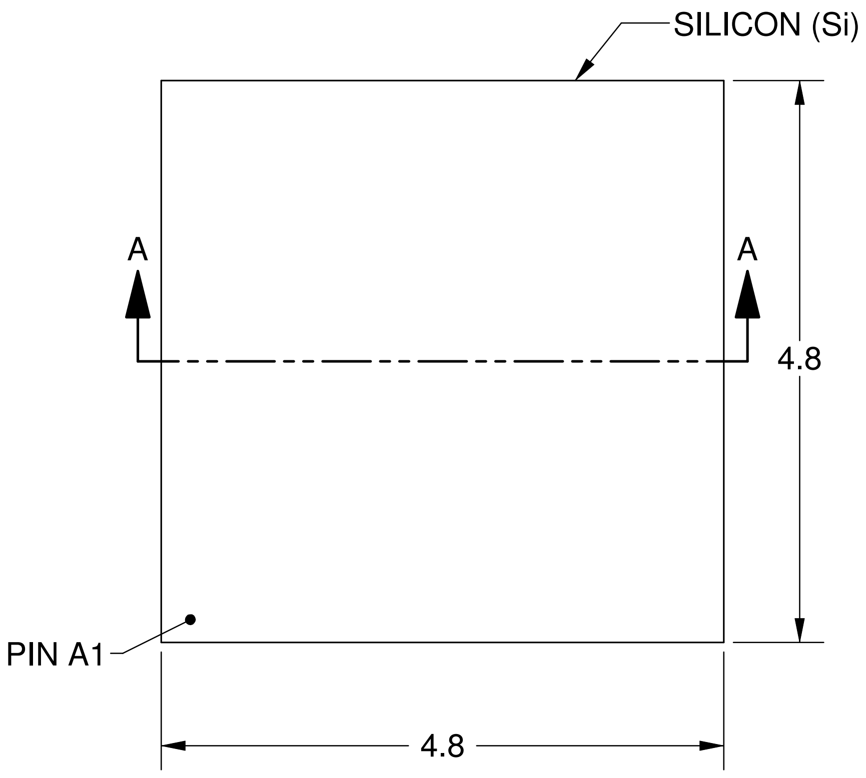
TITLE WLP144T.3C-DC127D
144-BALL P=0.3mm (TEG0306)

SCALE	SIZE	DRAWING NO.	REV
17:1	A	531272	A

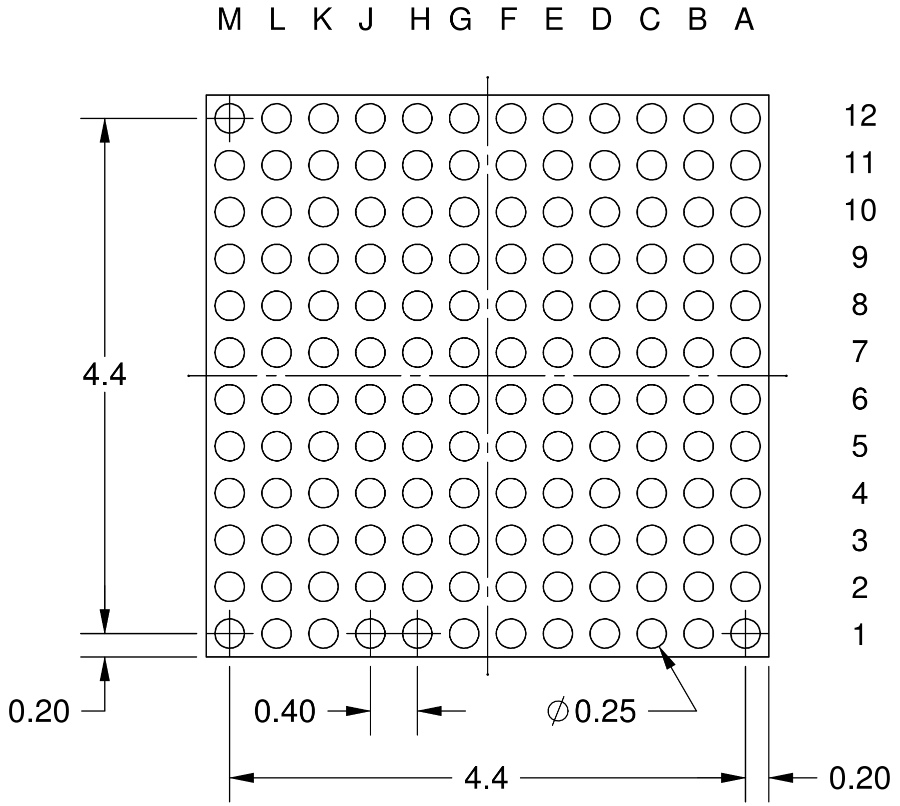
DO NOT SCALE DRAWING

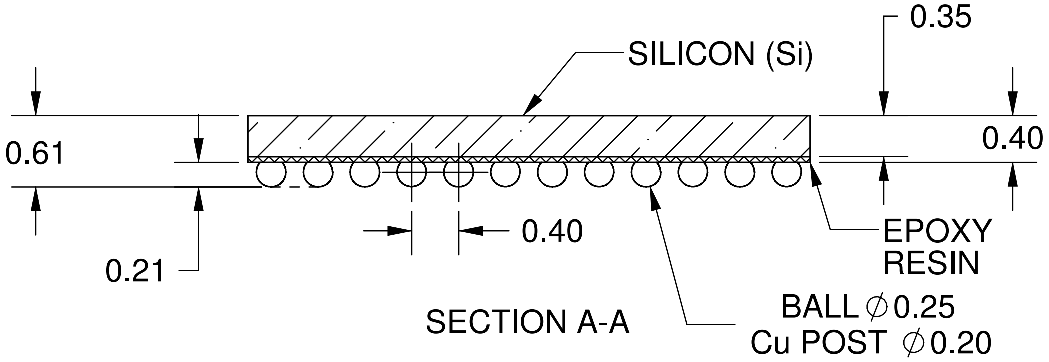
SHEET 2 OF 2

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
WLP144T.4C-DC127D	Sn96.5/Ag3.0/Cu0.5	YES	YES	YES
WLP144T.4C1-DC127D	Sn98.3/Ag1.2/Cu0.5	YES	YES	YES

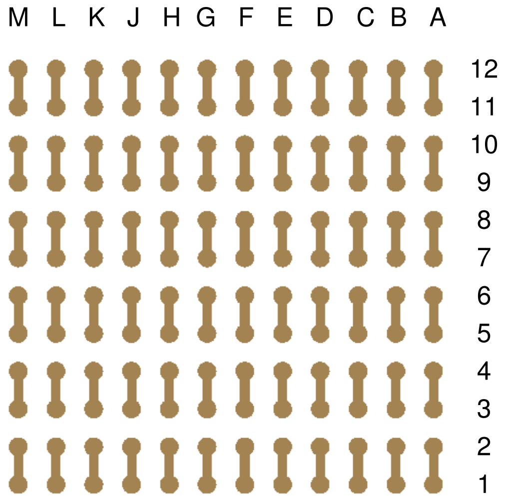
TOLERANCE UNLESS NOTED		APPROVALS	DATE
X.X	+/- 0.3		
X.XX	+/- 0.03	DRAWN J. Hines	12/30/2010
X.XXX	+/- 0.003		
ANGLES	+/- 0.5°	ENG	
ALL DIMENSIONS IN ☐ INCHES ☒ MILLIMETERS		MFG	
THIRD ANGLE PROJECTION		QA	
		CUST	
		REVISED	

TopLine®

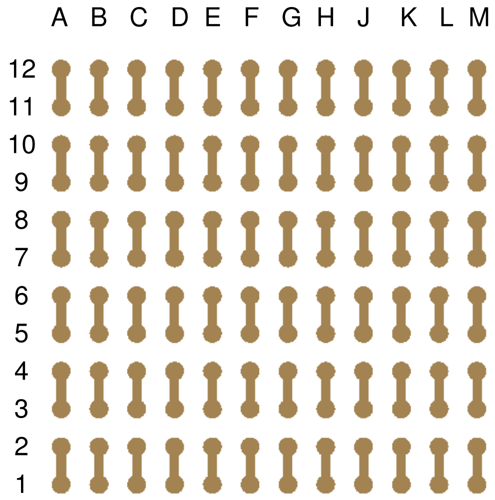
TITLE	WLP144T.4C-DC127D 144-BALL P=0.4mm (TEG0408)		
SCALE	SIZE	DRAWING NO.	REV
15.5:1	A	541272	A
DO NOT SCALE DRAWING		SHEET 1 OF 2	

DAISY CHAIN PATTERN

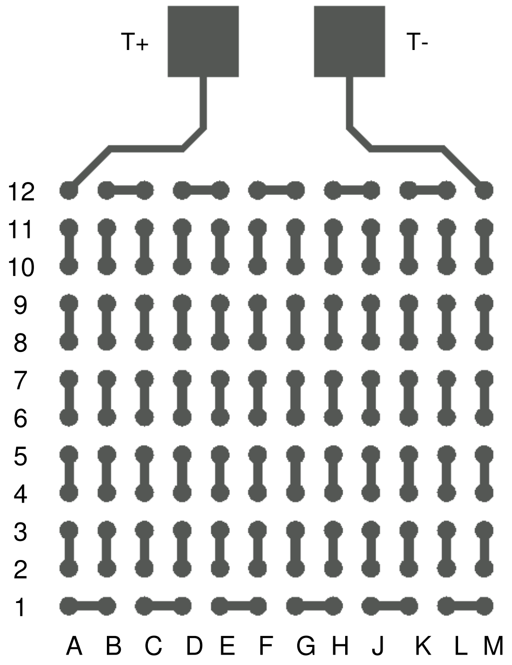
BALL VIEW



BOTTOM SIDE
(TOP X-RAY VIEW)

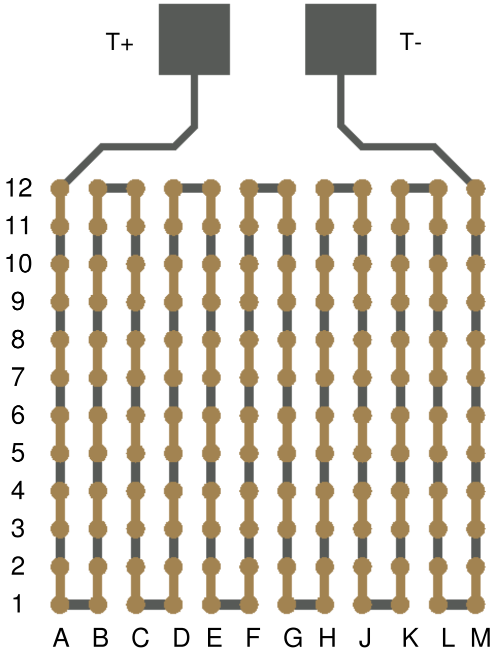


TOP VIEW



TEST VEHICLE BOARD

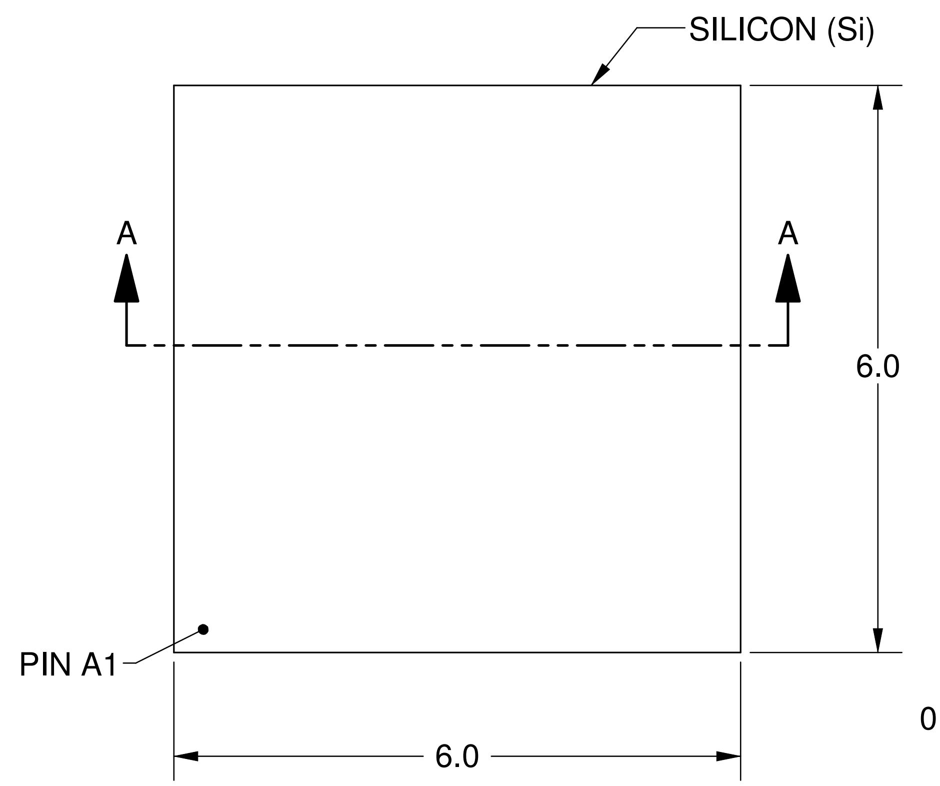
AFTER MOUNTING
TO TEST BOARD
(TOP X-RAY VIEW)



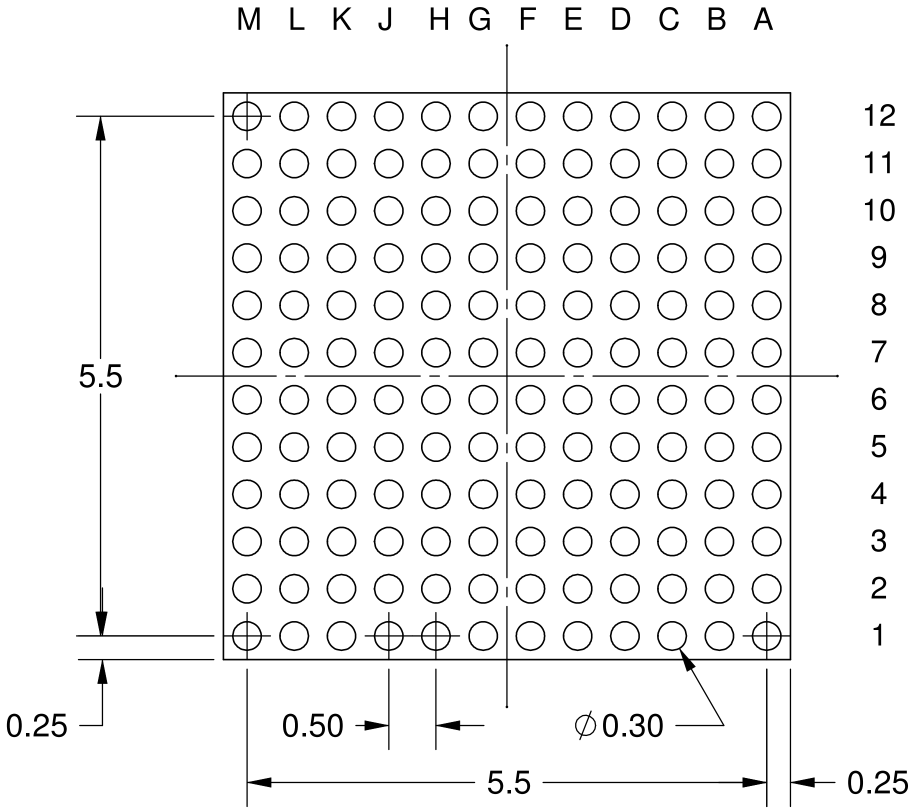
Notes:
1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE.
DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
2) PCB Cu BALL PAD DIAMETER 0.20mm (7.8mil).
3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

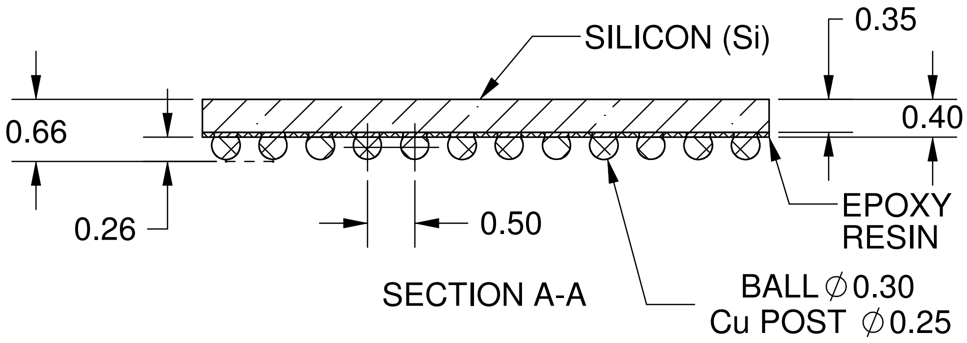
TopLine®			
TITLE	WLP144T.4C-DC127D 144-BALL P=0.4mm (TEG0408)		
SCALE 12.5:1	SIZE A	DRAWING NO. 541272	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	

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**
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	
X.X	+/- 0.3
X.XX	+/- 0.03
X.XXX	+/- 0.003
ANGLES	+/- 0.5°

ALL DIMENSIONS IN
☐ INCHES ☒ MILLIMETERS

THIRD ANGLE PROJECTION

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

TopLine®

TITLE WLP144T.5C-DC127D
144-BALL P=0.5mm (TEG0510)

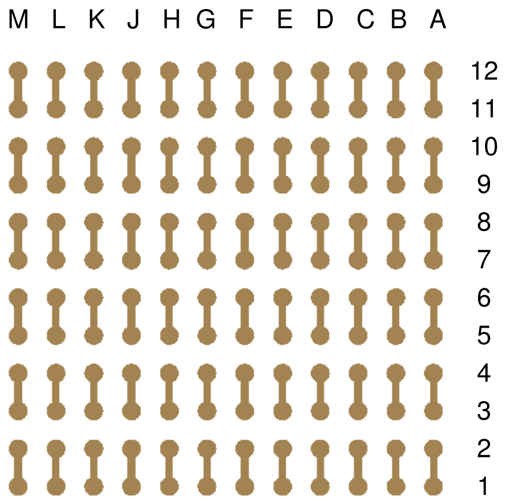
SCALE	SIZE	DRAWING NO.	REV
12.5:1	A	551272	A

DO NOT SCALE DRAWING

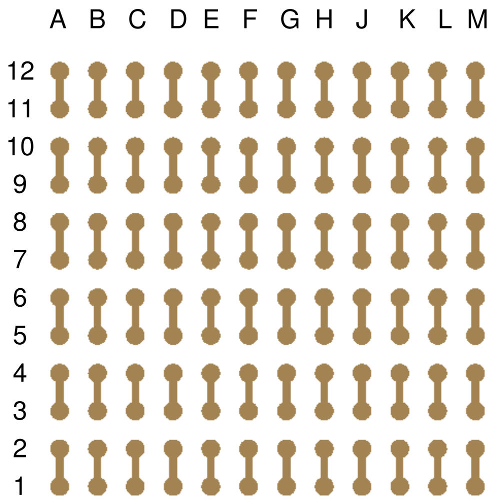
SHEET 1 OF 2

DAISY CHAIN PATTERN

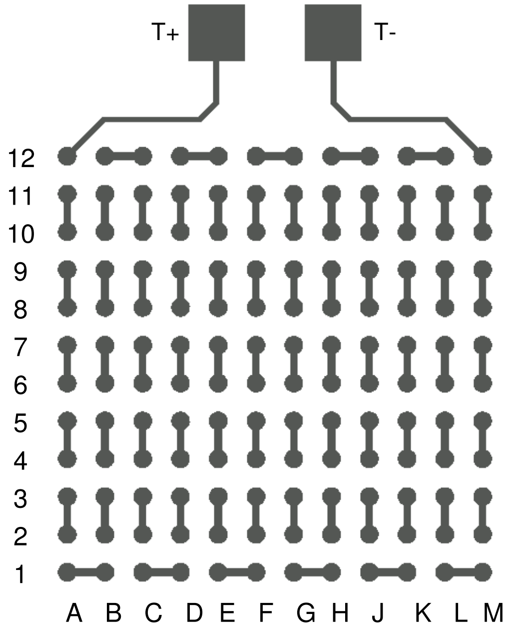
BALL VIEW



BOTTOM SIDE
(TOP X-RAY VIEW)

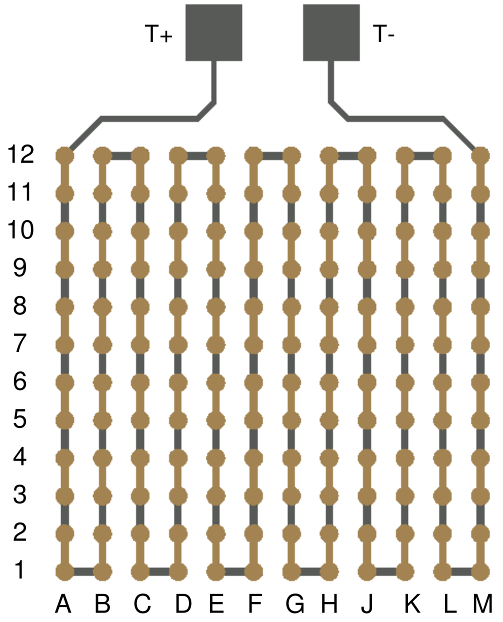


TOP VIEW



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®

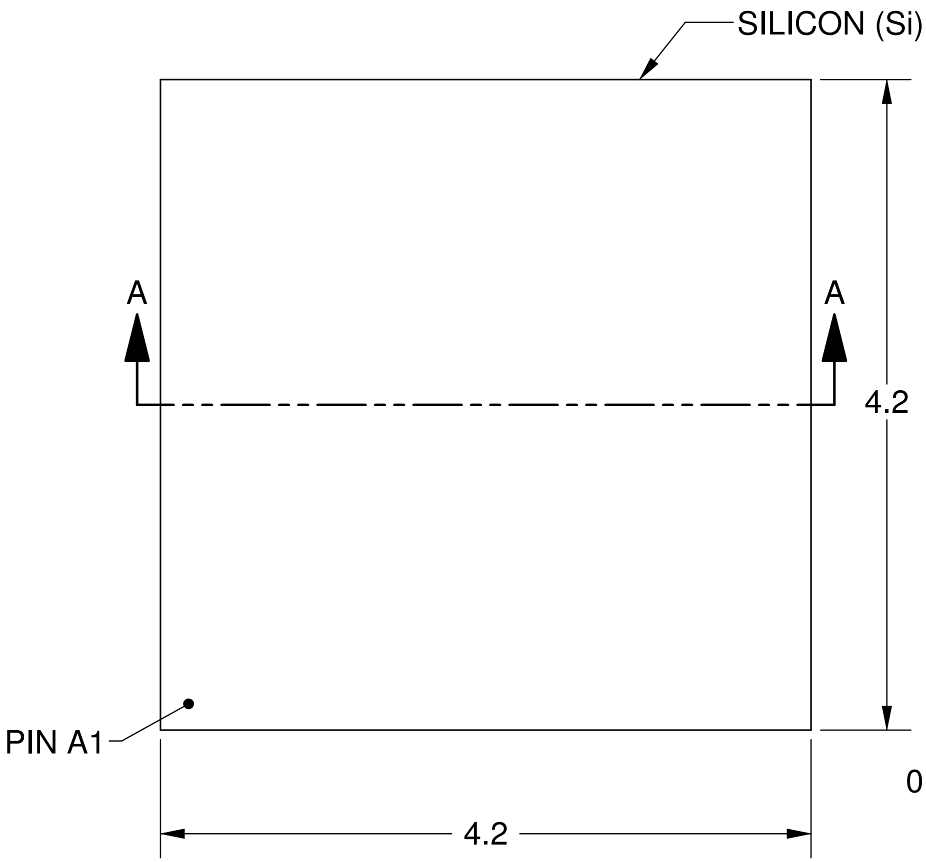
TITLE WLP144T.5C-DC127D
144-BALL P=0.5mm (TEG0510)

SCALE	SIZE	DRAWING NO.	REV
10:1	A	551272	A

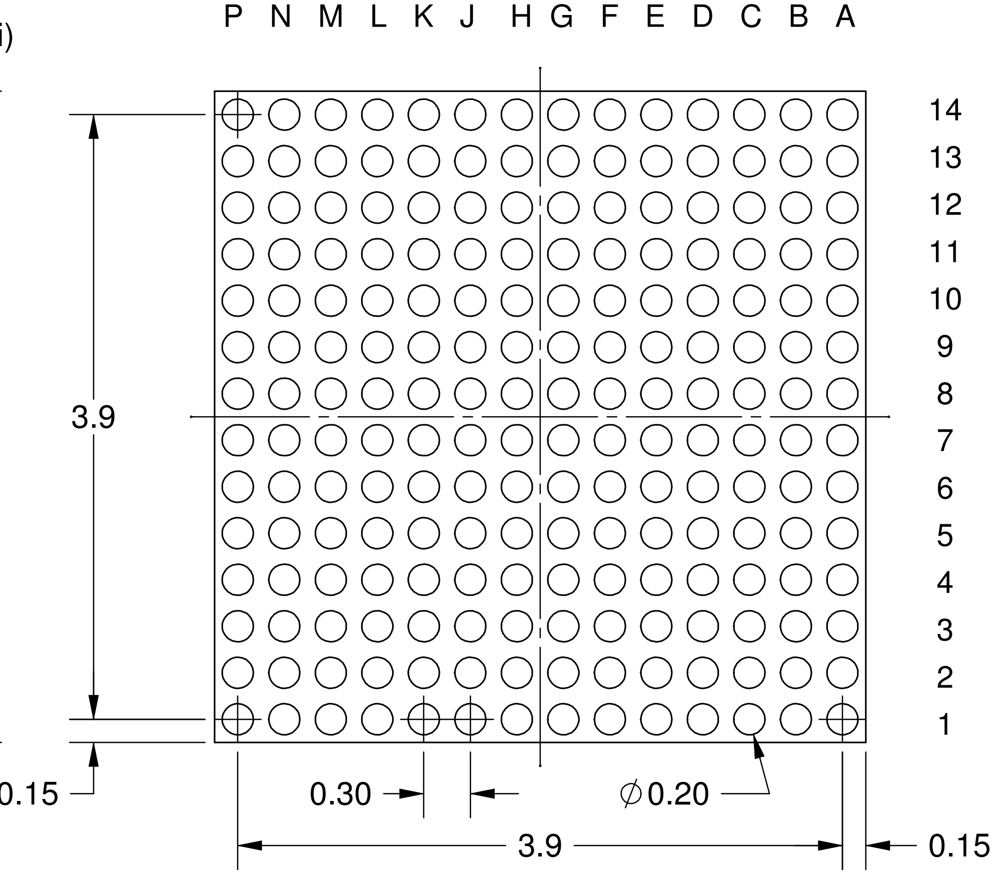
DO NOT SCALE DRAWING

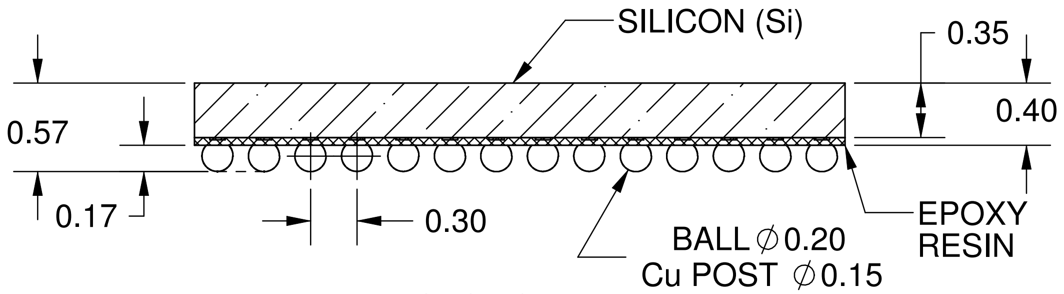
SHEET 2 OF 2

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
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		
X.XX	+/- 0.03	DRAWN J. Hines	12/29/2010
X.XXX	+/- 0.003		
ANGLES	+/- 0.5°	ENG	
ALL DIMENSIONS IN ☐ INCHES ☒ MILLIMETERS		MFG	
THIRD ANGLE PROJECTION		QA	
		CUST	
		REVISED	

TopLine®

TITLE WLP196T.3C-DC148D
196-BALL P=0.3mm (TEG0306)

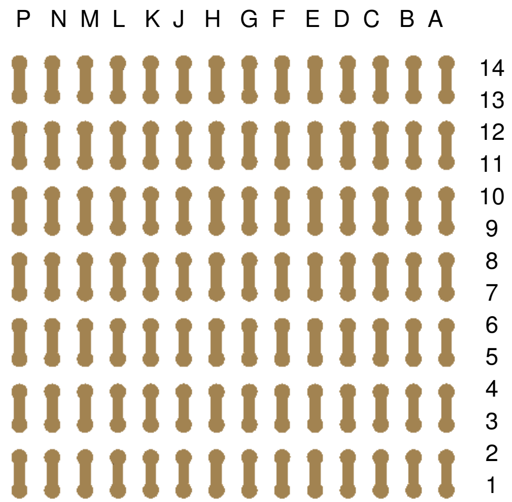
SCALE	SIZE	DRAWING NO.	REV
20.5:1	A	531482	A

DO NOT SCALE DRAWING

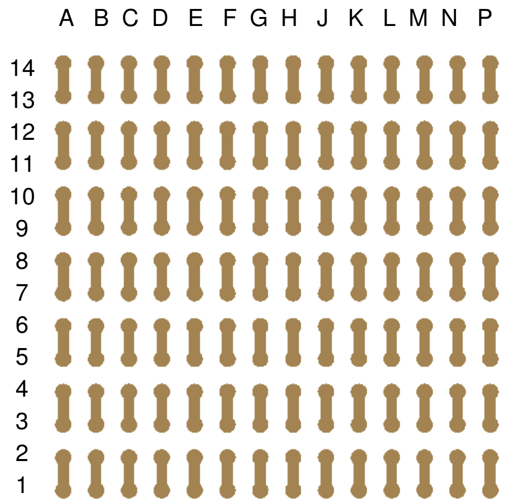
SHEET 1 OF 2

DAISY CHAIN PATTERN

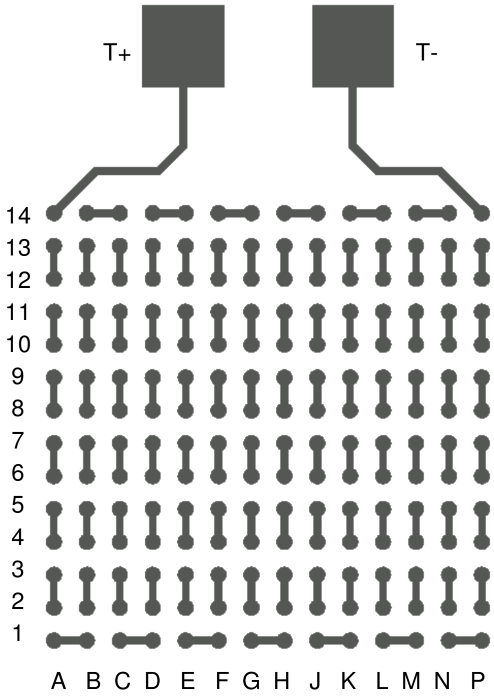
BALL VIEW



BOTTOM SIDE
(TOP X-RAY VIEW)

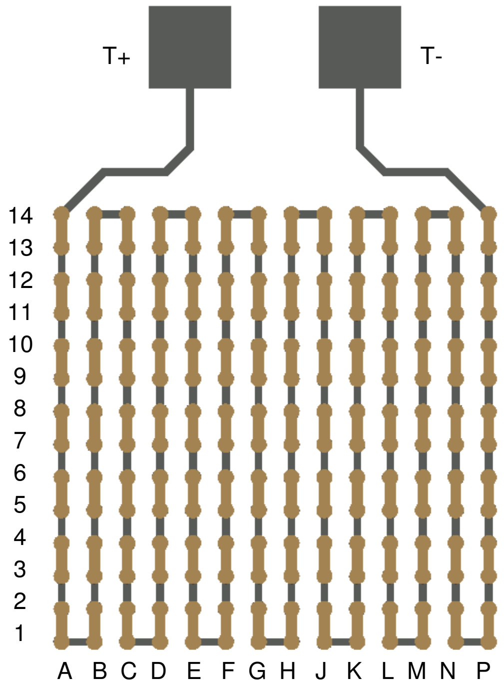


TOP VIEW



TEST VEHICLE BOARD

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



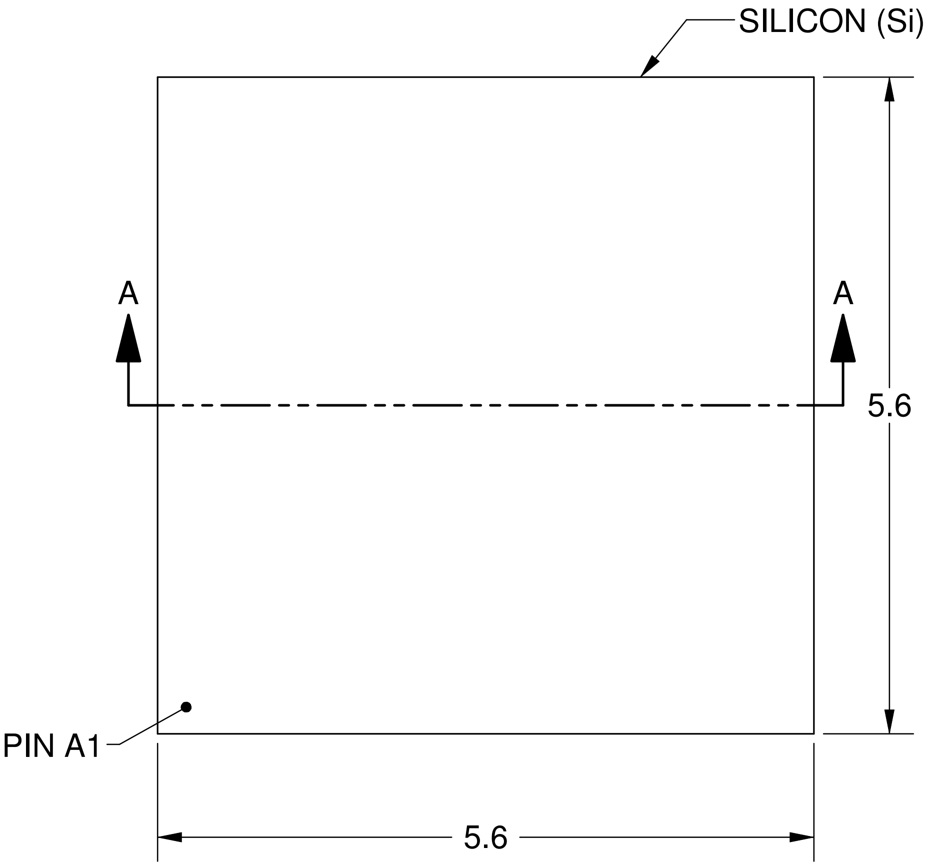
Notes:

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 0.07mm (3mil).

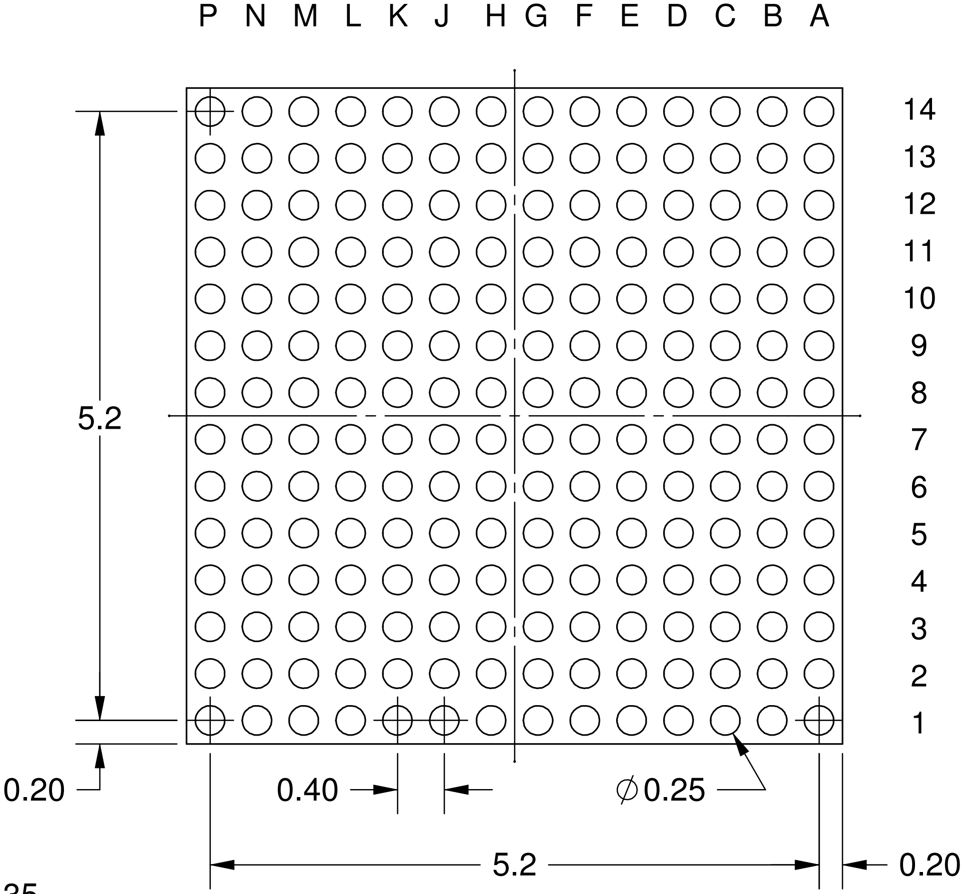
TopLine®

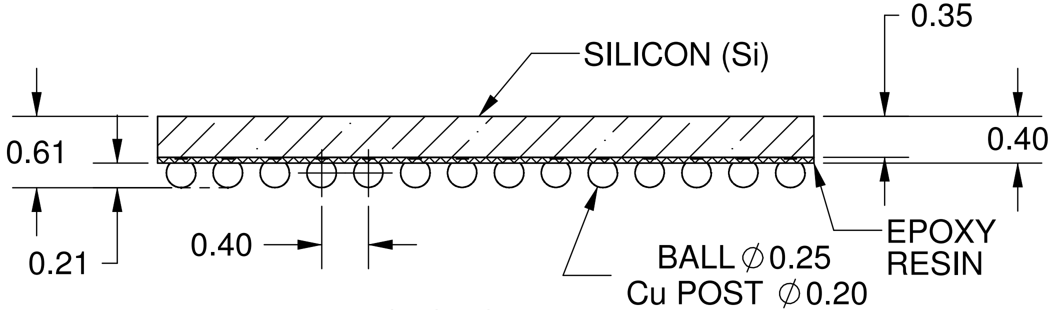
TITLE WLP196T.3C-DC148D 196-BALL P=0.3mm (TEG0306)			
SCALE 14.5:1	SIZE A	DRAWING NO. 531482	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	

TOP VIEW



BALL VIEW





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
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		
X.XX	+/- 0.03	DRAWN J. Hines	12/30/2010
X.XXX	+/- 0.003		
ANGLES	+/- 0.5°	ENG	
ALL DIMENSIONS IN ☐ INCHES ☒ MILLIMETERS		MFG	
THIRD ANGLE PROJECTION		QA	
		CUST	
		REVISED	

TopLine®

TITLE WLP196T.4C-DC148D
196-BALL P=0.4mm (TEG0408)

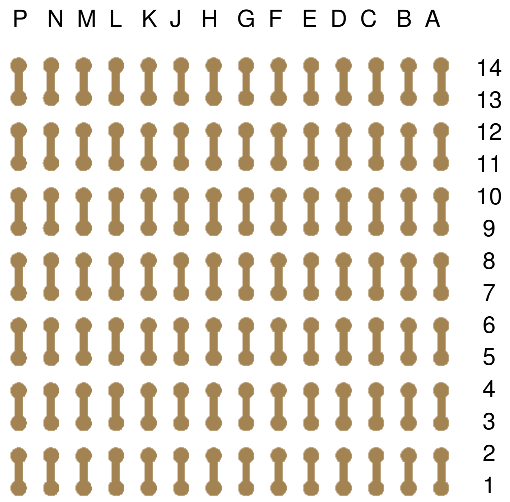
SCALE	SIZE	DRAWING NO.	REV
15.5:1	A	541482	A

DO NOT SCALE DRAWING

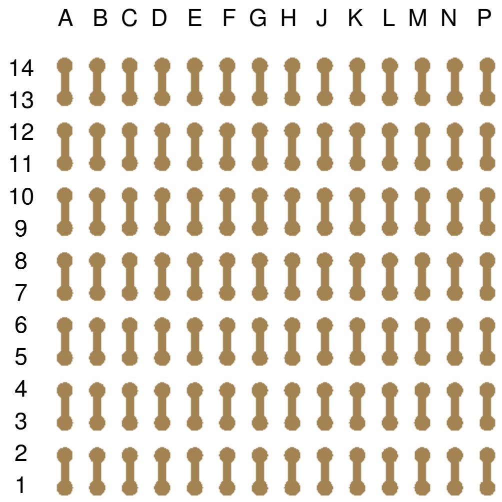
SHEET 1 OF 2

DAISY CHAIN PATTERN

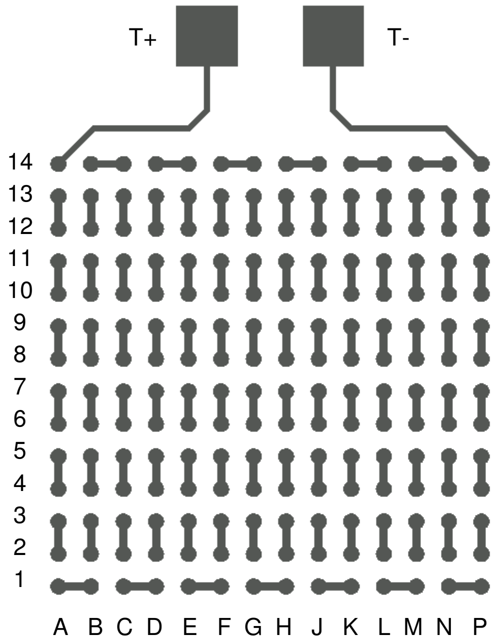
BALL VIEW



BOTTOM SIDE
(TOP X-RAY VIEW)

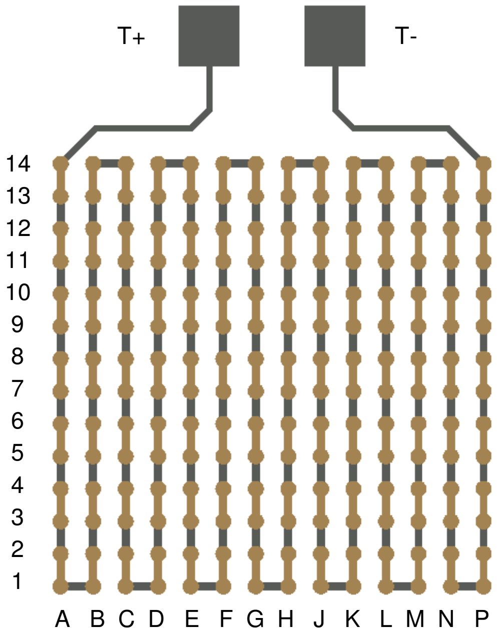


TOP VIEW



TEST VEHICLE BOARD

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



Notes:

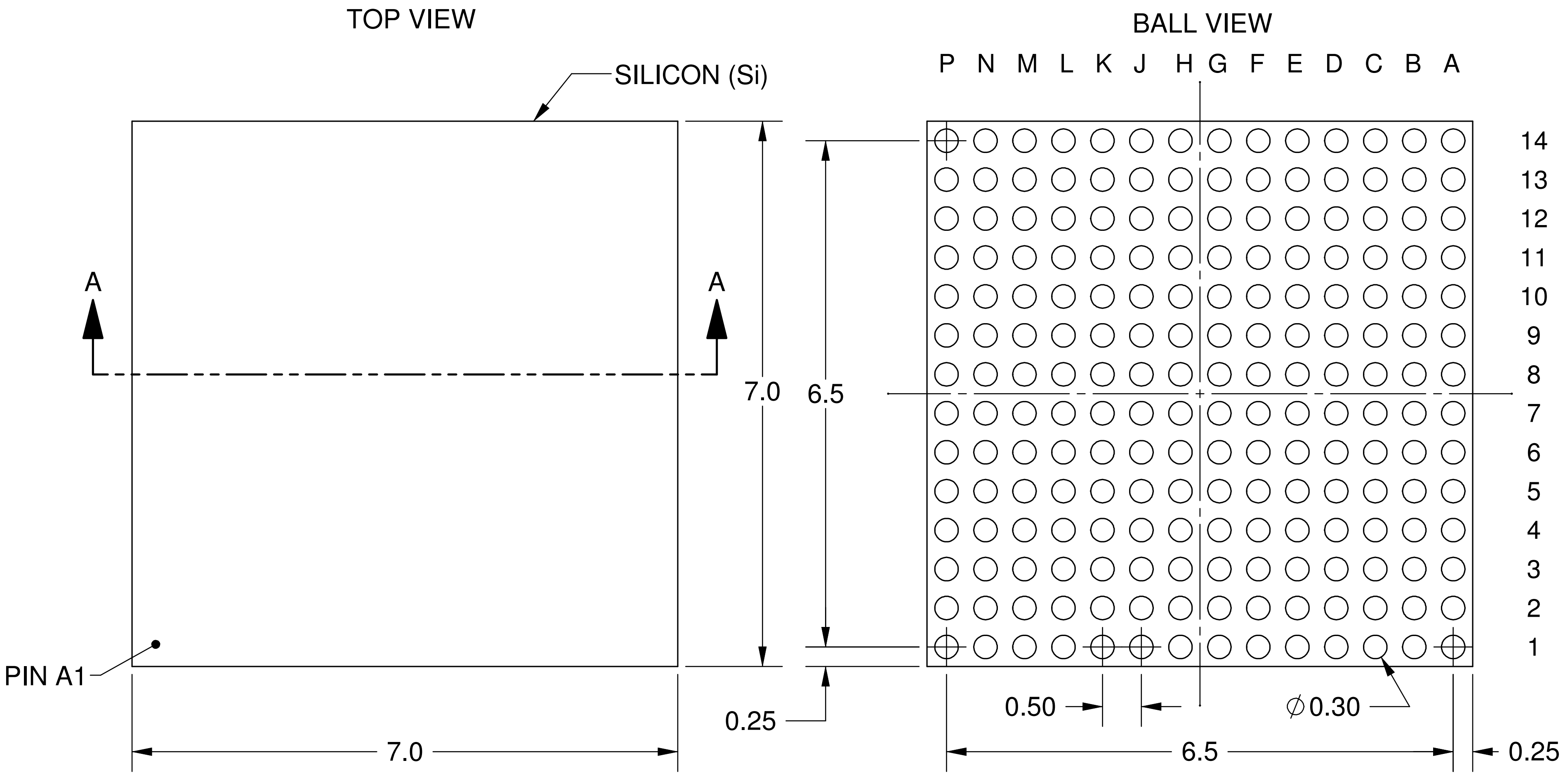
1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
2) PCB Cu BALL PAD DIAMETER 0.20mm (7.8mil).
3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

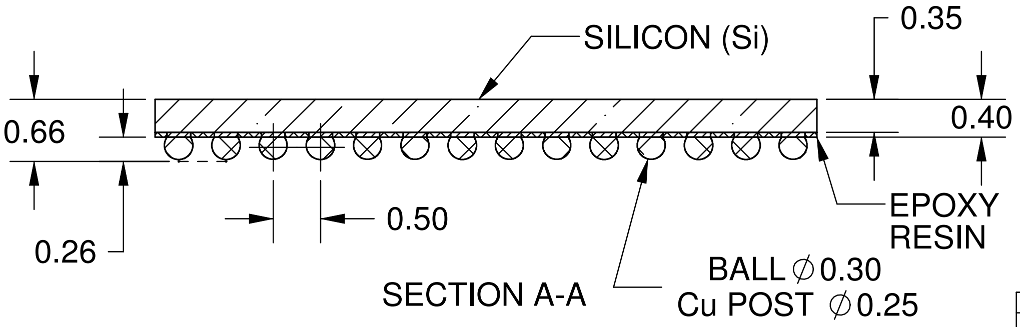
TopLine®

TITLE WLP196T.4C-DC148D
196-BALL P=0.4mm (TEG0408)

SCALE	SIZE	DRAWING NO.	REV
10.75:1	A	541482	A

DO NOT SCALE DRAWING
SHEET 2 OF 2





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
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		
X.XX	+/- 0.03	DRAWN J. Hines	12/28/2010
X.XXX	+/- 0.003		
ANGLES	+/- 0.5°	ENG	
ALL DIMENSIONS IN ☐ INCHES ☒ MILLIMETERS		MFG	
THIRD ANGLE PROJECTION		QA	
		CUST	
		REVISED	

TopLine®

TITLE WLP196T.5C-DC148D
196-BALL P=0.5mm (TEG0510)

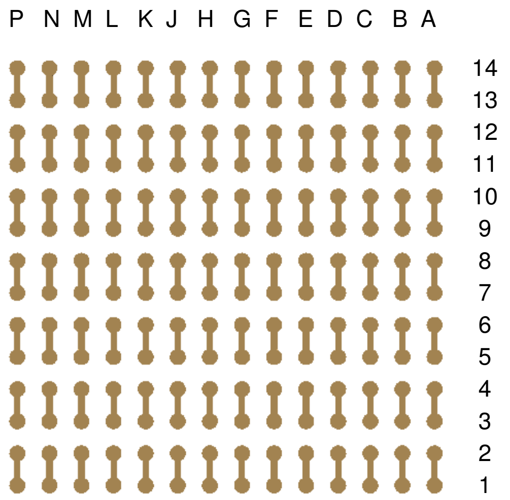
SCALE	SIZE	DRAWING NO.	REV
12.5:1	A	551482	A

DO NOT SCALE DRAWING

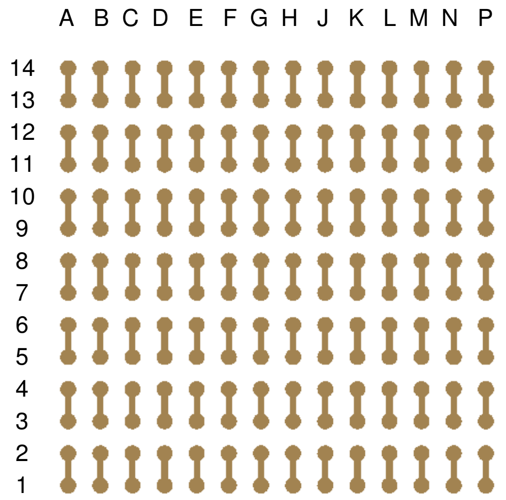
SHEET 1 OF 2

DAISY CHAIN PATTERN

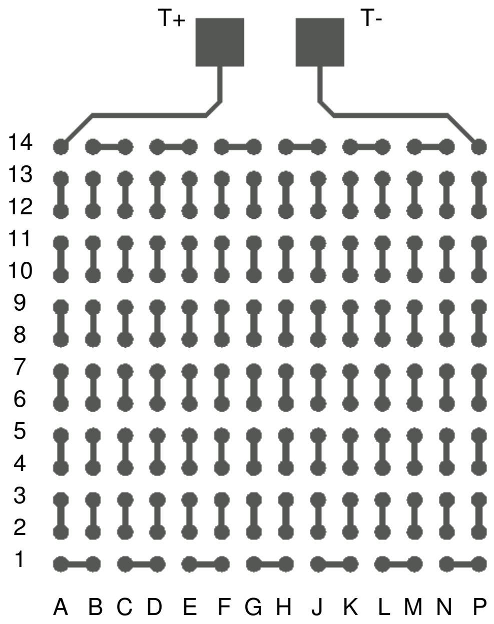
BALL VIEW



BOTTOM SIDE
(TOP X-RAY VIEW)

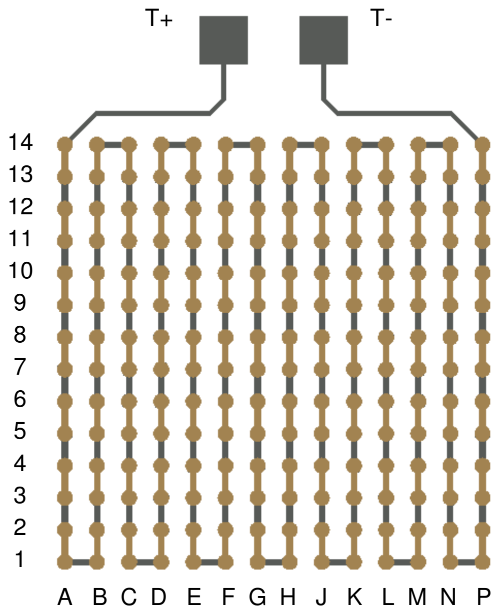


TOP VIEW



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).

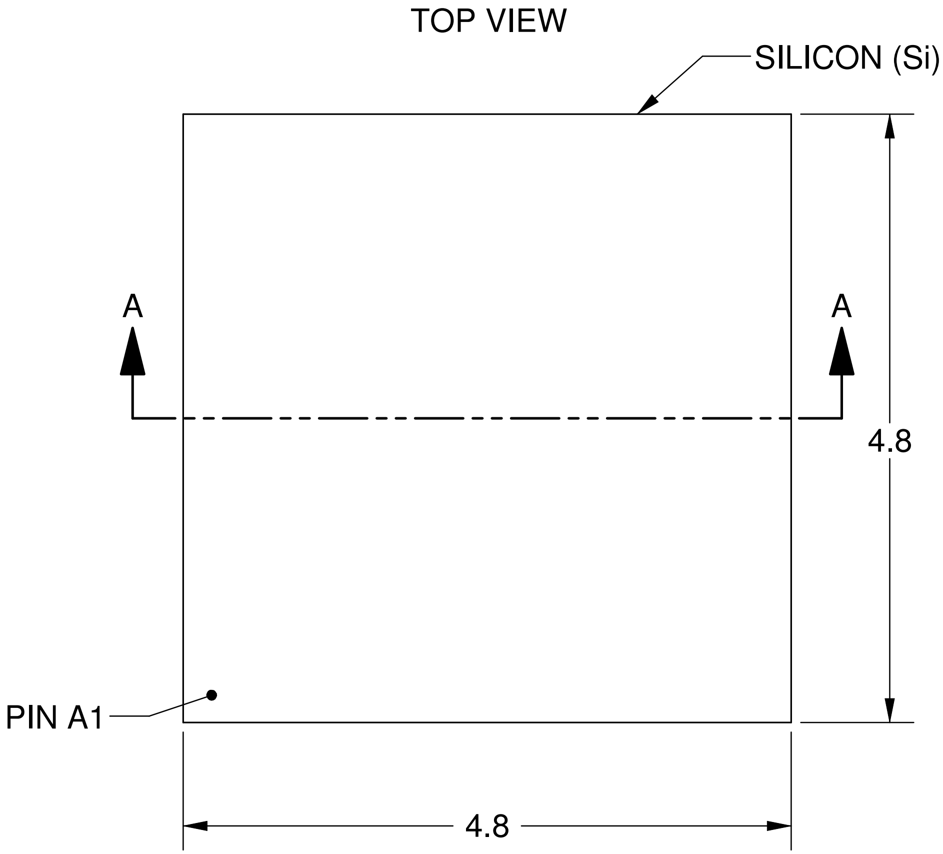
TopLine®

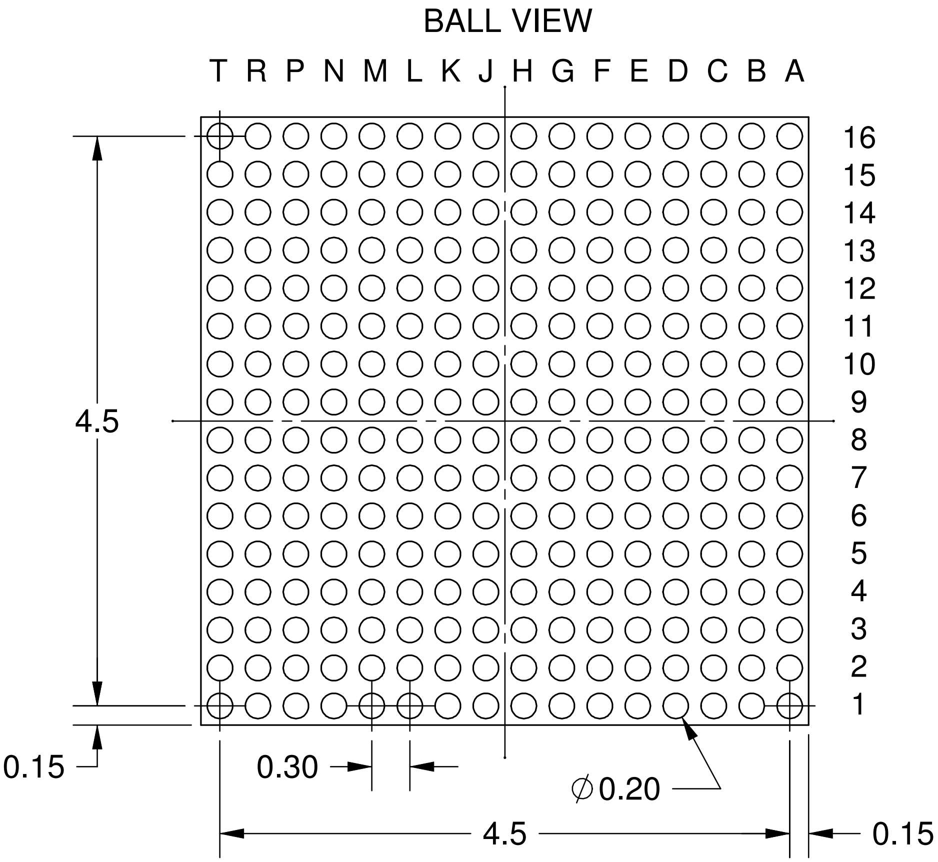
TITLE WLP196T.5C-DC148D
196-BALL P=0.5mm (TEG0510)

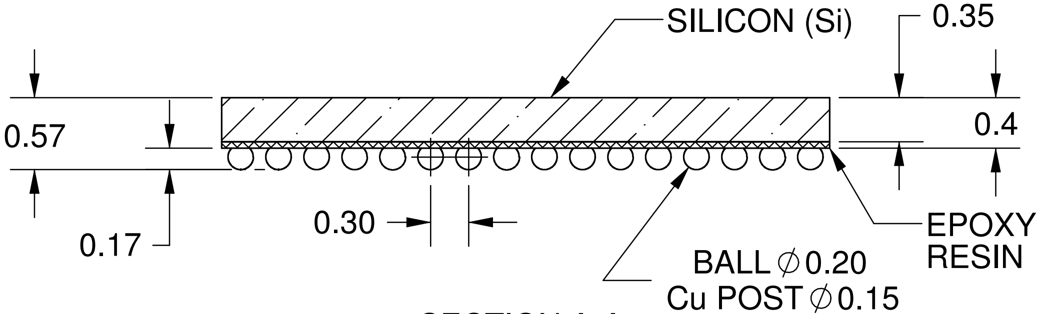
SCALE	SIZE	DRAWING NO.	REV
8.5:1	A	551482	A

DO NOT SCALE DRAWING

SHEET 2 OF 2







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
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	
X.X	+/- 0.3
X.XX	+/- 0.03
X.XXX	+/- 0.003
ANGLES	+/- 0.5°

ALL DIMENSIONS IN
☐ INCHES ☒ MILLIMETERS

THIRD ANGLE PROJECTION

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

TopLine®

TITLE WLP256T.3C-DC168D
256-BALL P=0.3mm (TEG0306)

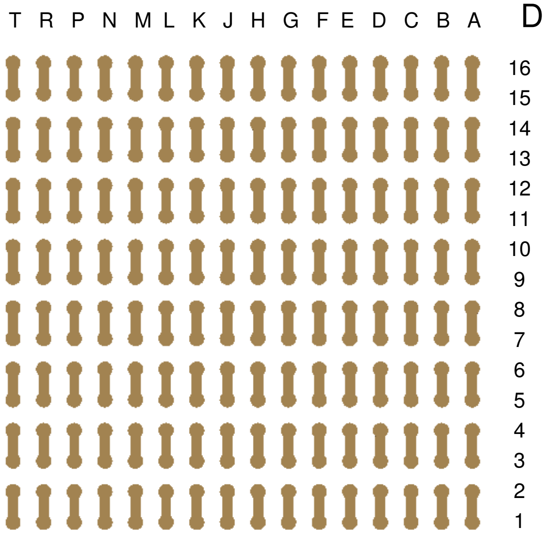
SCALE	SIZE	DRAWING NO.	REV
16.75:1	A	531682	A

DO NOT SCALE DRAWING

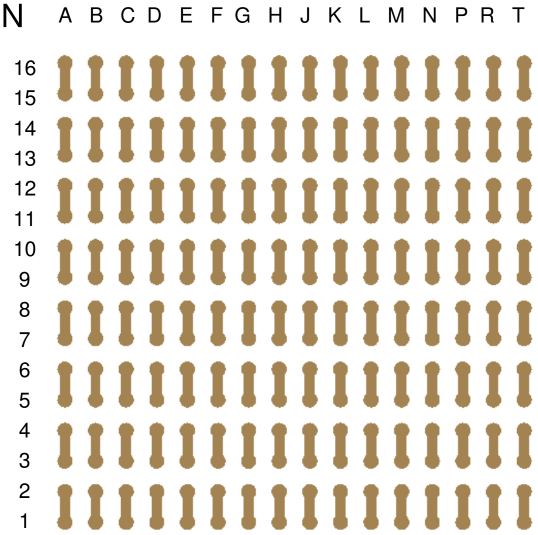
SHEET 1 OF 2

DAISY CHAIN PATTERN

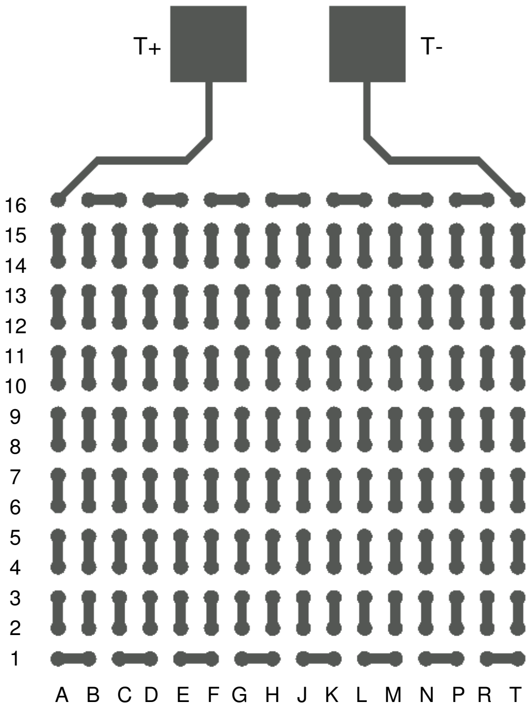
BALL VIEW



BOTTOM SIDE
(TOP X-RAY VIEW)

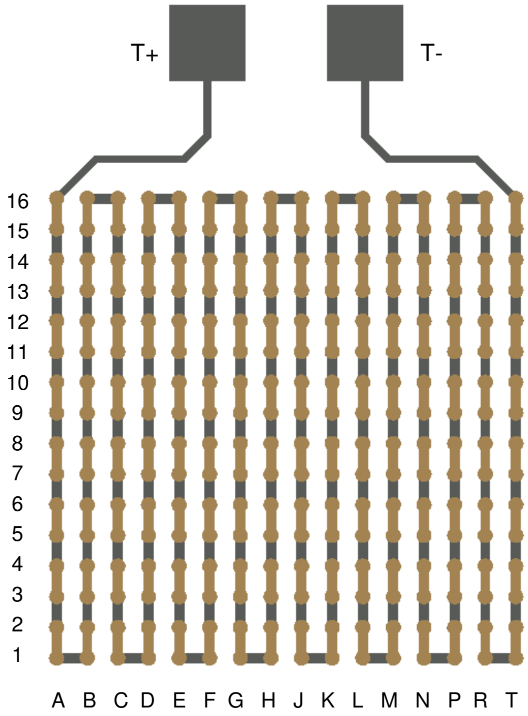


TOP VIEW



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).

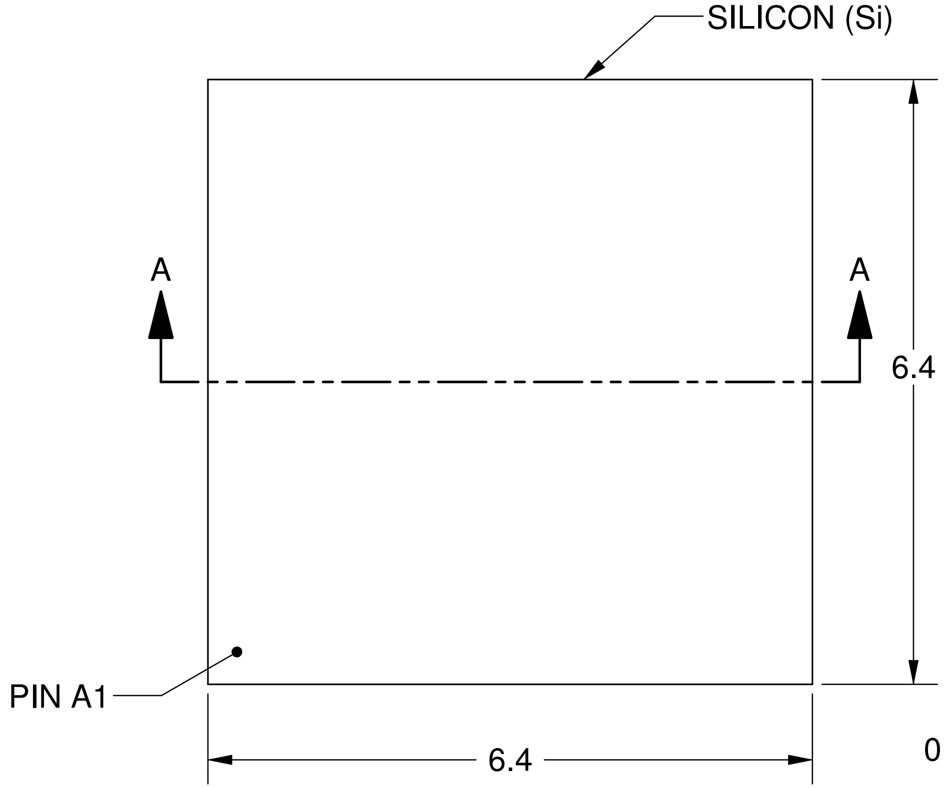
TopLine®

TITLE WLP256T.3C-DC168D
256-BALL P=0.3mm (TEG0306)

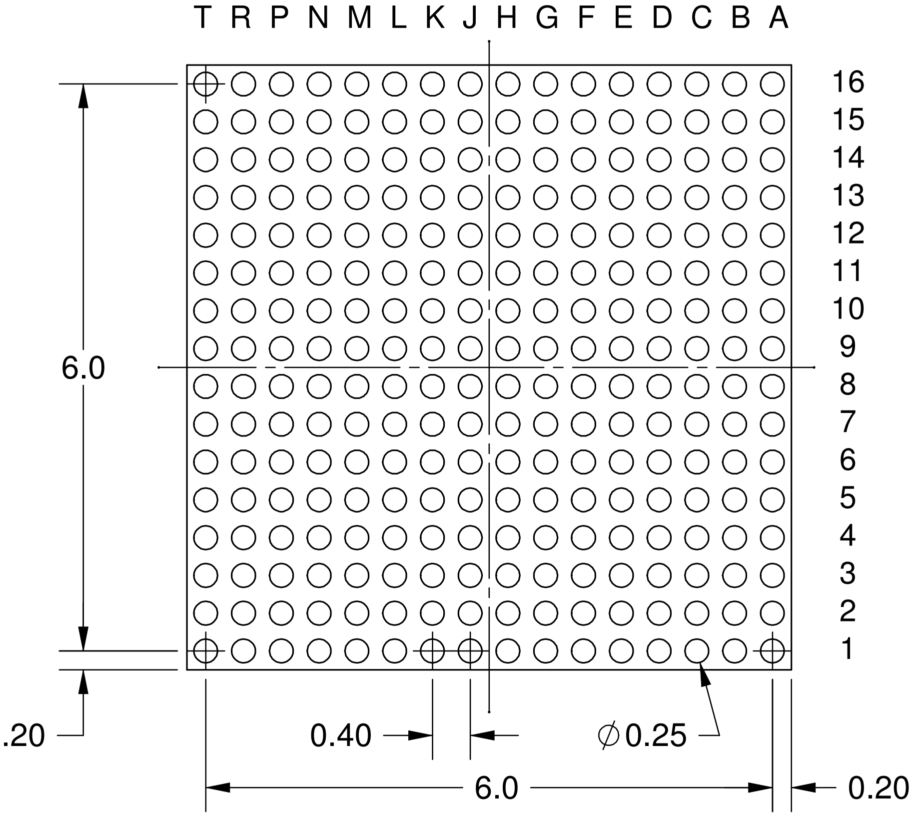
SCALE	SIZE	DRAWING NO.	REV
13.5:1	A	531682	A

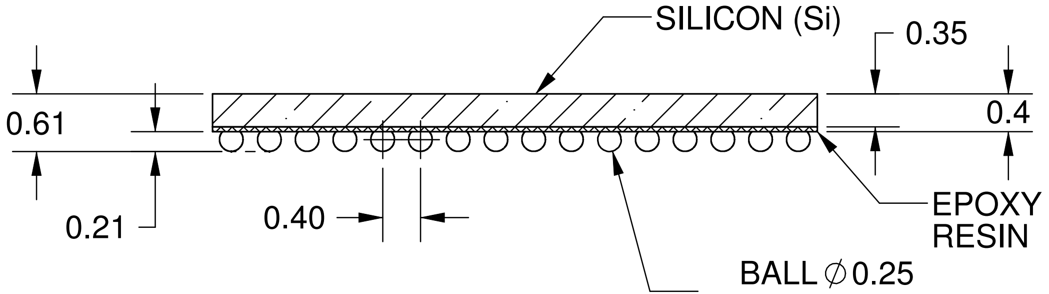
DO NOT SCALE DRAWING

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
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	
X.X	+/- 0.3
X.XX	+/- 0.03
X.XXX	+/- 0.003
ANGLES	+/- 0.5°

ALL DIMENSIONS IN
☐ INCHES ☒ MILLIMETERS

THIRD ANGLE PROJECTION

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

TopLine®

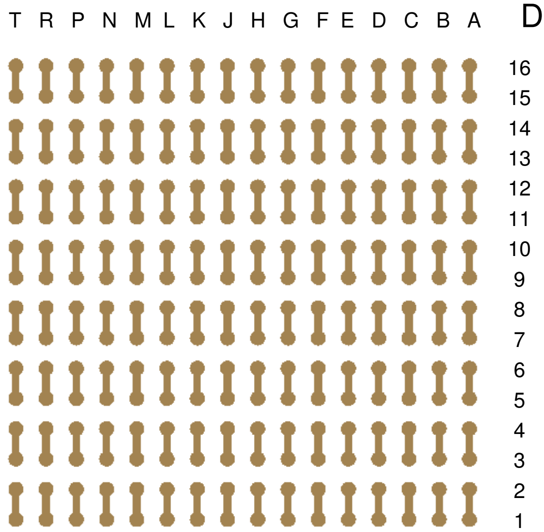
TITLE WLP256T.4C-DC168D
256-BALL P=0.4mm (TEG0408)

SCALE	SIZE	DRAWING NO.	REV
12.5:1	A	541682	A

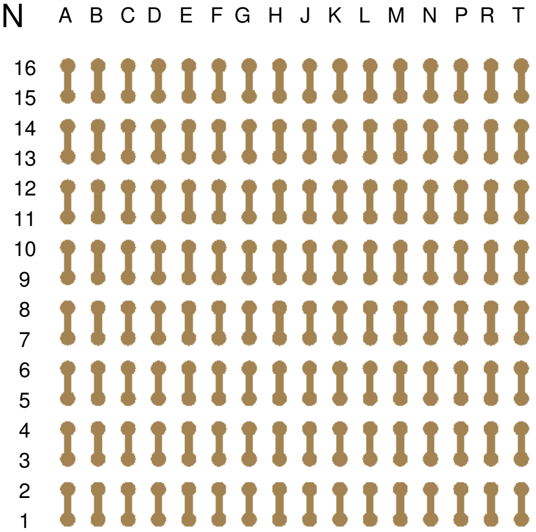
DO NOT SCALE DRAWING SHEET 1 OF 2

DAISY CHAIN PATTERN

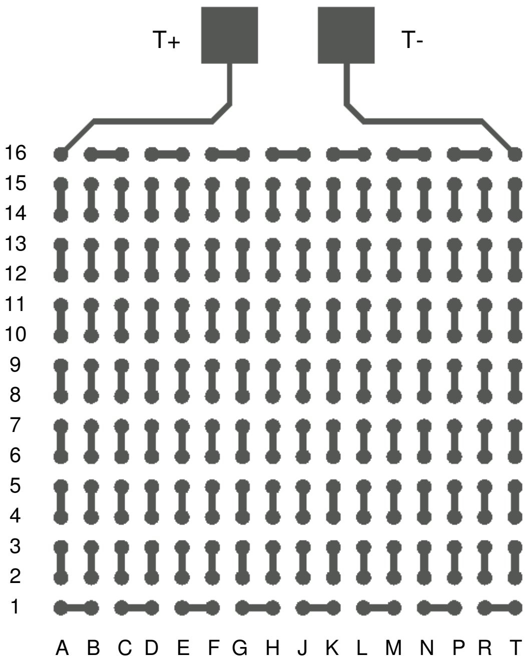
BALL VIEW



BOTTOM SIDE
(TOP X-RAY VIEW)

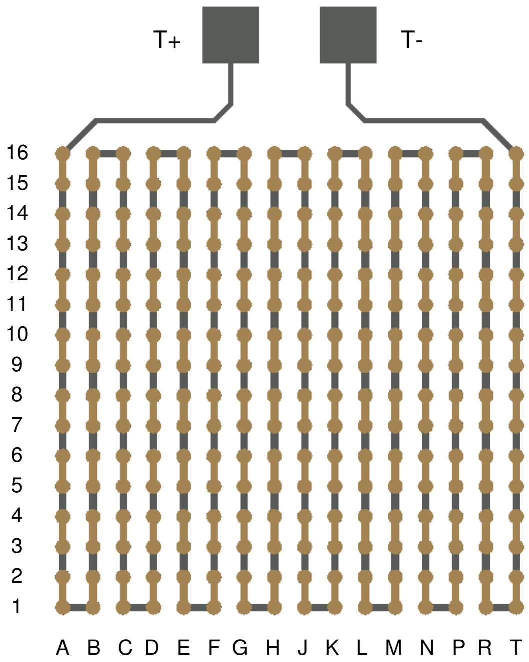


TOP VIEW



TEST VEHICLE BOARD

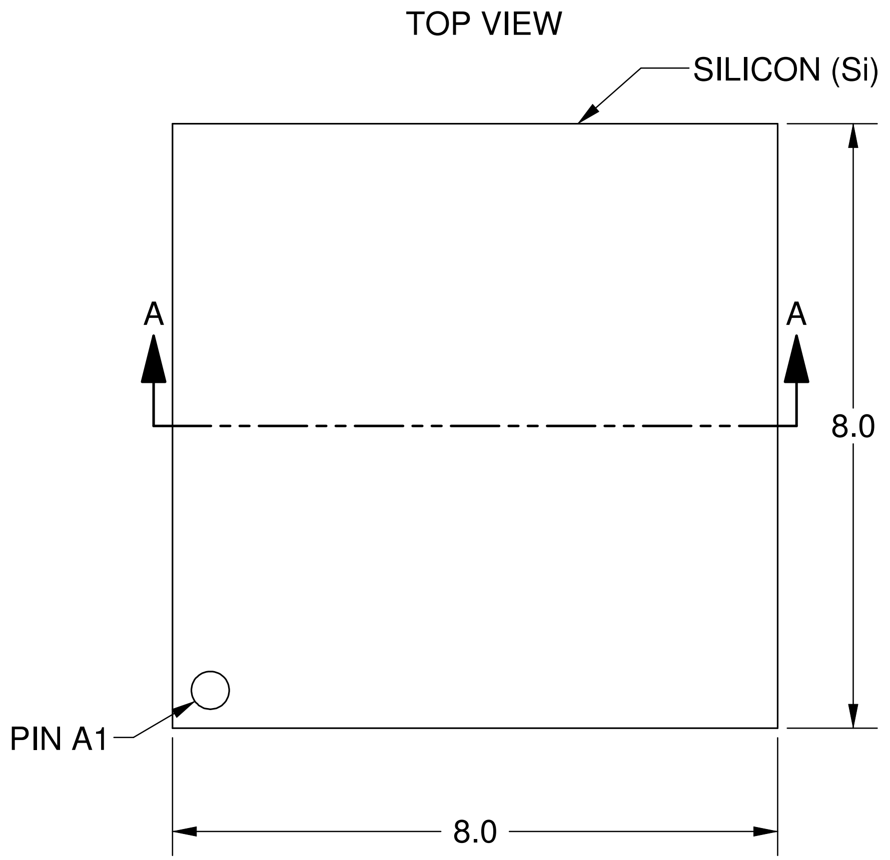
AFTER MOUNTING
TO TEST BOARD
(TOP X-RAY VIEW)

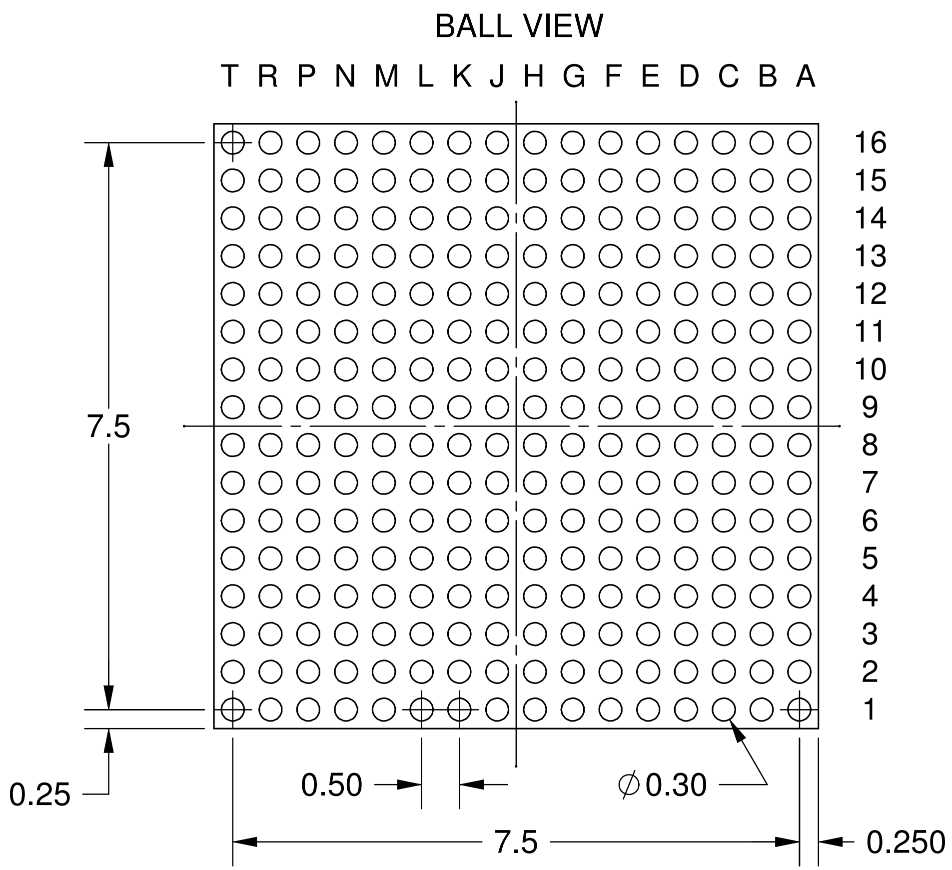


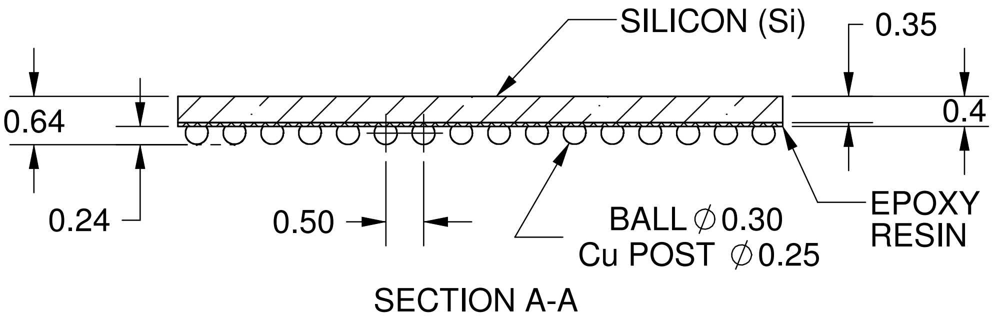
Notes:
1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
2) PCB Cu BALL PAD DIAMETER 0.20mm (7.9mil).
3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

TopLine®

TITLE	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	







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
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	
X.X	+/- 0.3
X.XX	+/- 0.03
X.XXX	+/- 0.003
ANGLES	+/- 0.5°

ALL DIMENSIONS IN ☐ INCHES ☒ MILLIMETERS

THIRD ANGLE PROJECTION

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

TopLine®

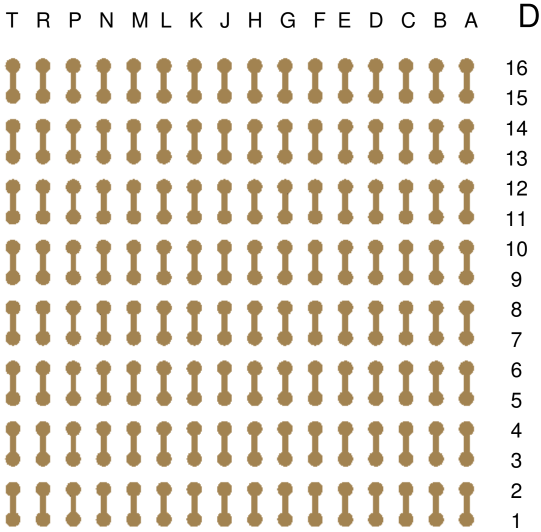
TITLE WLP256T.5C-DC168D
256-BALL P=0.5mm (TEG0510)

SCALE	SIZE	DRAWING NO.	REV
10:1	A	551682	A

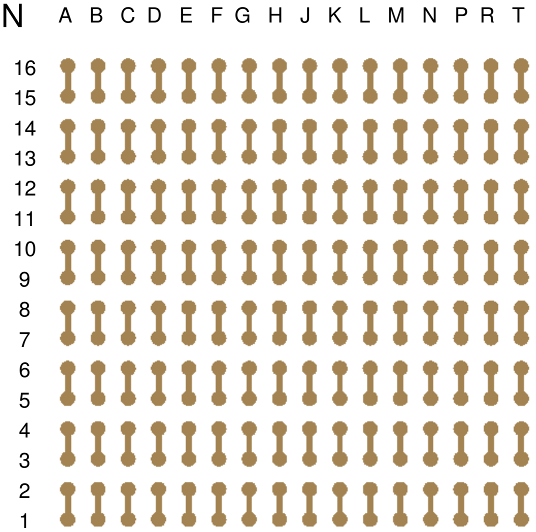
DO NOT SCALE DRAWING SHEET 1 OF 2

DAISY CHAIN PATTERN

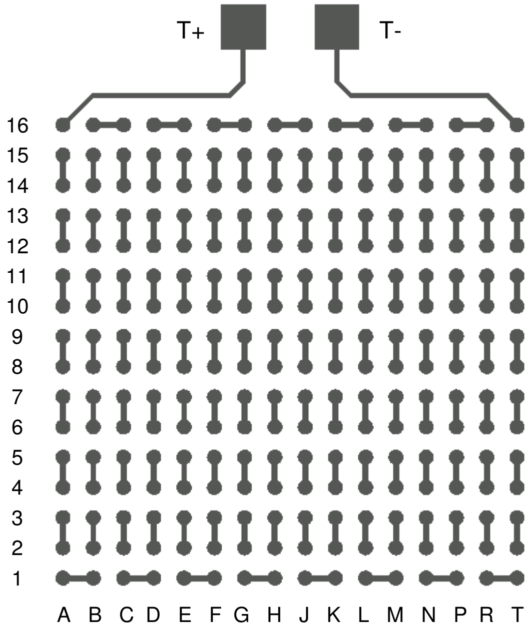
BALL VIEW



BOTTOM SIDE
(TOP X-RAY VIEW)

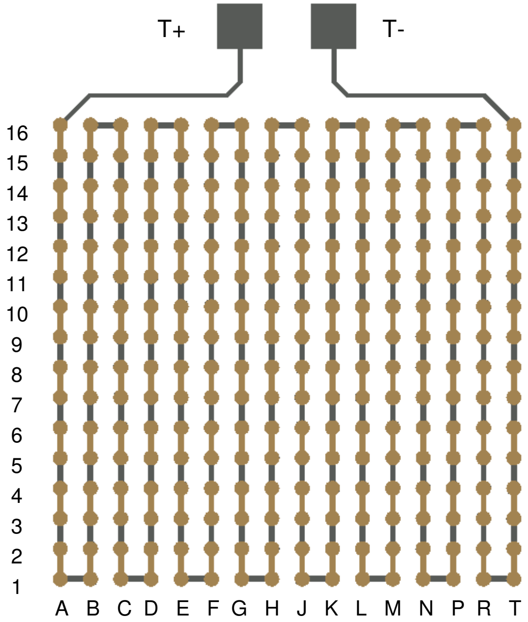


TOP VIEW



TEST VEHICLE BOARD

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



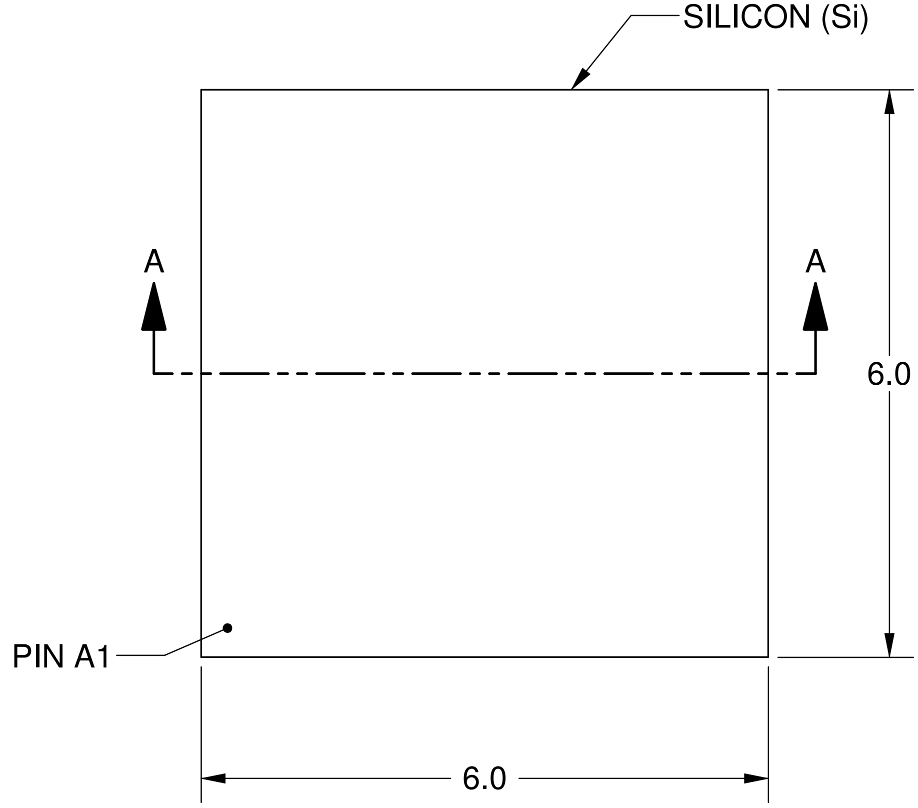
Notes:

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).

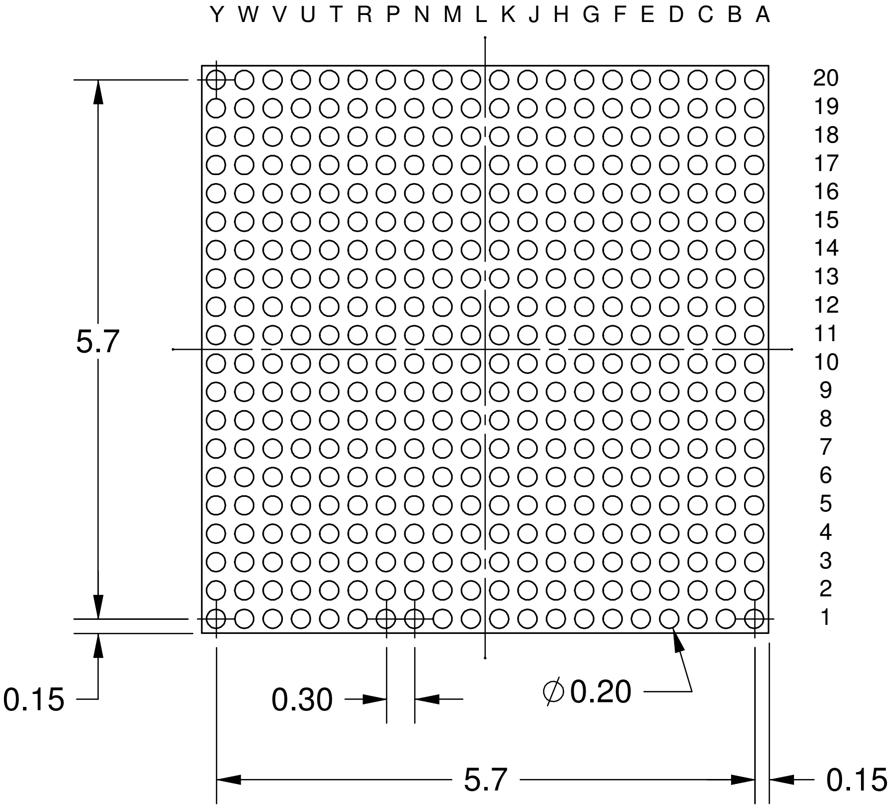
TopLine®

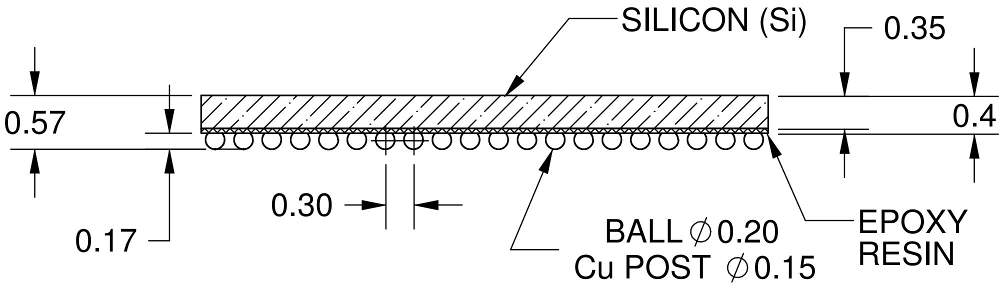
TITLE	WLP256T.5C-DC168D 256-BALL P=0.5mm (TEG0510)		
SCALE 8:1	SIZE A	DRAWING NO. 551682	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	

TOP VIEW



BALL VIEW





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**
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		
X.X	+/-	0.3
X.XX	+/-	0.03
X.XXX	+/-	0.003
ANGLES	+/-	0.5°
ALL DIMENSIONS IN ☐ INCHES ☒ MILLIMETERS		
THIRD ANGLE PROJECTION		

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

TopLine®

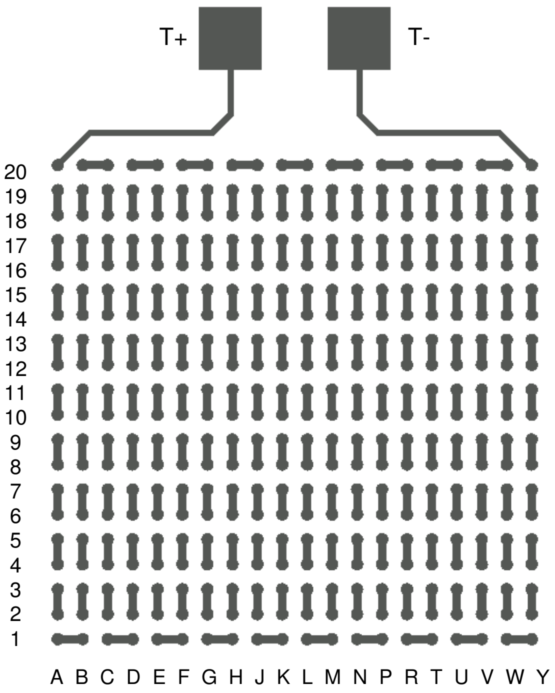
TITLE	WLP400T.3C-DC208D 400-BALL P=0.3mm (TEG0306)		
SCALE	SIZE	DRAWING NO.	REV
12.5:1	A	532082	A
DO NOT SCALE DRAWING		SHEET 1 OF 2	

DAISY CHAIN PATTERN

BALL VIEW

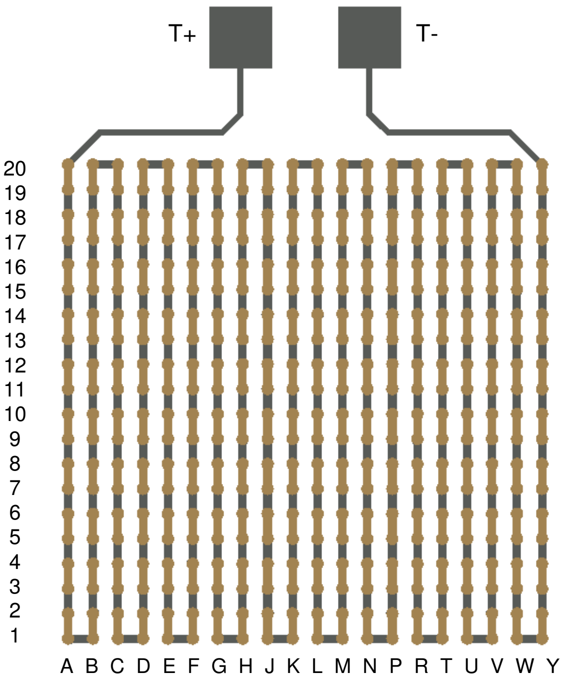
BOTTOM SIDE
(TOP X-RAY VIEW)

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).

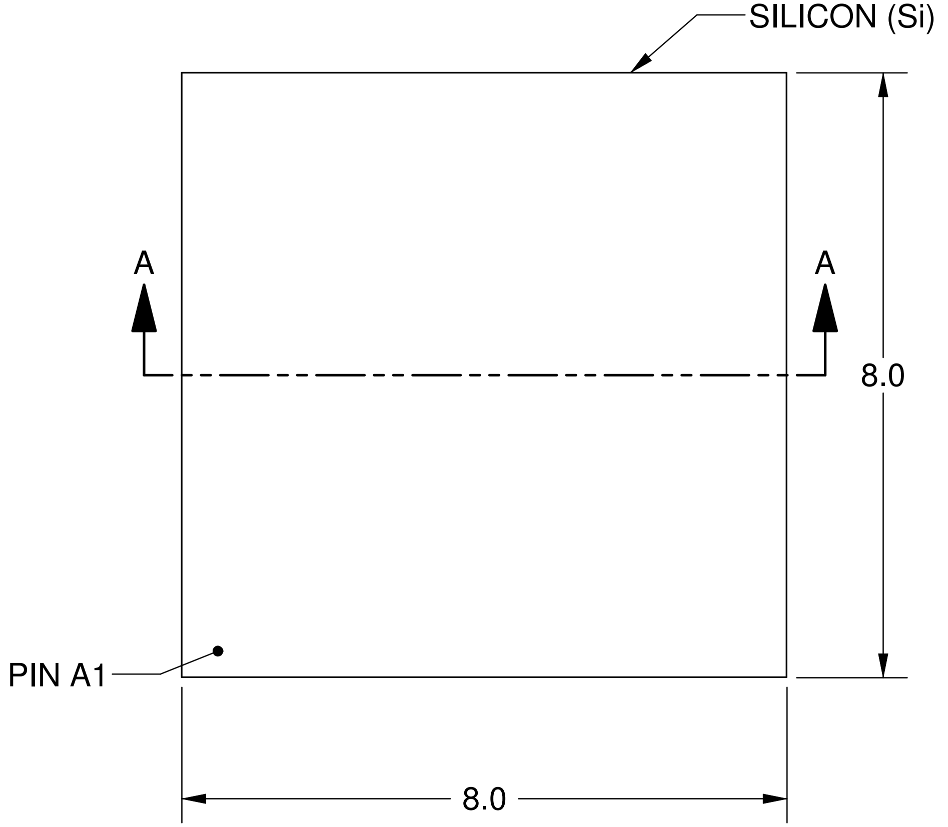
TopLine®

TITLE WLP400T.3C-DC208D
400-BALL P=0.3mm (TEG0306)

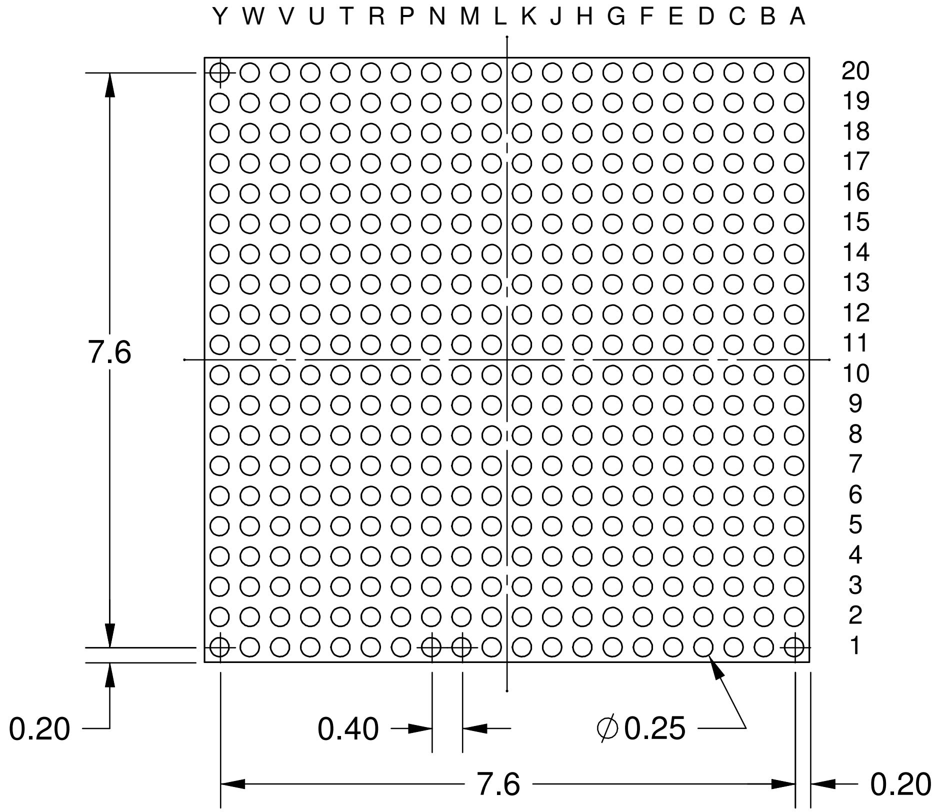
SCALE	SIZE	DRAWING NO.	REV
11:1	A	532082	A

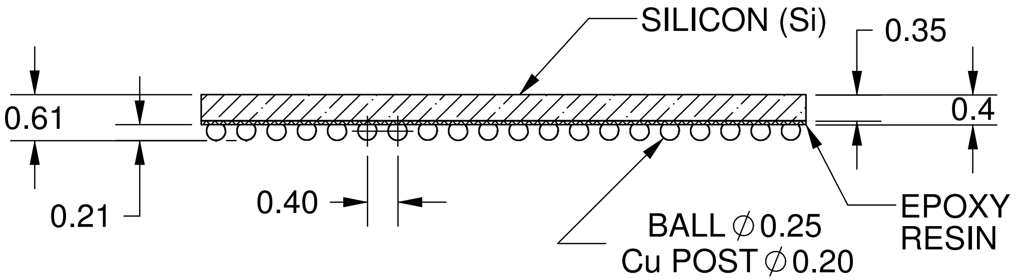
DO NOT SCALE DRAWING

TOP VIEW



BALL VIEW





SECTION A-A

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

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

TOLERANCE UNLESS NOTED		APPROVALS	DATE
X.X	+/- 0.3		
X.XX	+/- 0.03	DRAWN J. Hines	12/28/2010
X.XXX	+/- 0.003		
ANGLES	+/- 0.5°	ENG	
ALL DIMENSIONS IN ☐ INCHES ☒ MILLIMETERS		MFG	
THIRD ANGLE PROJECTION		QA	
		CUST	
		REVISED	

TopLine®

TITLE WLP400T.4C-DC208D
400-BALL P=0.4mm (TEG0408)

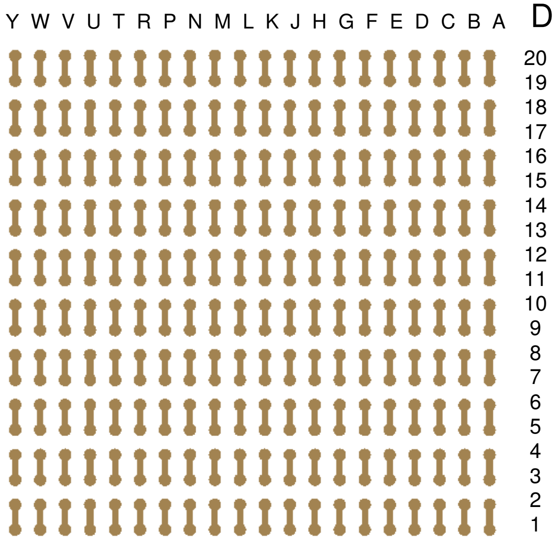
SCALE	SIZE	DRAWING NO.	REV
10:1	A	542082	A

DO NOT SCALE DRAWING

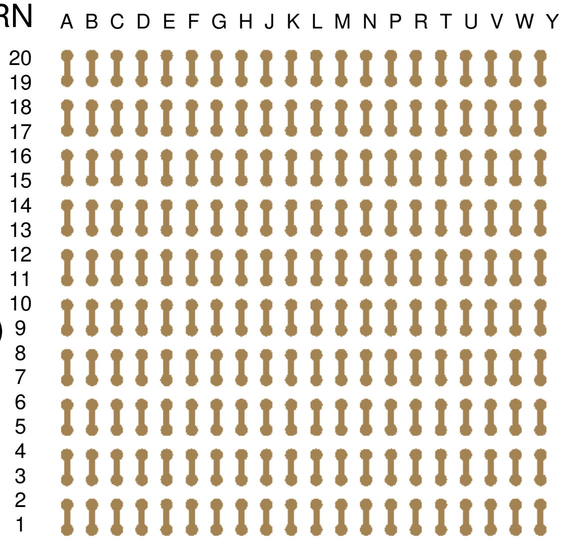
SHEET 1 OF 2

DAISY CHAIN PATTERN

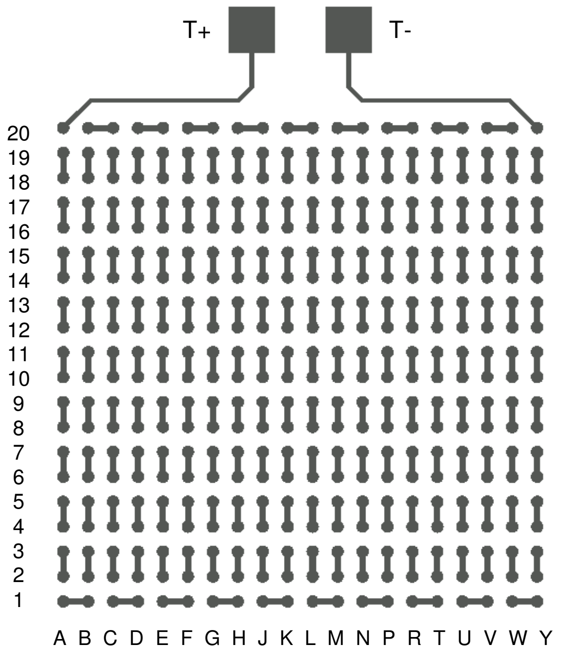
BALL VIEW



BOTTOM SIDE
(TOP X-RAY VIEW)

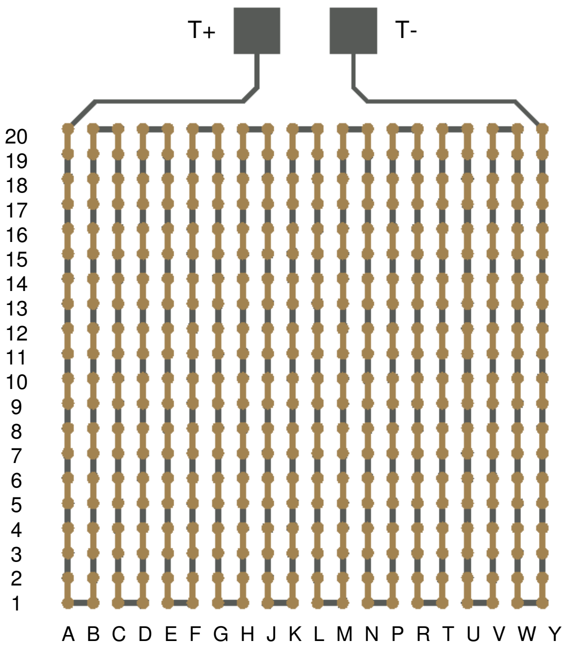


TOP VIEW



TEST VEHICLE BOARD

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

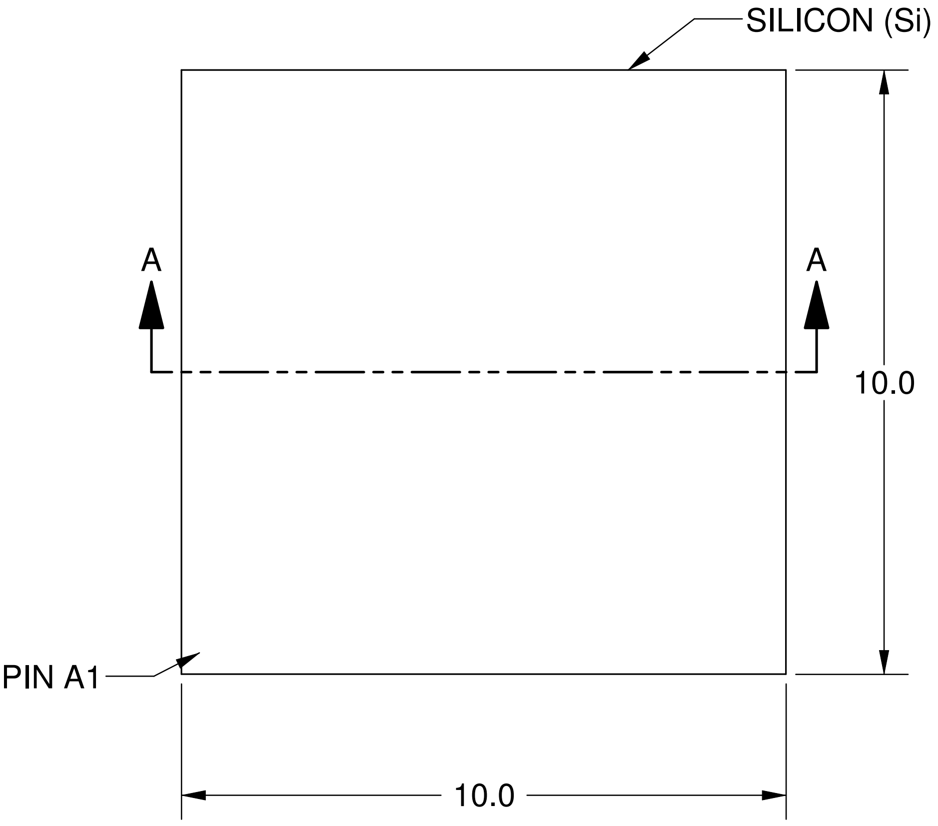


Notes:
1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE.
DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
2) PCB Cu BALL PAD DIAMETER 0.20mm (7.9mil).
3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

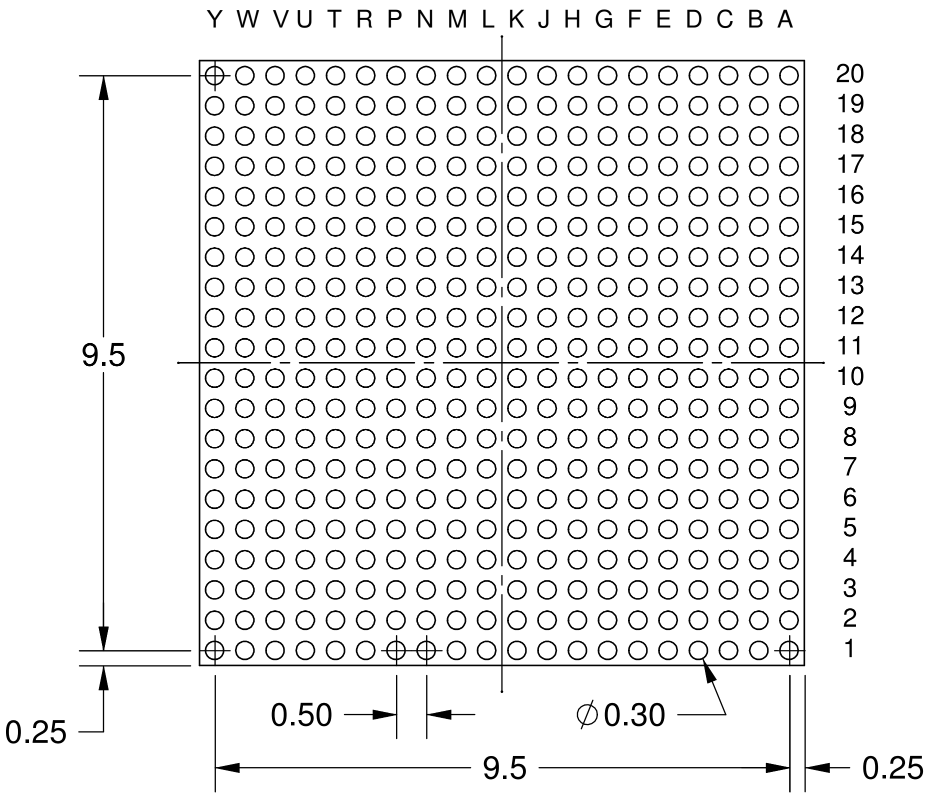
TopLine®

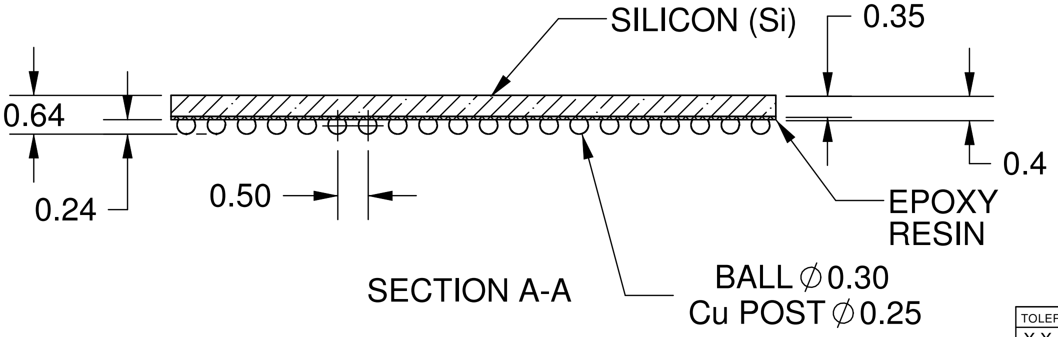
TITLE	WLP400T.4C-DC208D 400-BALL P=0.4mm (TEG0408)		
SCALE 8.25:1	SIZE A	DRAWING NO. 542082	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	

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**
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	
X.X	+/- 0.3
X.XX	+/- 0.03
X.XXX	+/- 0.003
ANGLES	+/- 0.5°

ALL DIMENSIONS IN
☐ INCHES ☒ MILLIMETERS

THIRD ANGLE PROJECTION

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

TopLine®

TITLE WLP400T.5C-DC208D
400-BALL P=0.5mm (TEG0510)

SCALE	SIZE	DRAWING NO.	REV
8:1	A	552082	A

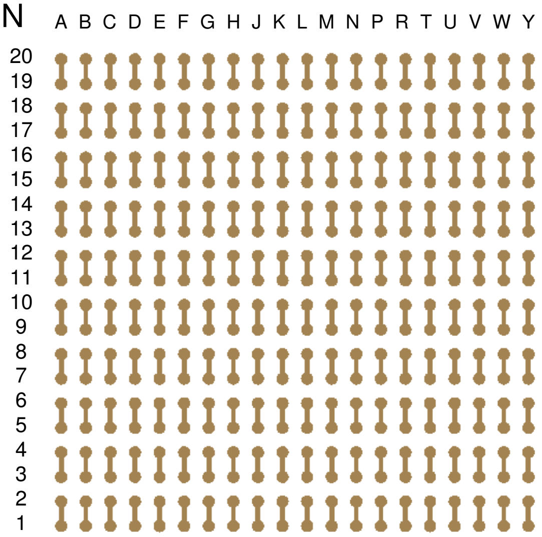
DO NOT SCALE DRAWING

SHEET 1 OF 2

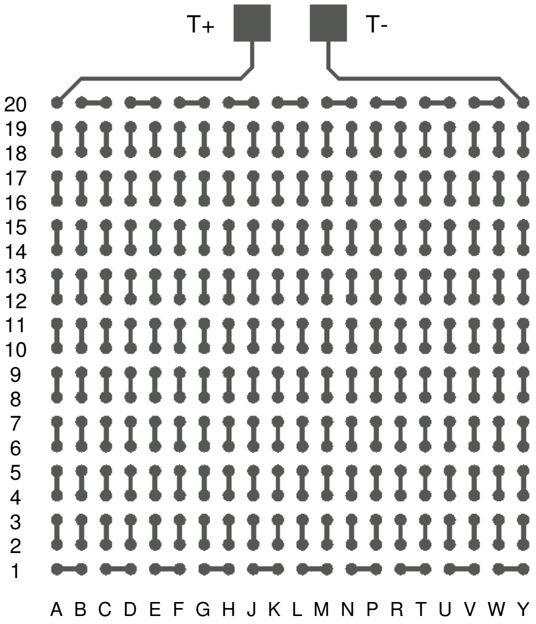
DAISY CHAIN PATTERN

BALL VIEW

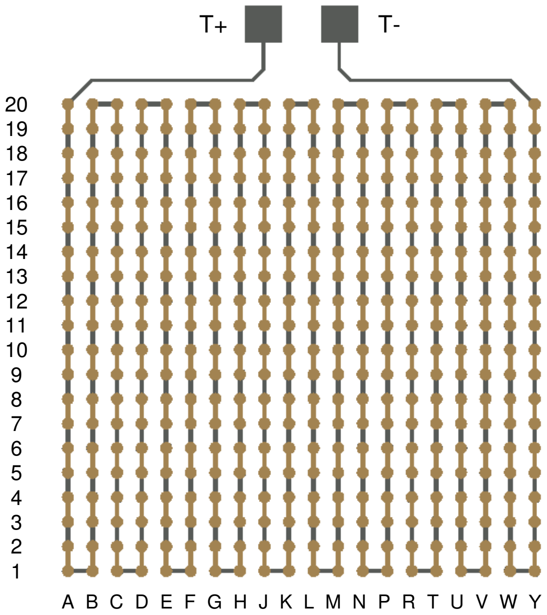
BOTTOM SIDE
(TOP X-RAY VIEW)



TOP VIEW



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



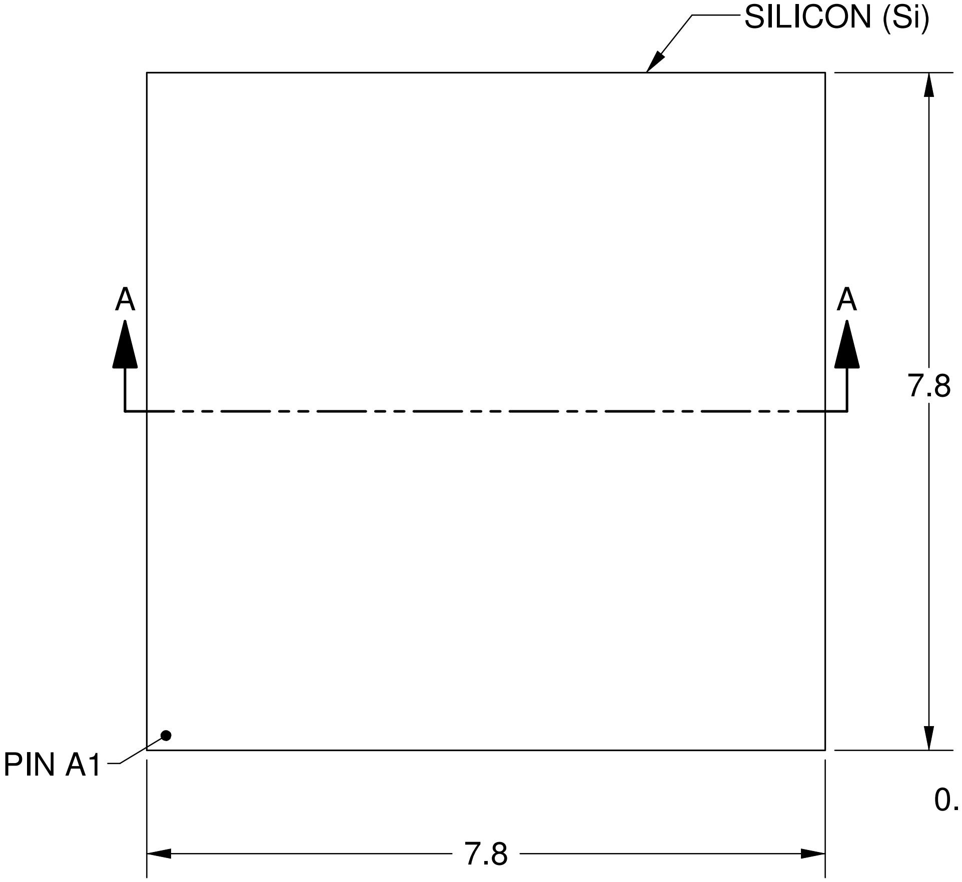
TEST VEHICLE BOARD

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).

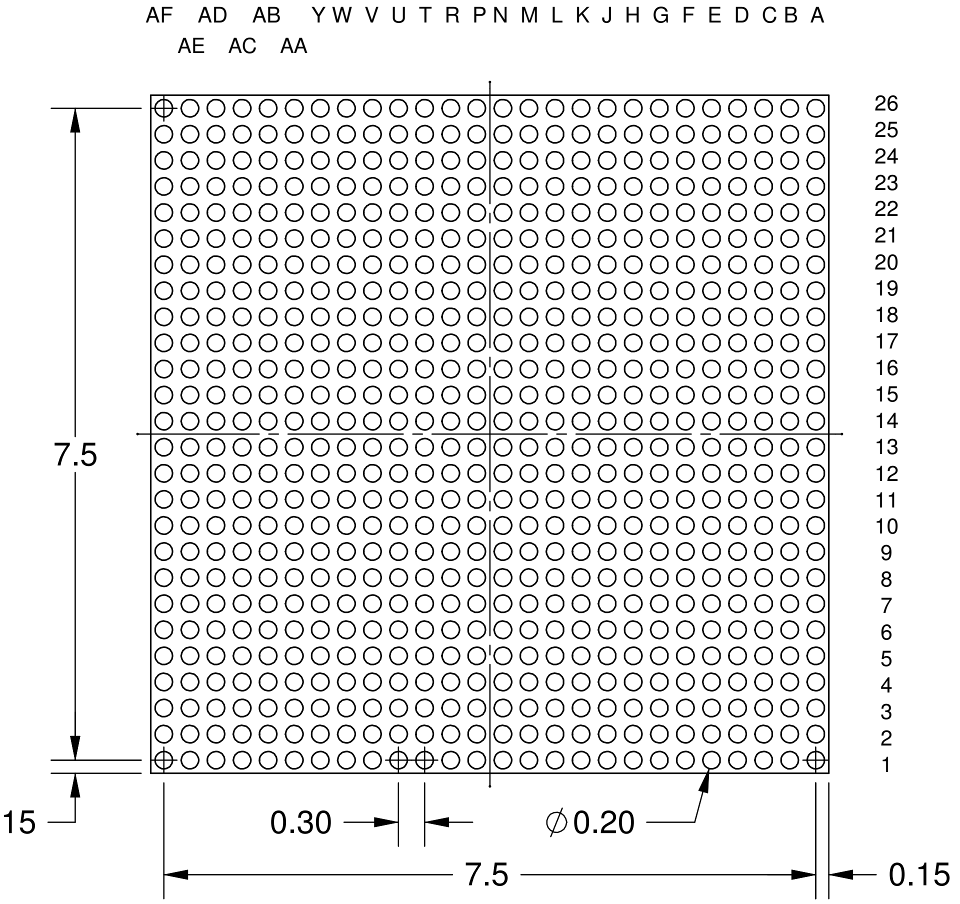
TopLine®

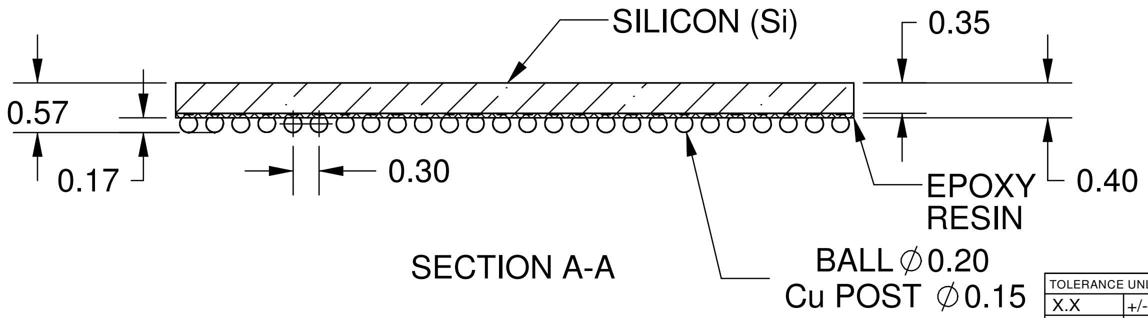
TITLE WLP400T.5C-DC208D 400-BALL P=0.5mm (TEG0510)			
SCALE 6.5:1	SIZE A	DRAWING NO. 552082	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	

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
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	
X.X	+/- 0.3
X.XX	+/- 0.03
X.XXX	+/- 0.003
ANGLES	+/- 0.5°

ALL DIMENSIONS IN
☐ INCHES ☒ MILLIMETERS

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN J. Hines	12/29/2010
ENG	
MFG	
QA	
CUST	
REVISED	

TopLine®

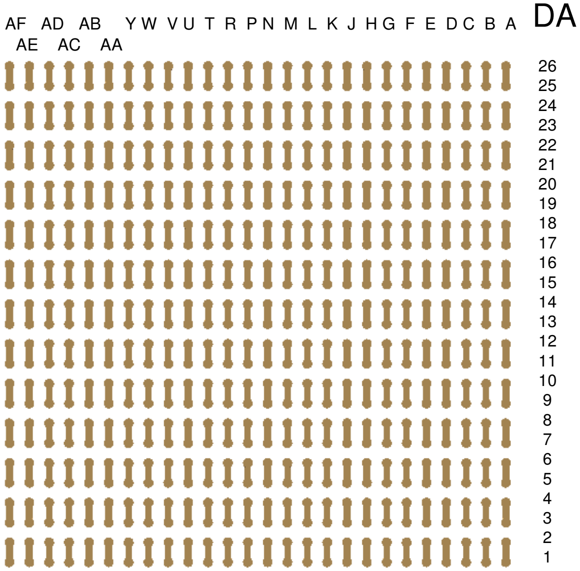
TITLE WLP676T.3C-DC260D
676-BALL P=0.3mm (TEG0306)

SCALE	SIZE	DRAWING NO.	REV
11.5:1	A	532602	A

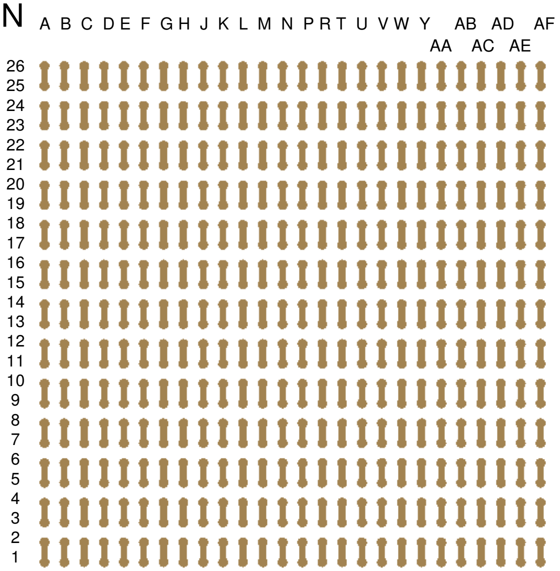
DO NOT SCALE DRAWING SHEET 1 OF 2

DAISY CHAIN PATTERN

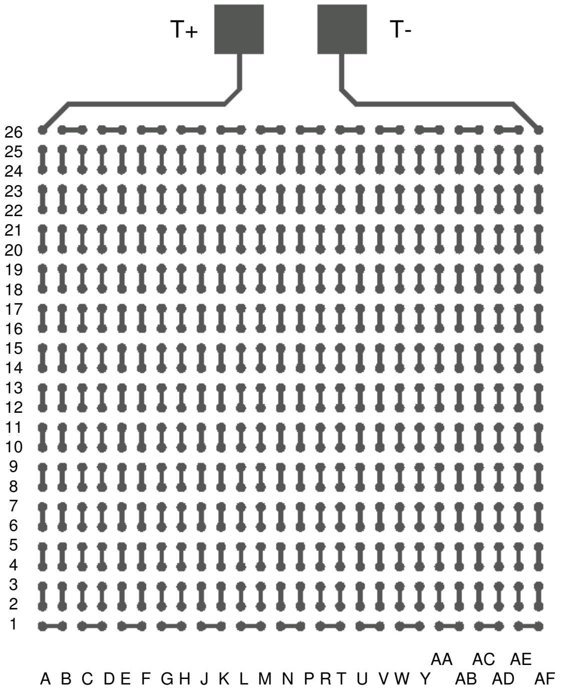
BALL VIEW



BOTTOM SIDE
(TOP X-RAY VIEW)

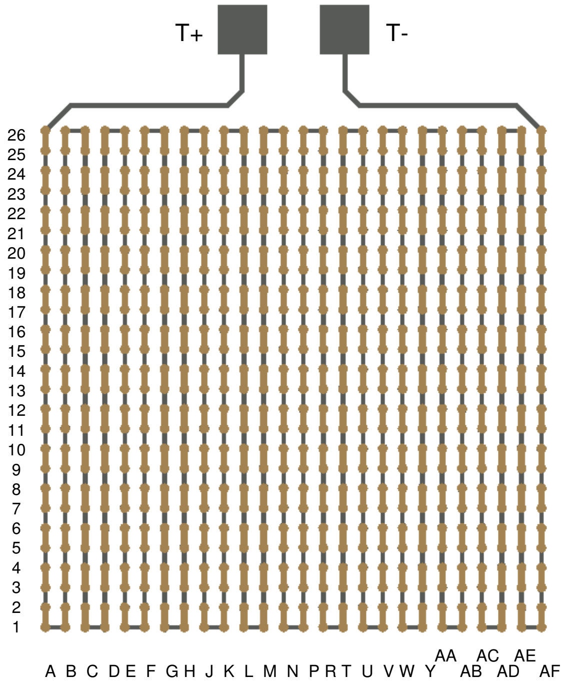


TOP VIEW



TEST VEHICLE BOARD

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

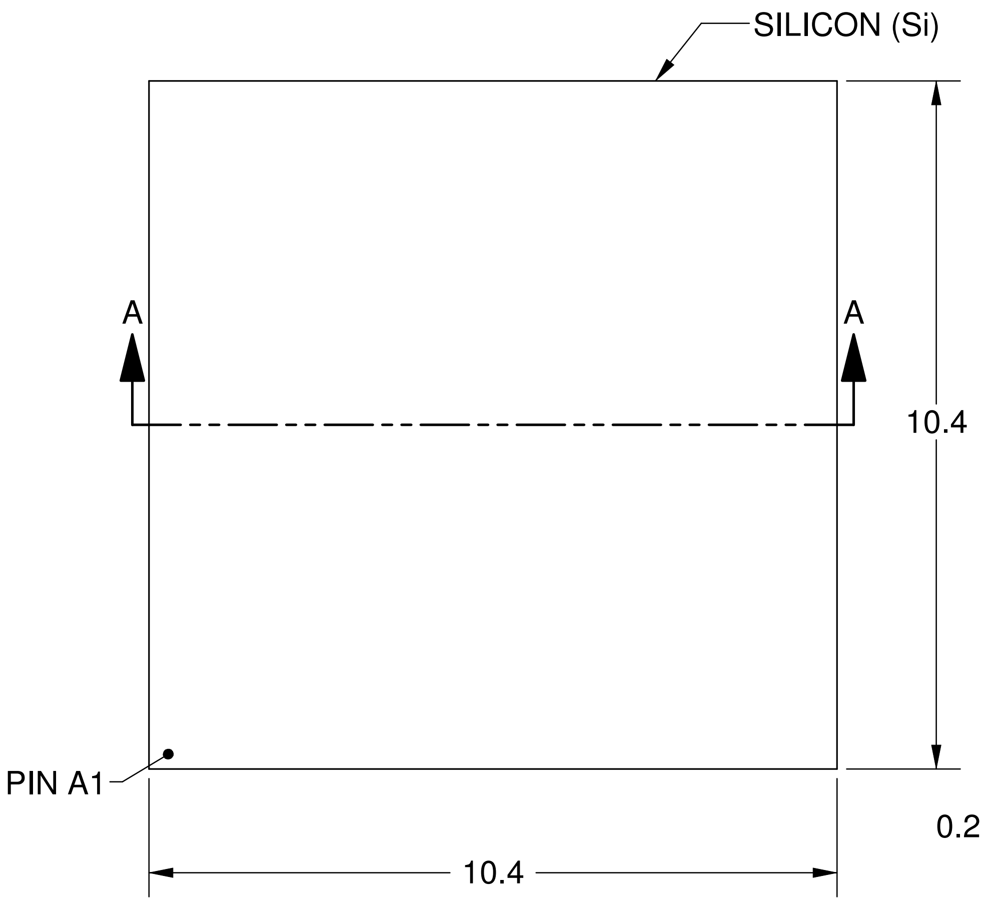


Notes:
1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE.
DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
2) PCB Cu BALL PAD DIAMETER 0.15mm (5.9mil).
3) PCB DAISY CHAIN TRACING LINE WIDTH 0.07mm (3mil).

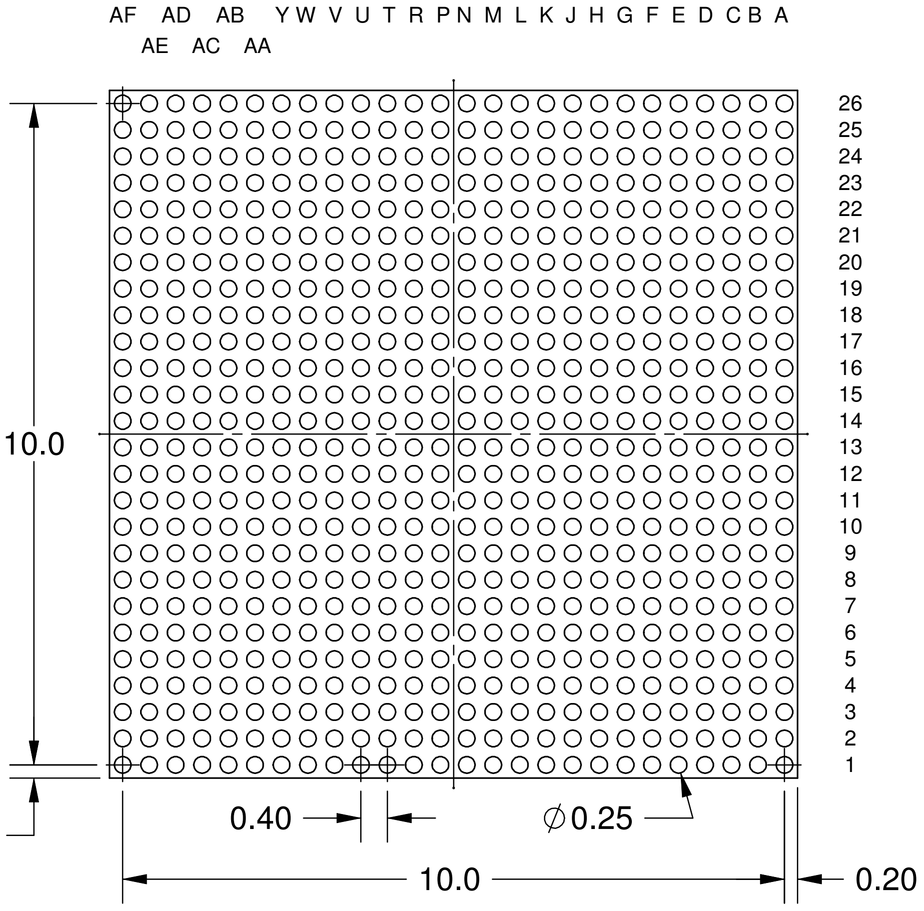
TopLine®

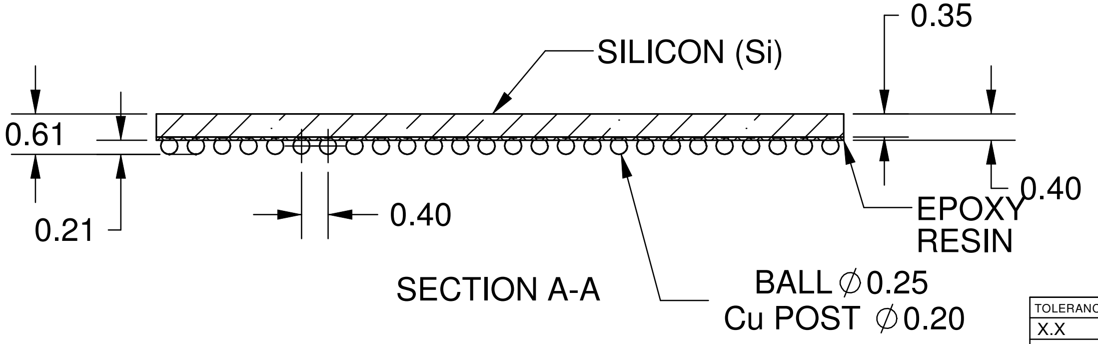
TITLE	WLP676T.3C-DC260D 676-BALL P=0.3mm (TEG0306)		
SCALE 8.75:1	SIZE A	DRAWING NO. 532602	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	

TOP VIEW



BALL VIEW





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
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		
X.XX	+/- 0.03	DRAWN J. Hines	12/30/2010
X.XXX	+/- 0.003		
ANGLES	+/- 0.5°	ENG	
ALL DIMENSIONS IN ☐ INCHES ☒ MILLIMETERS		MFG	
THIRD ANGLE PROJECTION		QA	
		CUST	
		REVISED	

TopLine®

TITLE WLP676T.4C-DC260D
676-BALL P=0.4mm (TEG0408)

SCALE	SIZE	DRAWING NO.	REV
8.75:1	A	542602	A

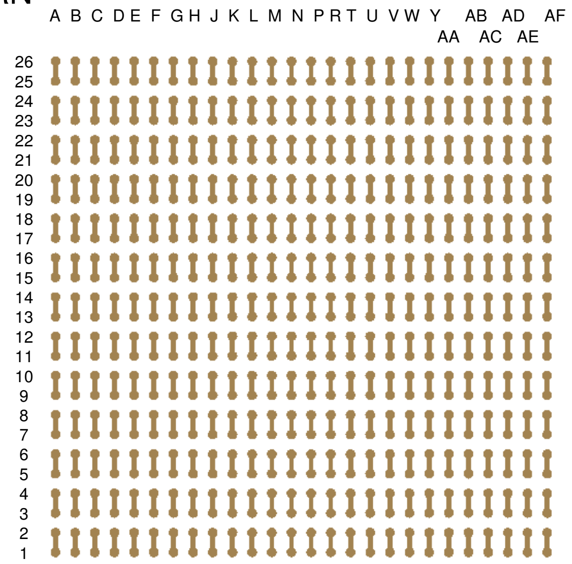
DO NOT SCALE DRAWING

SHEET 1 OF 2

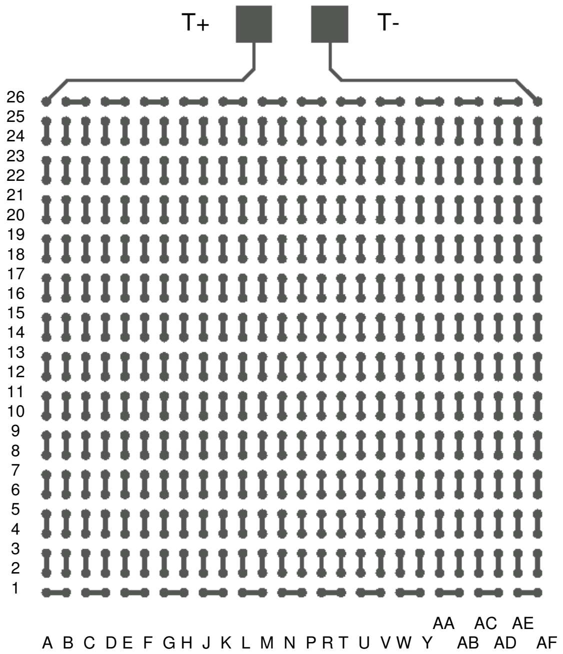
DAISY CHAIN PATTERN

BALL VIEW

BOTTOM SIDE
(TOP X-RAY VIEW)

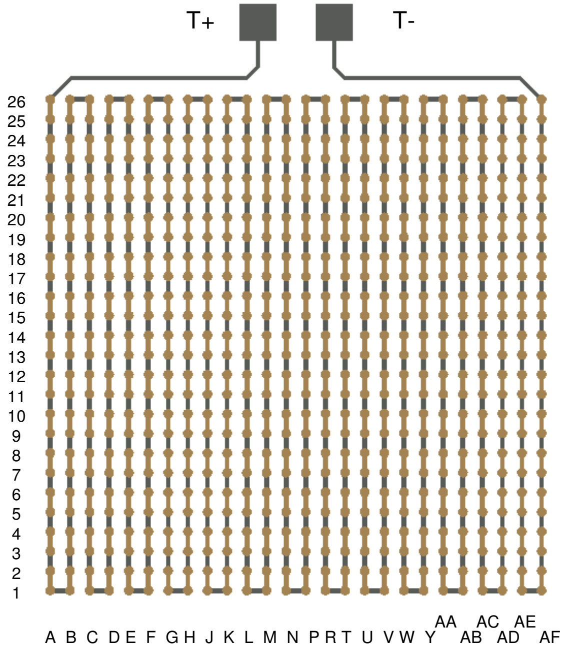


TOP VIEW



TEST VEHICLE BOARD

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



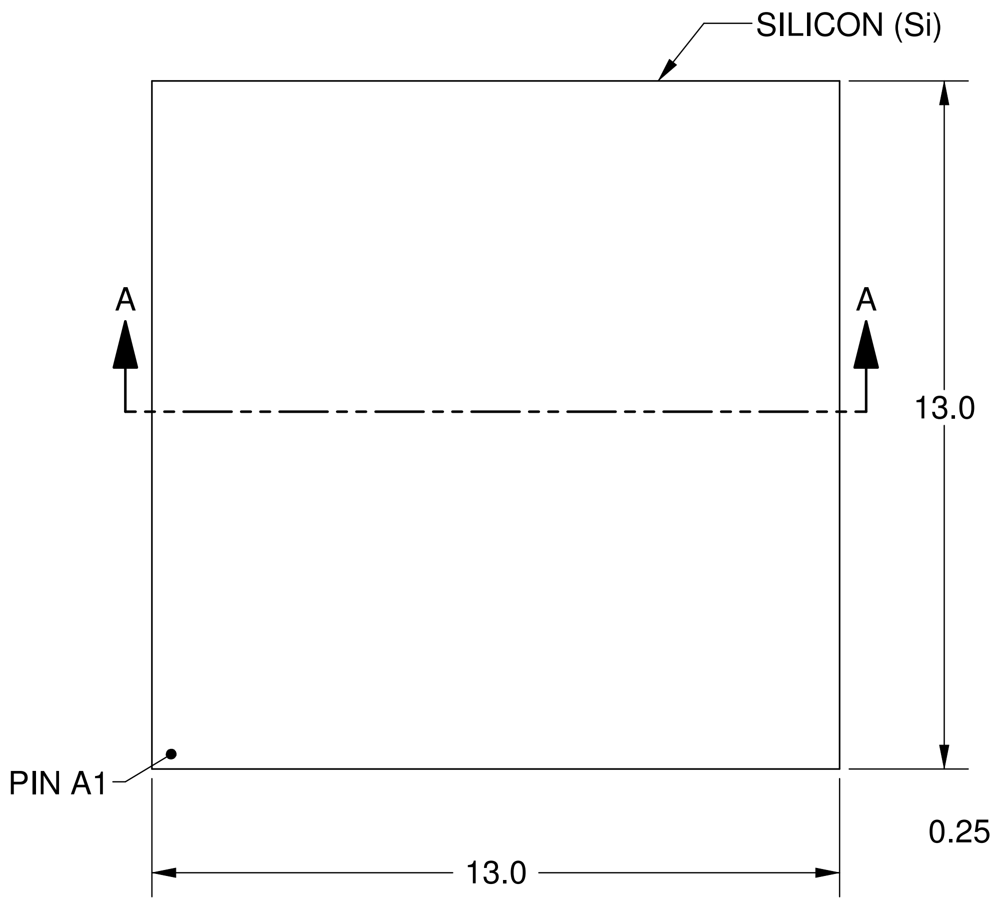
Notes:

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

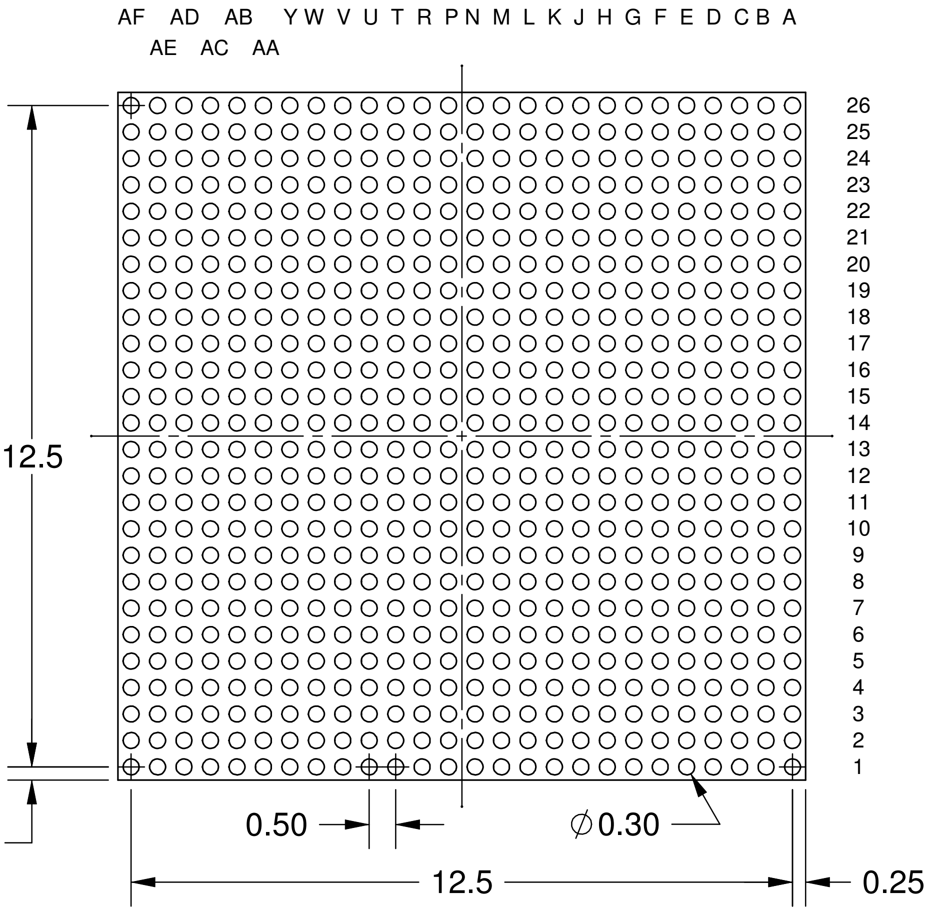
TopLine®

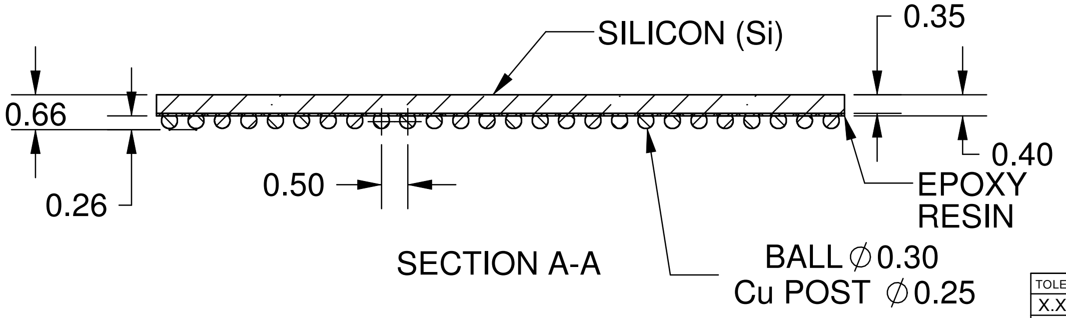
TITLE WLP676T.4C-DC260D 676-BALL P=0.4mm (TEG0408)			
SCALE 6.5:1	SIZE A	DRAWING NO. 542602	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	

TOP VIEW



BALL VIEW





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
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	
X.X	+/- 0.3
X.XX	+/- 0.03
X.XXX	+/- 0.003
ANGLES	+/- 0.5°

ALL DIMENSIONS IN
☐ INCHES ☒ MILLIMETERS

THIRD ANGLE PROJECTION

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

TopLine®

TITLE WLP676T.5C-DC260D
676-BALL P=0.5mm (TEG0510)

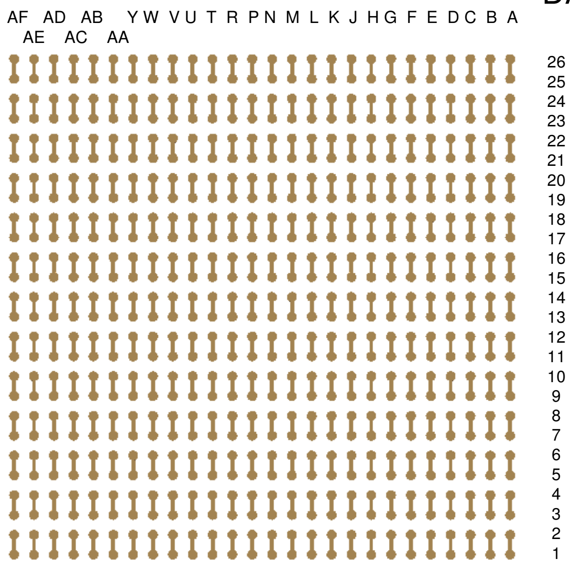
SCALE	SIZE	DRAWING NO.	REV
7:1	A	552602	A

DO NOT SCALE DRAWING

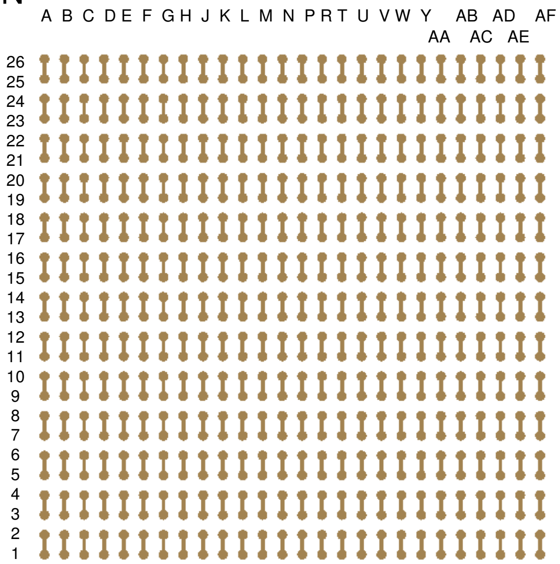
SHEET 1 OF 2

DAISY CHAIN PATTERN

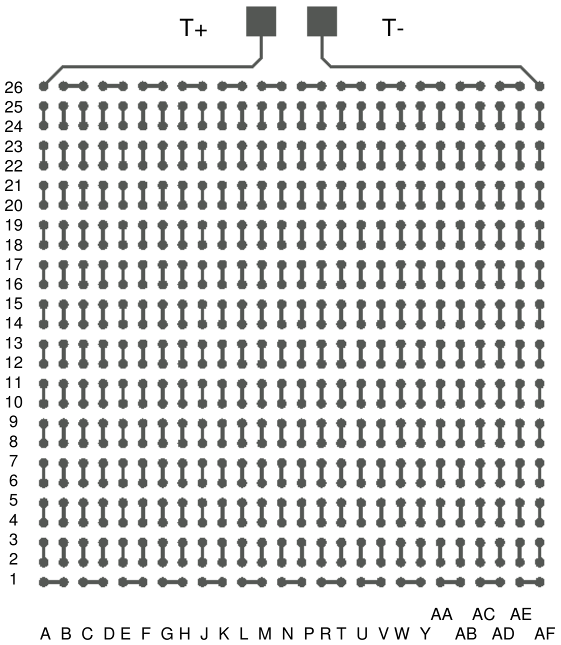
BALL VIEW



BOTTOM SIDE
(TOP X-RAY VIEW)

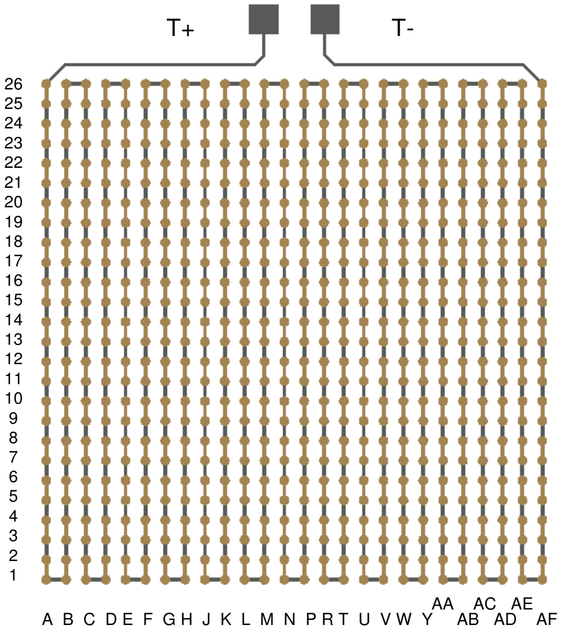


TOP VIEW



TEST VEHICLE BOARD

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

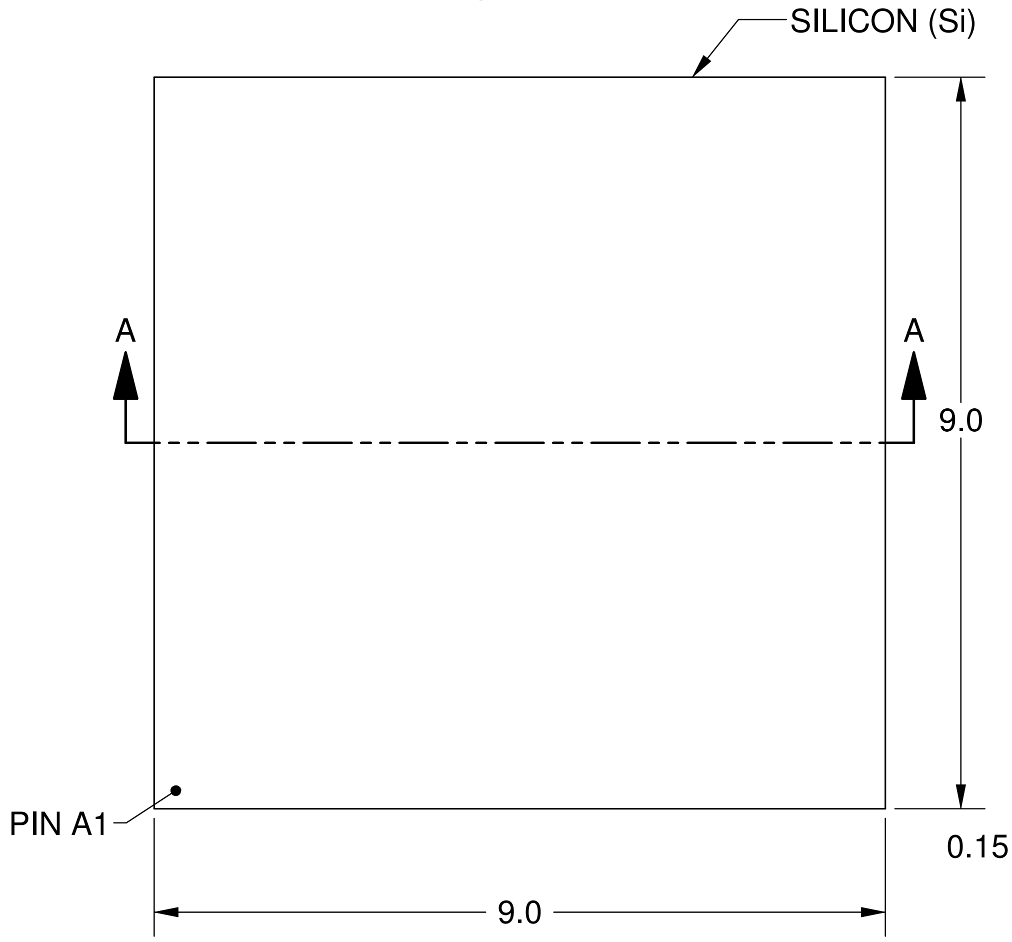


Notes:
1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE.
DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
2) PCB Cu BALL PAD DIAMETER 0.25mm (9.8mil).
3) PCB DAISY CHAIN TRACING LINE WIDTH 0.10mm (3.9mil).

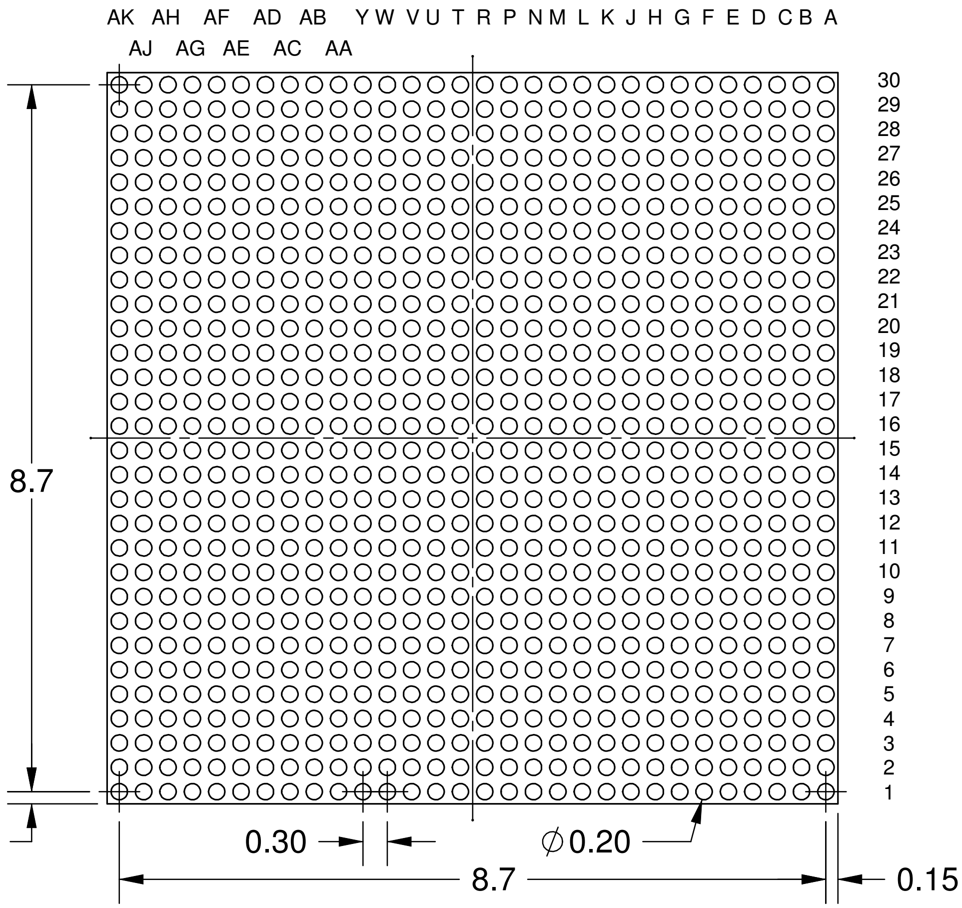
TopLine®

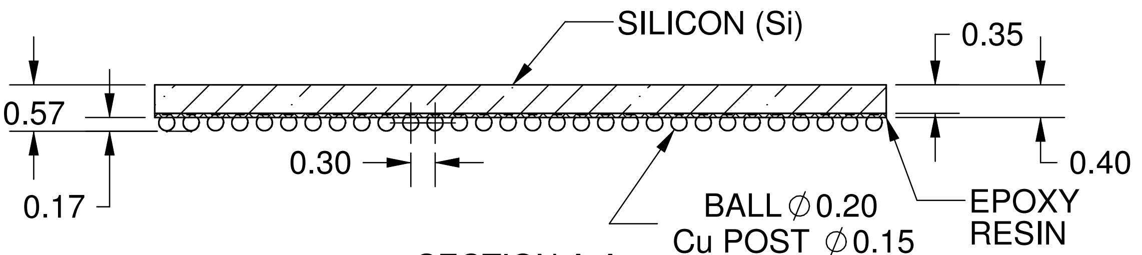
TITLE WLP676T.5C-DC260D 676-BALL P=0.5mm (TEG0510)			
SCALE 5.25:1	SIZE A	DRAWING NO. 552602	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	

TOP VIEW



BALL VIEW





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
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	
X.X	+/- 0.3
X.XX	+/- 0.03
X.XXX	+/- 0.003
ANGLES	+/- 0.5°

ALL DIMENSIONS IN
☐ INCHES ☒ MILLIMETERS

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN J. Hines	12/29/2010
ENG	
MFG	
QA	
CUST	
REVISED	

TopLine®

TITLE WLP900T.3C-DC307D
900-BALL P=0.3mm (TEG0306)

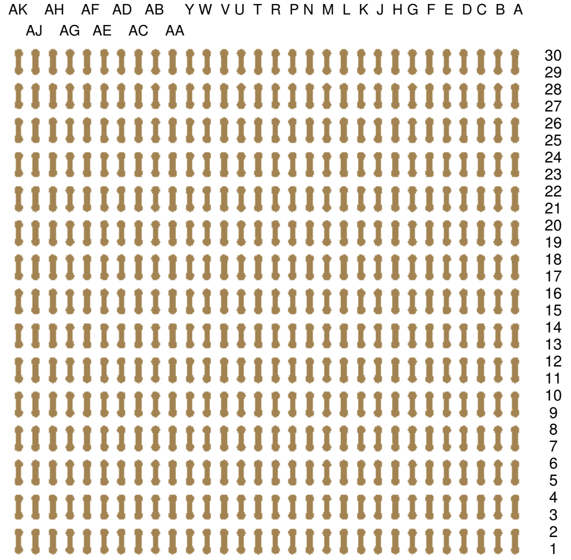
SCALE	SIZE	DRAWING NO.	REV
10.75:1	A	533072	A

DO NOT SCALE DRAWING

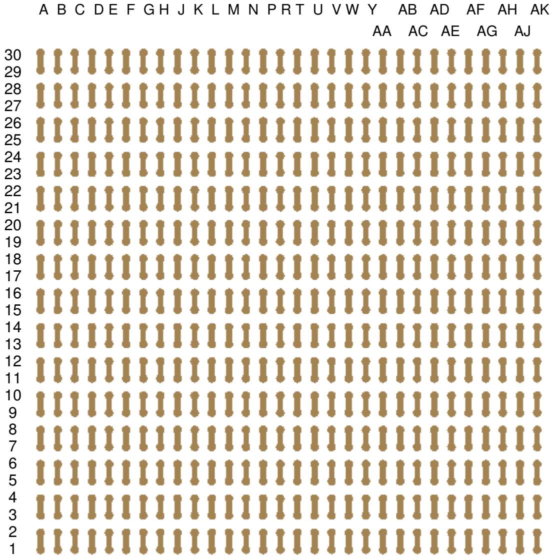
SHEET 1 OF 2

DAISY CHAIN PATTERN

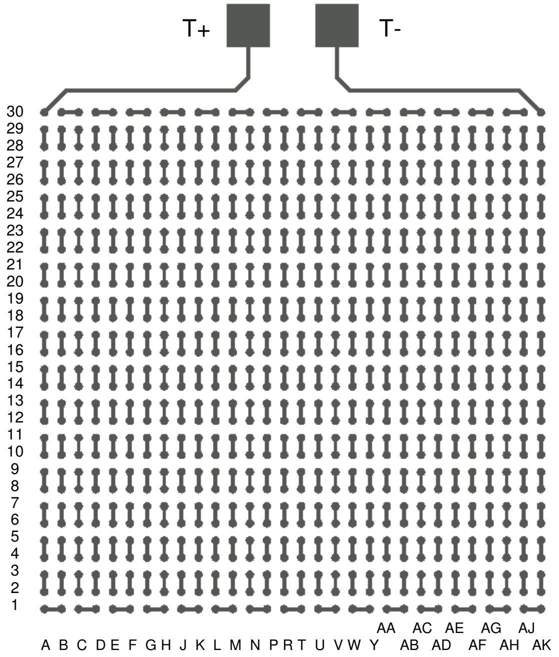
BALL VIEW



BOTTOM SIDE
(TOP X-RAY VIEW)

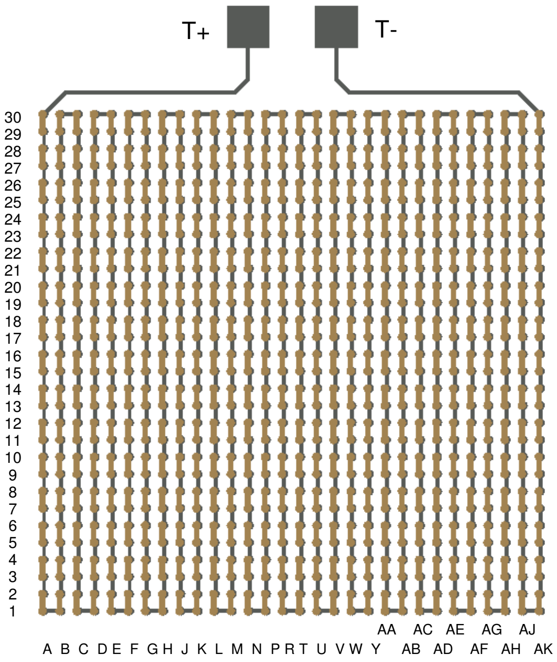


TOP VIEW



TEST VEHICLE BOARD

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

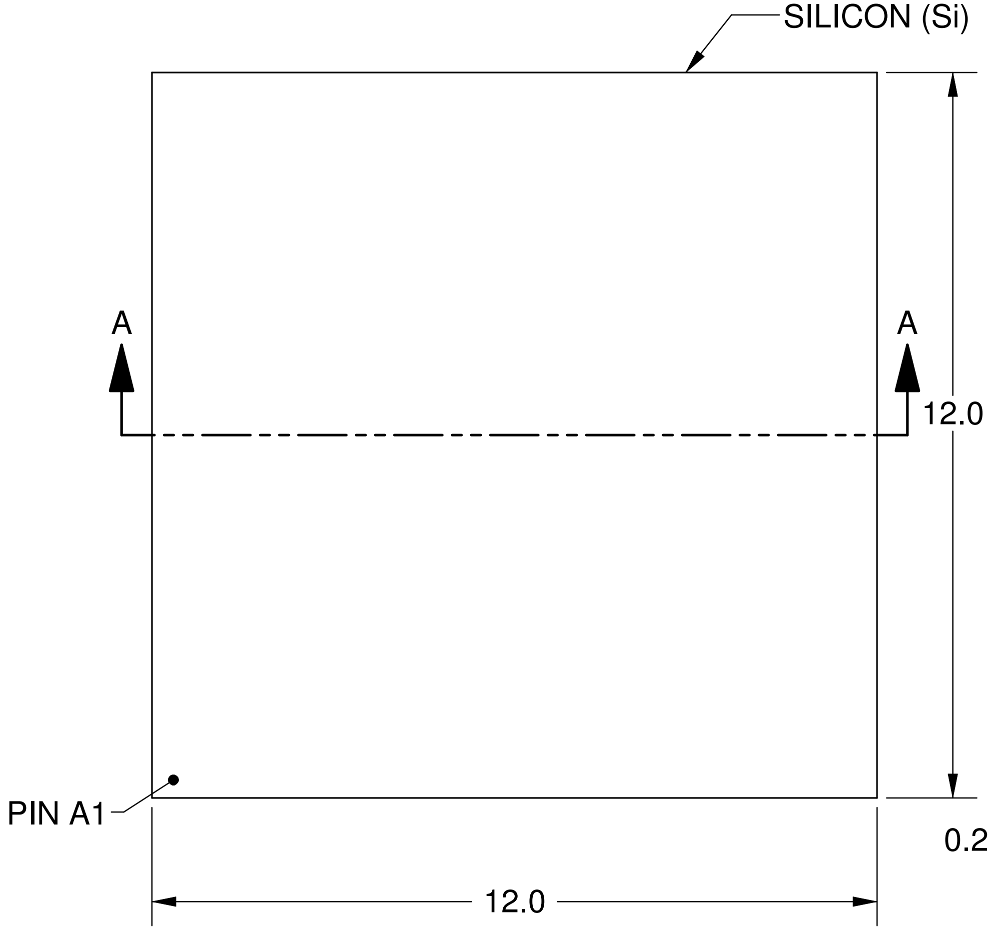


Notes:
1) PCB BOARD DIMENSIONS ARE PRESENTED ONLY AS A GUIDELINE. DESIGNERS SHOULD USE THEIR OWN EXPERIENCE WHEN DESIGNING PCB.
2) PCB Cu BALL PAD DIAMETER 0.15mm (5.9mil).
3) PCB DAISY CHAIN TRACING LINE WIDTH 0.07mm (3mil).

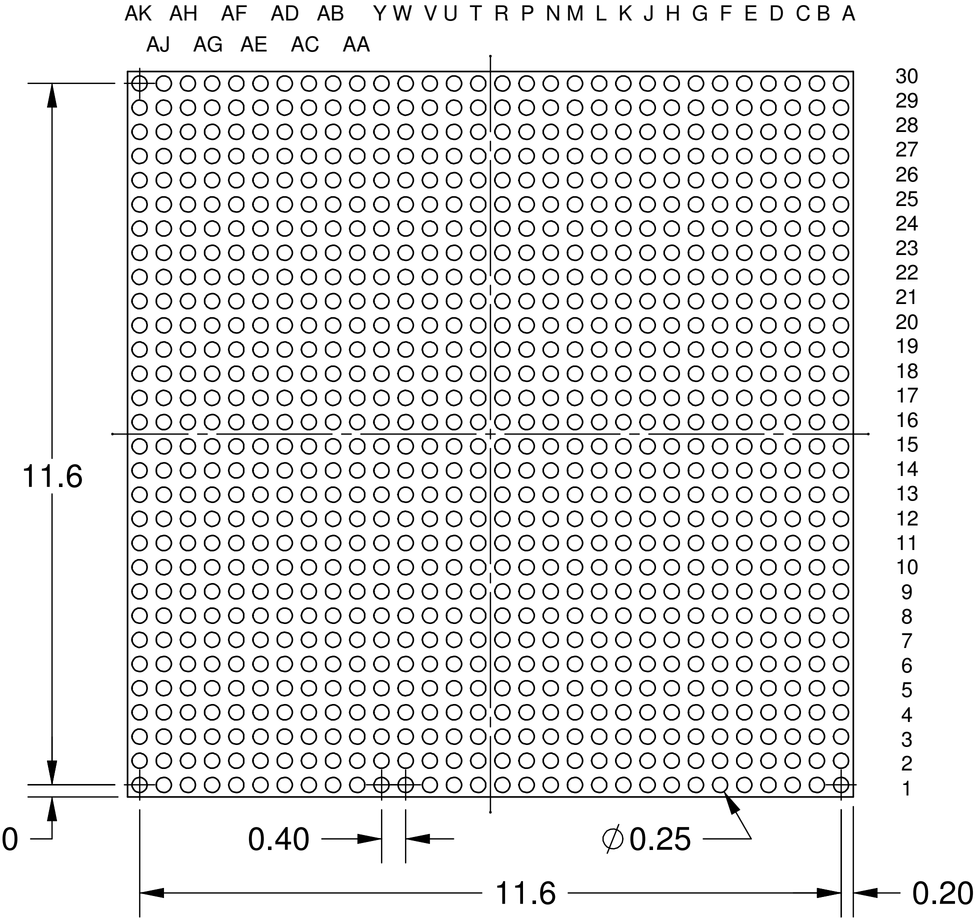
TopLine®

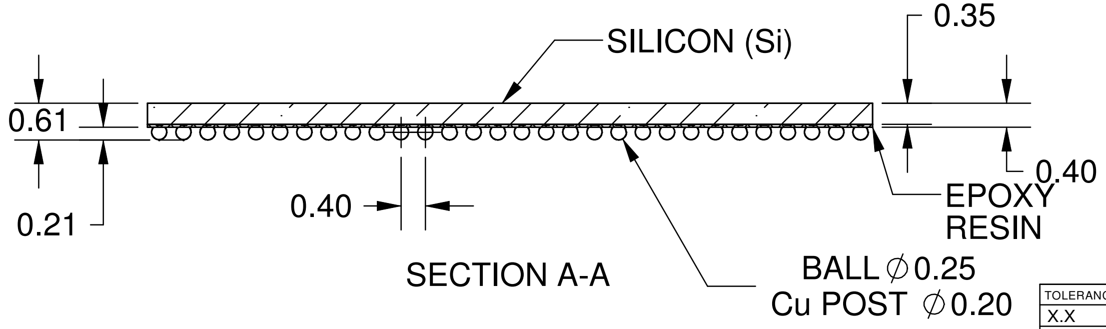
TITLE WLP900T.3C-DC307D 900-BALL P=0.3mm (TEG0306)			
SCALE 7.55:1	SIZE A	DRAWING NO. 533072	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	

TOP VIEW



BALL VIEW





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
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 ☐ INCHES ☒ MILLIMETERS		MFG	
THIRD ANGLE PROJECTION		QA	
		CUST	
		REVISED	

TopLine®

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

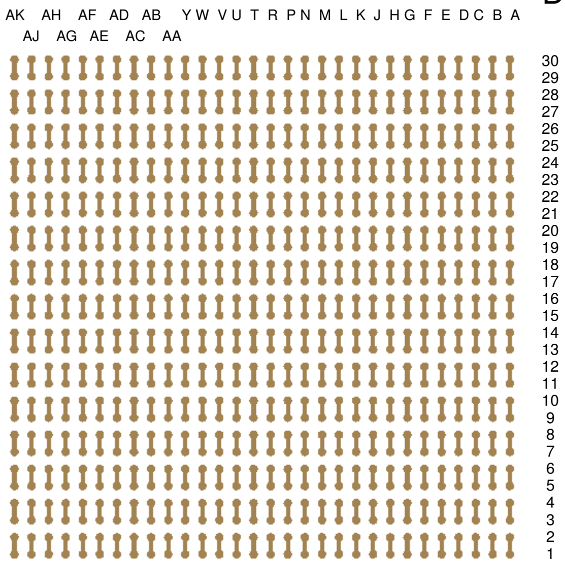
SCALE	SIZE	DRAWING NO.	REV
8:1	A	543072	A

DO NOT SCALE DRAWING

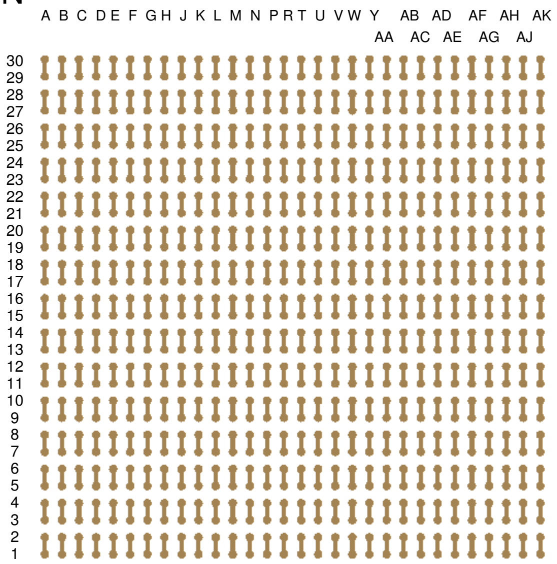
SHEET 1 OF 2

DAISY CHAIN PATTERN

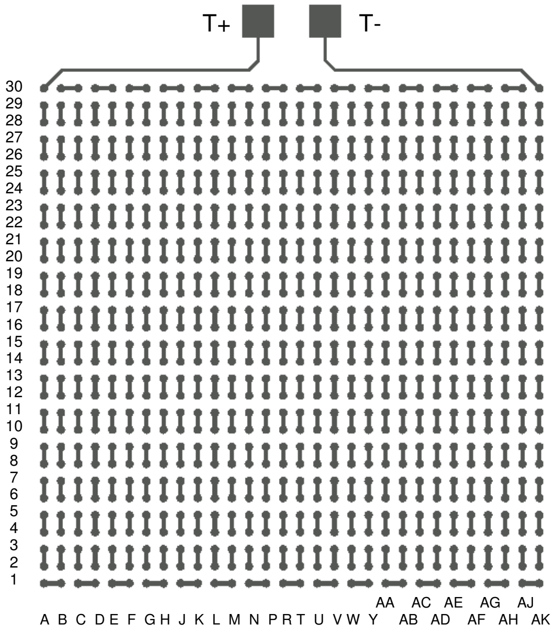
BALL VIEW



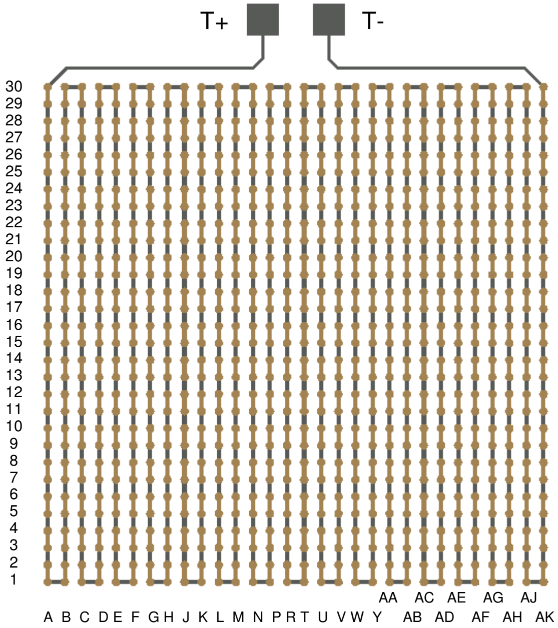
BOTTOM SIDE
(TOP X-RAY VIEW)



TOP VIEW



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



TEST VEHICLE BOARD

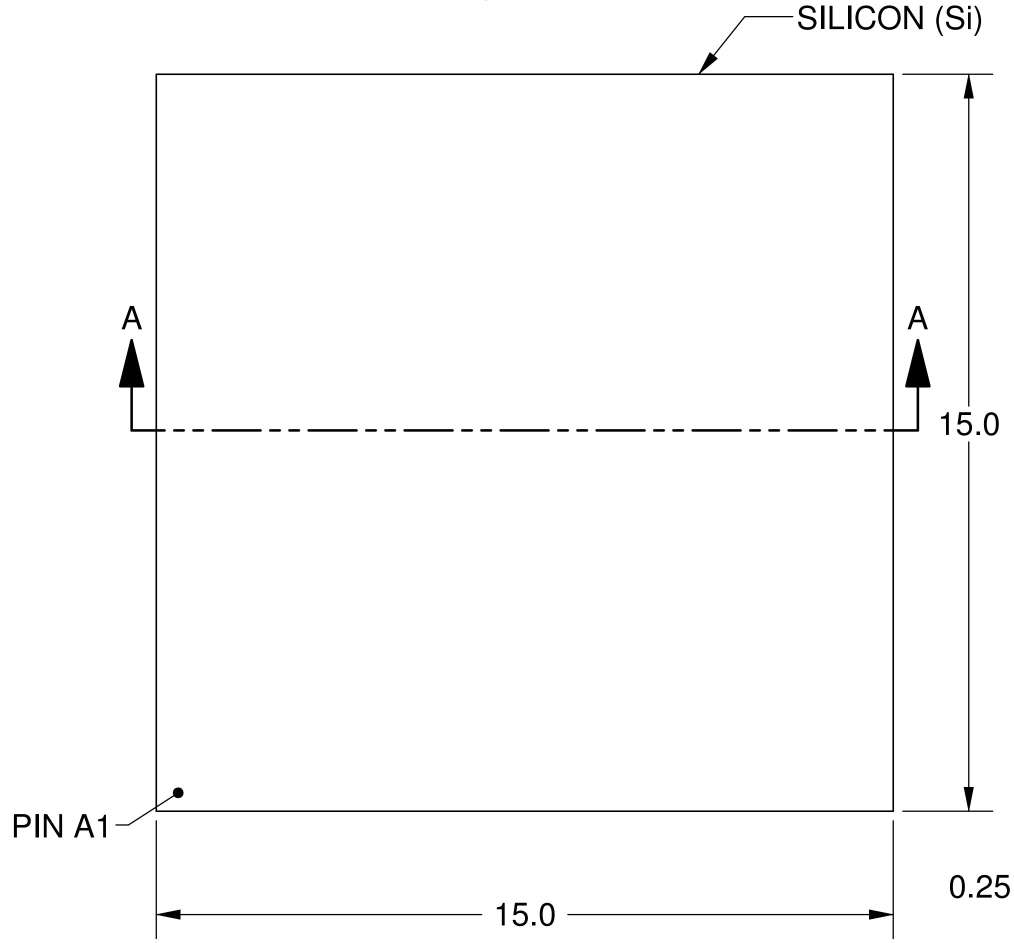
Notes:

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

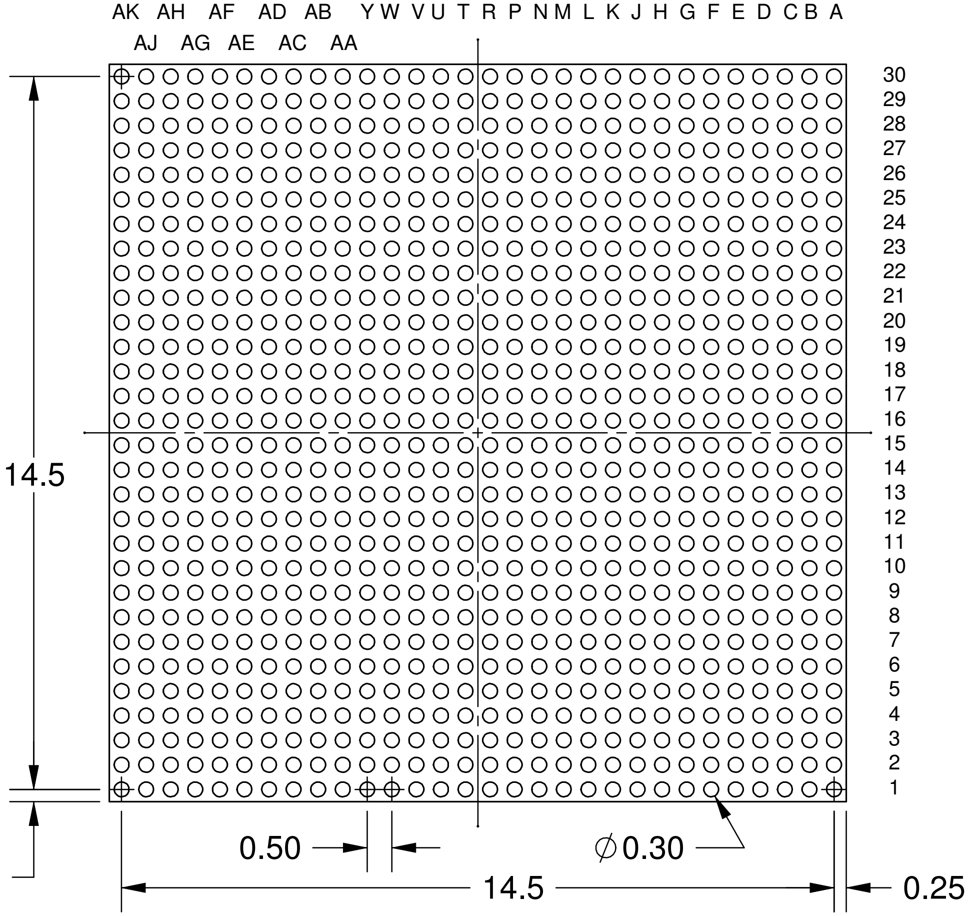
TopLine®

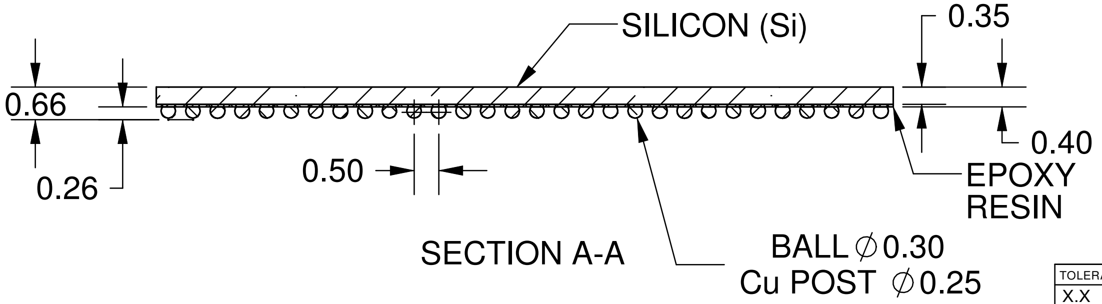
TITLE	WLP900T.4C-DC307D 900-BALL P=0.4mm (TEG0408)		
SCALE 5.65:1	SIZE A	DRAWING NO. 543072	REV A
DO NOT SCALE DRAWING		SHEET 2 OF 2	

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
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
☐ INCHES ☒ MILLIMETERS

THIRD ANGLE PROJECTION

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

TopLine®

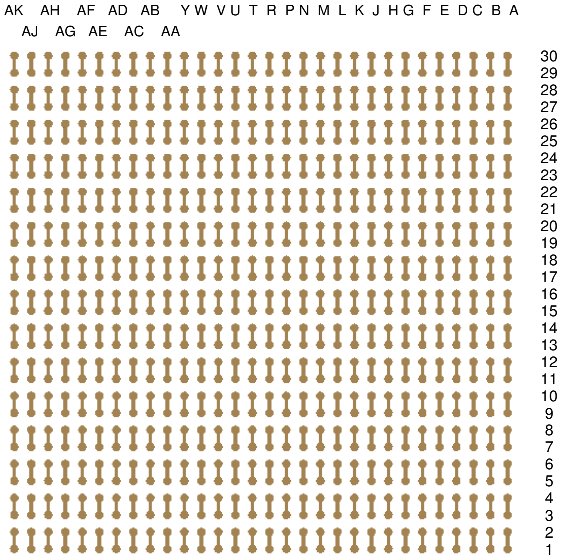
TITLE WLP900T.5C-DC307D
900-BALL P=0.5mm (TEG0510)

SCALE	SIZE	DRAWING NO.	REV
6.5:1	A	553072	A

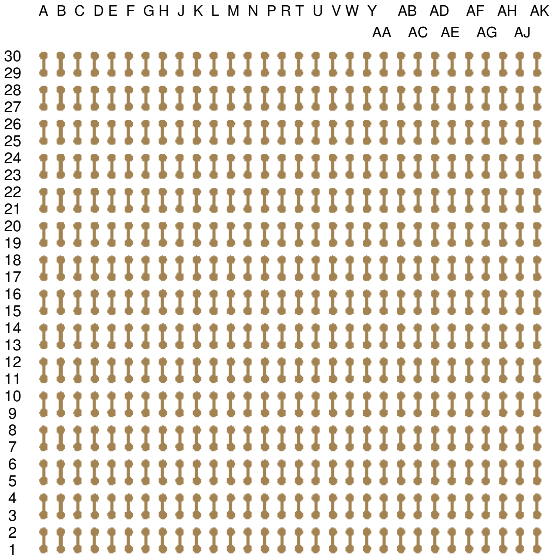
DO NOT SCALE DRAWING SHEET 1 OF 2

DAISY CHAIN PATTERN

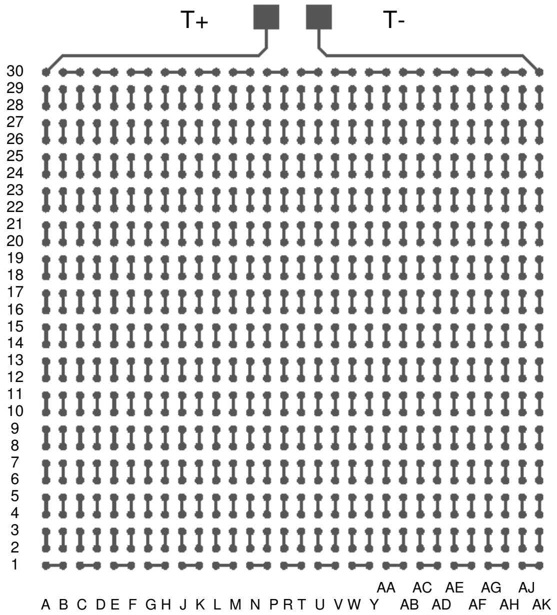
BALL VIEW



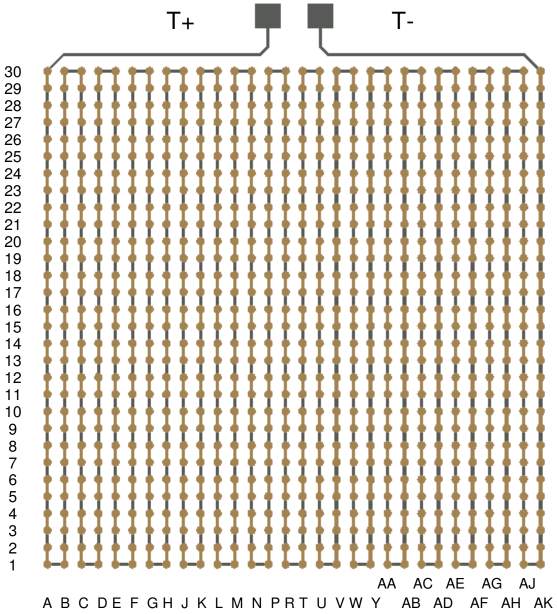
BOTTOM SIDE
(TOP X-RAY VIEW)



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	