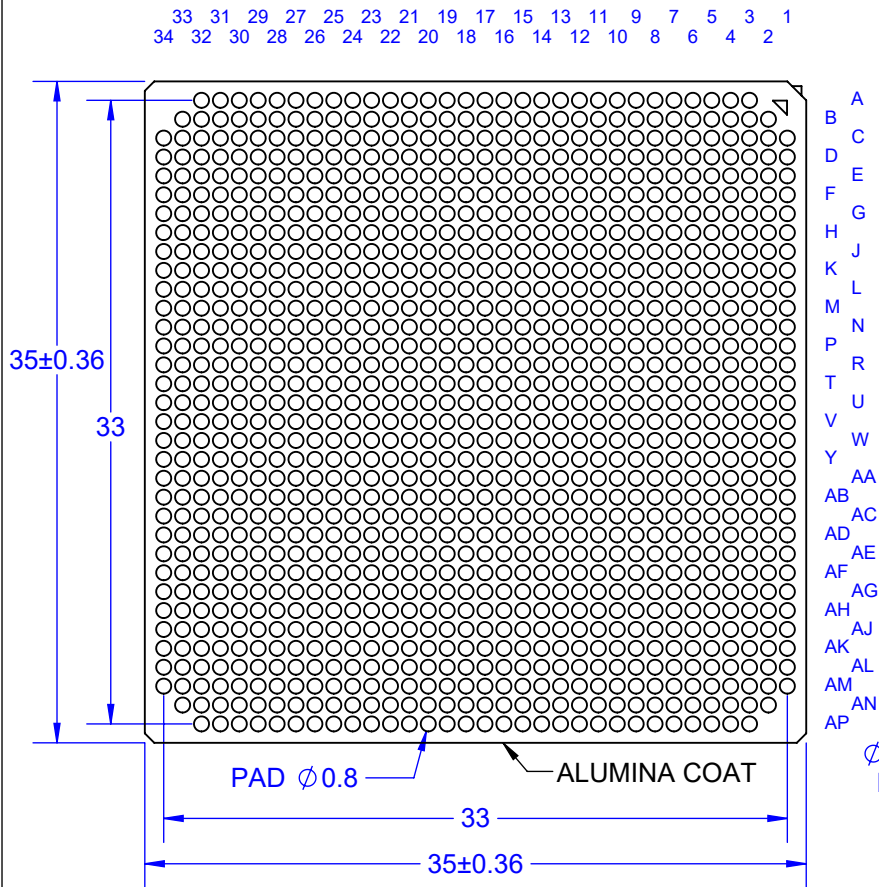
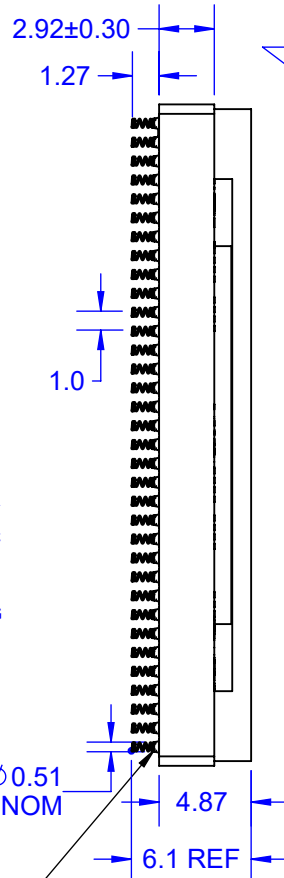


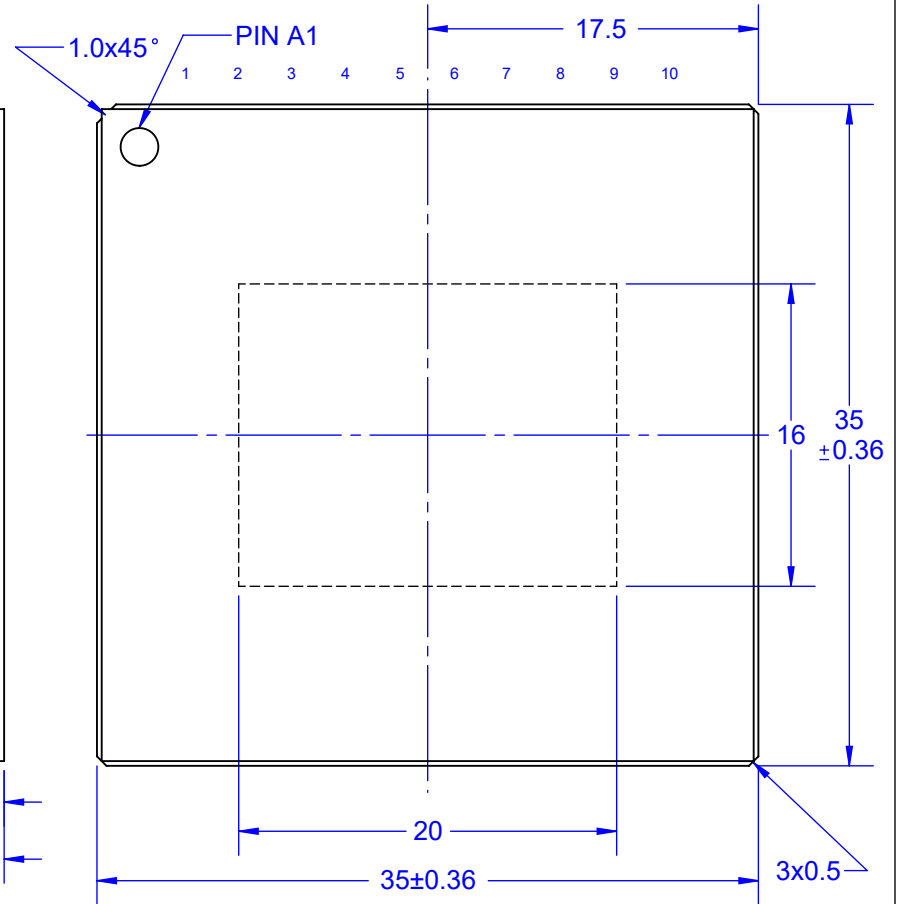
BOTTOM VIEW



SHOWN WITH DIE



TOP VIEW



MICRO-COIL SPRING



Notes: (Unless Otherwise Specified).

- 1) DIMENSIONS: MM.
- 2) SHOWN WITH MICRO-COIL SPRING.
- 3) SHOWN WITH HEAT SINK.
- 4) SHOWN WITH DUMMY DIE.
- 5) SHOWN WITHOUT CAPACITORS.

PART NUMBER OPTIONS

| PART NUMBER | DUMMY DIE | SOLDER PIN | HEAT SINK | CAPACITOR |
|-----------------------|-----------|------------|-----------|-----------|
| CCGA1144T1.0M-DC348CN | YES | YES | YES | NONE |

TopLine®

TITLE CCGA1144T1.0-DC348CN
DAISY CHAIN

| | | | |
|----------------|-----------|-----------------------|----------|
| SCALE 2.5:1 | SIZE A | DRAWING NO. 180050 | REV A |
|----------------|-----------|-----------------------|----------|

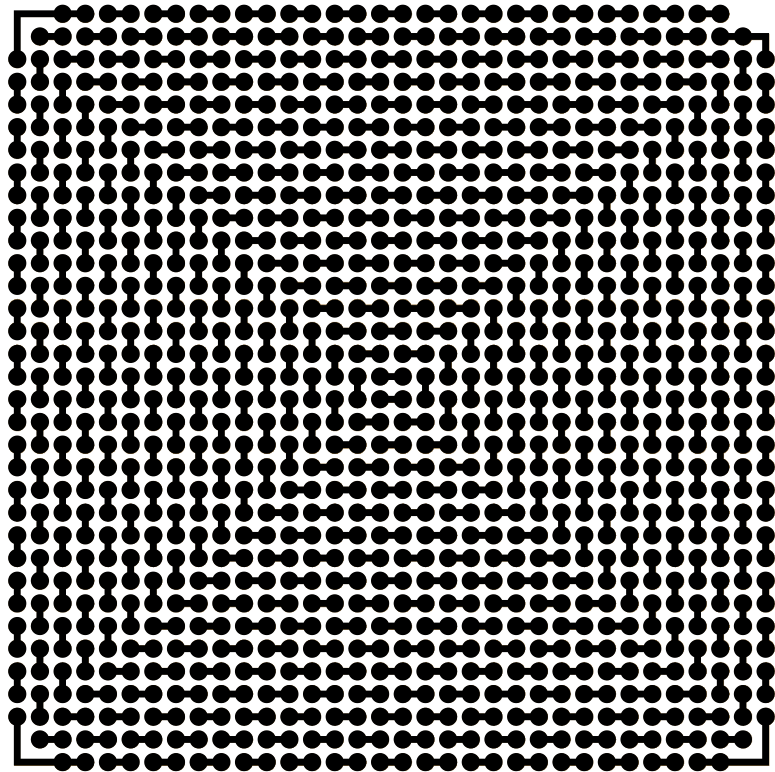
DO NOT SCALE DRAWING

SHEET 3 OF 16

DAISY CHAIN PATTERN

COLUMN (BALL) VIEW

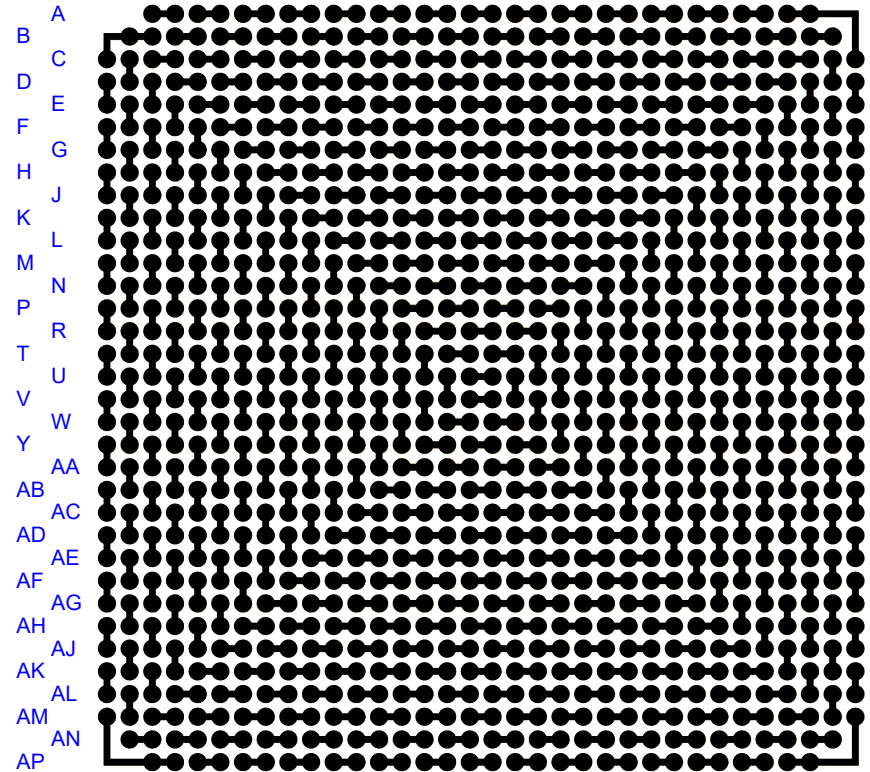
33 31 29 27 25 23 21 19 17 15 13 11 9 7 5 3 1
34 32 30 28 26 24 22 20 18 16 14 12 10 8 6 4 2



A
B
C
D
E
F
G
H
J
K
L
M
N
P
R
T
U
V
W
Y
AA
AB
AC
AD
AE
AF
AG
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AJ
AK
AL
AM
AN
AP

BOTTOM X-RAY VIEWED FROM TOP

2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33



A
B
C
D
E
F
G
H
J
K
L
M
N
P
R
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U
V
W
Y
AA
AB
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AD
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TopLine®

TITLE CCGA1144T1.0-DC348CN
DAISY CHAIN

| | | | |
|--------------|-----------|-----------------------|----------|
| SCALE 3:1 | SIZE A | DRAWING NO. 180050 | REV A |
|--------------|-----------|-----------------------|----------|

DO NOT SCALE DRAWING

SHEET 5 OF 16

NET LIST DAISY CHAIN CONNECTION TABLE

| DC PAIR | |
|---------|------|
| A11 | A12 |
| A13 | A14 |
| A15 | A16 |
| A17 | A18 |
| A19 | A20 |
| A21 | A22 |
| A23 | A24 |
| A25 | A26 |
| A27 | A28 |
| A29 | A30 |
| A3 | A4 |
| A5 | A6 |
| A7 | A8 |
| A9 | A10 |
| AA1 | Y1 |
| AA10 | AB10 |
| AA11 | Y11 |
| AA12 | AB12 |
| AA13 | Y13 |
| AA14 | AA15 |
| AA16 | AA17 |
| AA18 | AA19 |
| AA2 | AB2 |
| AA20 | AA21 |
| AA22 | Y22 |
| AA23 | AB23 |
| AA24 | Y24 |
| AA25 | AB25 |
| AA26 | Y26 |
| AA27 | AB27 |
| AA28 | Y28 |
| AA29 | AB29 |
| AA3 | Y3 |
| AA30 | Y30 |
| AA31 | AB31 |
| AA32 | Y32 |
| AA33 | AB33 |
| AA34 | Y34 |
| AA4 | AB4 |
| AA5 | Y5 |
| AA6 | AB6 |
| AA7 | Y7 |
| AA8 | AB8 |

| DC PAIR | |
|---------|------|
| AA9 | Y9 |
| AB1 | AC1 |
| AB11 | AC11 |
| AB13 | AB14 |
| AB15 | AB16 |
| AB17 | AB18 |
| AB19 | AB20 |
| AB21 | AB22 |
| AB24 | AC24 |
| AB26 | AC26 |
| AB28 | AC28 |
| AB3 | AC3 |
| AB30 | AC30 |
| AB32 | AC32 |
| AB34 | AC34 |
| AB5 | AC5 |
| AB7 | AC7 |
| AB9 | AC9 |
| AC10 | AD10 |
| AC12 | AC13 |
| AC14 | AC15 |
| AC16 | AC17 |
| AC18 | AC19 |
| AC2 | AD2 |
| AC20 | AC21 |
| AC22 | AC23 |
| AC25 | AD25 |
| AC27 | AD27 |
| AC29 | AD29 |
| AC31 | AD31 |
| AC33 | AD33 |
| AC4 | AD4 |
| AC6 | AD6 |
| AC8 | AD8 |
| AD1 | AE1 |
| AD11 | AD12 |
| AD13 | AD14 |
| AD15 | AD16 |
| AD17 | AD18 |
| AD19 | AD20 |
| AD21 | AD22 |
| AD23 | AD24 |
| AD26 | AE26 |

| DC PAIR | |
|---------|------|
| AD28 | AE28 |
| AD3 | AE3 |
| AD30 | AE30 |
| AD32 | AE32 |
| AD34 | AE34 |
| AD5 | AE5 |
| AD7 | AE7 |
| AD9 | AE9 |
| AE10 | AE11 |
| AE12 | AE13 |
| AE14 | AE15 |
| AE16 | AE17 |
| AE18 | AE19 |
| AE2 | AF2 |
| AE20 | AE21 |
| AE22 | AE23 |
| AE24 | AE25 |
| AE27 | AF27 |
| AE29 | AF29 |
| AE31 | AF31 |
| AE33 | AF33 |
| AE4 | AF4 |
| AE6 | AF6 |
| AE8 | AF8 |
| AF1 | AG1 |
| AF11 | AF12 |
| AF13 | AF14 |
| AF15 | AF16 |
| AF17 | AF18 |
| AF19 | AF20 |
| AF21 | AF22 |
| AF23 | AF24 |
| AF25 | AF26 |
| AF28 | AG28 |
| AF3 | AG3 |
| AF30 | AG30 |
| AF32 | AG32 |
| AF34 | AG34 |
| AF5 | AG5 |
| AF7 | AG7 |
| AF9 | AF10 |
| AG10 | AG11 |
| AG12 | AG13 |

| DC PAIR | |
|---------|------|
| AG14 | AH15 |
| AG16 | AG17 |
| AG18 | AG19 |
| AG2 | AH2 |
| AG20 | AG21 |
| AG22 | AG23 |
| AG24 | AG25 |
| AG26 | AG27 |
| AG29 | AH29 |
| AG31 | AH31 |
| AG33 | AH33 |
| AG4 | AH4 |
| AG6 | AH6 |
| AG8 | AG9 |
| AH1 | AJ1 |
| AH11 | AH12 |
| AH13 | AH14 |
| AH15 | AH16 |
| AH17 | AH18 |
| AH19 | AH20 |
| AH21 | AH22 |
| AH23 | AH24 |
| AH25 | AH26 |
| AH27 | AH28 |
| AH3 | AJ3 |
| AH30 | AJ30 |
| AH32 | AJ32 |
| AH34 | AJ34 |
| AH5 | AJ5 |
| AH7 | AH8 |
| AH9 | AJ10 |
| AJ10 | AJ11 |
| AJ12 | AJ13 |
| AJ14 | AJ15 |
| AJ16 | AJ17 |
| AJ18 | AJ19 |
| AJ2 | AK2 |
| AJ20 | AJ21 |
| AJ22 | AJ23 |
| AJ24 | AJ25 |
| AJ26 | AJ27 |
| AJ28 | AJ29 |
| AJ31 | AK31 |

| DC PAIR | |
|---------|------|
| AJ33 | AK33 |
| AJ4 | AK4 |
| AJ6 | AJ7 |
| AJ8 | AJ9 |
| AK1 | AL1 |
| AK11 | AK12 |
| AK13 | AK14 |
| AK15 | AK16 |
| AK17 | AK18 |
| AK19 | AK20 |
| AK21 | AK22 |
| AK23 | AK24 |
| AK25 | AK26 |
| AK27 | AK28 |
| AK29 | AK30 |
| AK3 | AL3 |
| AK32 | AL32 |
| AK34 | AL34 |
| AK5 | AK6 |
| AK7 | AK8 |
| AK9 | AK10 |
| AL10 | AL11 |
| AL12 | AL13 |
| AL14 | AL15 |
| AL16 | AL17 |
| AL18 | AL19 |
| AL2 | AM2 |
| AL20 | AL21 |
| AL22 | AL23 |
| AL24 | AL25 |
| AL26 | AL27 |
| AL28 | AL29 |
| AL30 | AL31 |
| AL33 | AM33 |
| AL4 | AL5 |
| AL6 | AL7 |
| AL8 | AL9 |
| AM11 | AM12 |
| AM13 | AM14 |
| AM15 | AM16 |
| AM17 | AM18 |
| AM19 | AM20 |
| AM21 | AM22 |

| DC PAIR | |
|---------|------|
| AM23 | AM24 |
| AM25 | AM26 |
| AM27 | AM28 |
| AM29 | AM30 |
| AM3 | AM4 |
| AM31 | AM32 |
| AM5 | AM6 |
| AM7 | AM8 |
| AM9 | AM10 |
| AN10 | AN11 |
| AN12 | AN13 |
| AN14 | AN15 |
| AN16 | AN17 |
| AN18 | AN19 |
| AN2 | AN3 |
| AN20 | AN21 |
| AN22 | AN23 |
| AN24 | AN25 |
| AN26 | AN27 |
| AN28 | AN29 |
| AN30 | AN31 |
| AN32 | AN33 |
| AN4 | AN5 |
| AN6 | AN7 |
| AN8 | AN9 |
| AP11 | AP12 |
| AP13 | AP14 |
| AP15 | AP16 |
| AP17 | AP18 |
| AP19 | AP20 |
| AP21 | AP22 |
| AP23 | AP24 |
| AP25 | AP26 |
| AP27 | AP28 |
| AP29 | AP30 |
| AP5 | AP6 |
| AP7 | AP8 |
| AP9 | AP10 |
| B10 | B11 |
| B12 | B13 |
| B14 | B15 |
| B16 | B17 |
| B18 | B19 |

CONTINUED NEXT PAGE

| | | | |
|---|-----------|-----------------------|---------------|
| TopLine® | | | |
| TITLE CCGA1144T1.0-DC348CN DAISY CHAIN | | | |
| SCALE NONE | SIZE A | DRAWING NO. 180050 | REV A |
| DO NOT SCALE DRAWING | | | SHEET 6 OF 16 |

NET LIST DAISY CHAIN CONNECTION TABLE

| DC PAIR | |
|---------|-----|
| B20 | B21 |
| B22 | B23 |
| B24 | B25 |
| B26 | B27 |
| B28 | B29 |
| B30 | B31 |
| B32 | B33 |
| B4 | B5 |
| B6 | B7 |
| B8 | B9 |
| C11 | C12 |
| C13 | C14 |
| C15 | C16 |
| C17 | C18 |
| C19 | C20 |
| C2 | D2 |
| C21 | C22 |
| C23 | C24 |
| C25 | C26 |
| C27 | C28 |
| C29 | C30 |
| C3 | C4 |
| C31 | C32 |
| C33 | D33 |
| C5 | C6 |
| C7 | C8 |
| C9 | C10 |
| D1 | E1 |
| D10 | D11 |
| D12 | D13 |
| D14 | D15 |
| D16 | D17 |
| D18 | D19 |
| D20 | D21 |
| D22 | D23 |
| D24 | D25 |
| D26 | D27 |
| D28 | D29 |
| D3 | E3 |
| D30 | D31 |
| D32 | E32 |
| D34 | E34 |
| D4 | D5 |

| DC PAIR | |
|---------|-----|
| D6 | D7 |
| D8 | D9 |
| E11 | E12 |
| E13 | E14 |
| E15 | E16 |
| E17 | E18 |
| E19 | E20 |
| E2 | F2 |
| E21 | E22 |
| E23 | E24 |
| E25 | E26 |
| E27 | E28 |
| E29 | E30 |
| E31 | F31 |
| E33 | F33 |
| E4 | F4 |
| E5 | E6 |
| E7 | E8 |
| E9 | E10 |
| F1 | G1 |
| F10 | F11 |
| F12 | F13 |
| F14 | F15 |
| F16 | F17 |
| F18 | F19 |
| F20 | F21 |
| F22 | F23 |
| F24 | F25 |
| F26 | F27 |
| F28 | F29 |
| F3 | G3 |
| F30 | G30 |
| F32 | G32 |
| F34 | G34 |
| F5 | G5 |
| F6 | F7 |
| F8 | F9 |
| G11 | G12 |
| G13 | G14 |
| G15 | G16 |
| G17 | G18 |
| G19 | G20 |
| G2 | H2 |


| DC PAIR | |
|---------|-----|
| G21 | G22 |
| G23 | G24 |
| G25 | G26 |
| G27 | G28 |
| G29 | H29 |
| G31 | H31 |
| G33 | H33 |
| G4 | H4 |
| G6 | H6 |
| G7 | G8 |
| G9 | G10 |
| H1 | J1 |
| H10 | H11 |
| H12 | H13 |
| H14 | H15 |
| H16 | H17 |
| H18 | H19 |
| H20 | H21 |
| H22 | H23 |
| H24 | H25 |
| H26 | H27 |
| H28 | J28 |
| H3 | J3 |
| H30 | J30 |
| H32 | J32 |
| H34 | J34 |
| H5 | J5 |
| H7 | J7 |
| H8 | H9 |
| J11 | J12 |
| J13 | J14 |
| J15 | J16 |
| J17 | J18 |
| J19 | J20 |
| J2 | K2 |
| J21 | J22 |
| J23 | J24 |
| J25 | J26 |
| J27 | K27 |
| J29 | K29 |
| J31 | K31 |
| J33 | K33 |
| J4 | K4 |

| DC PAIR | |
|---------|-----|
| J6 | K6 |
| J8 | K8 |
| J9 | J10 |
| K1 | L1 |
| K10 | K11 |
| K12 | K13 |
| K14 | K15 |
| K16 | K17 |
| K18 | K19 |
| K20 | K21 |
| K22 | K23 |
| K24 | K25 |
| K26 | L26 |
| K28 | L28 |
| K34 | L3 |
| K30 | L30 |
| K32 | L32 |
| K3 | L34 |
| K5 | L5 |
| K7 | L7 |
| K9 | L9 |
| L10 | M10 |
| L11 | L12 |
| L13 | L14 |
| L15 | L16 |
| L17 | L18 |
| L19 | L20 |
| L2 | M2 |
| L21 | L22 |
| L23 | L24 |
| L25 | M25 |
| L27 | M27 |
| L29 | M29 |
| L31 | M31 |
| L33 | M33 |
| L4 | M4 |
| L6 | M6 |
| L8 | M8 |
| M1 | N1 |
| M11 | N11 |
| M12 | M13 |
| M14 | M15 |
| M16 | M17 |

| DC PAIR | |
|---------|-----|
| M18 | M19 |
| M20 | M21 |
| M22 | M23 |
| M24 | N24 |
| M26 | N26 |
| M28 | N28 |
| M3 | N3 |
| M30 | N30 |
| M32 | N32 |
| M34 | N34 |
| M5 | N5 |
| M7 | N7 |
| M9 | N9 |
| N10 | P10 |
| N12 | P12 |
| N13 | N14 |
| N15 | N16 |
| N17 | N18 |
| N19 | N20 |
| N2 | P2 |
| N21 | N22 |
| N23 | P23 |
| N25 | P25 |
| N27 | P27 |
| N29 | P29 |
| N31 | P31 |
| N33 | P33 |
| N4 | P4 |
| N6 | P6 |
| N8 | P8 |
| P1 | R1 |
| P11 | R11 |
| P13 | R13 |
| P14 | P15 |
| P16 | P17 |
| P18 | P19 |
| P20 | P21 |
| P22 | R22 |
| P24 | R24 |
| P26 | R26 |
| P28 | R28 |
| P3 | R3 |
| P30 | R30 |

| DC PAIR | |
|---------|-----|
| P32 | R32 |
| P34 | R24 |
| P5 | R5 |
| P7 | R7 |
| P9 | R9 |
| R10 | T10 |
| R12 | T12 |
| R14 | T14 |
| R15 | R16 |
| R17 | R18 |
| R19 | R20 |
| R2 | T2 |
| R21 | T21 |
| R23 | T23 |
| R25 | T25 |
| R27 | T27 |
| R29 | T29 |
| R31 | T31 |
| R33 | T33 |
| R4 | T4 |
| R6 | T6 |
| R8 | T8 |
| T1 | U1 |
| T11 | U11 |
| T13 | U13 |
| T15 | U15 |
| T16 | T17 |
| T18 | T19 |
| T20 | U20 |
| T22 | U22 |
| T24 | U24 |
| T26 | U26 |
| T28 | U28 |
| T3 | U3 |
| T30 | U30 |
| T32 | U32 |
| T34 | U34 |
| T5 | U5 |
| T7 | U7 |
| T9 | U9 |
| U10 | V10 |
| U12 | V12 |
| U14 | V14 |

CONTINUED NEXT PAGE

| | | | |
|---|-----------|-----------------------|---------------|
|  | | | |
| TITLE CCGA1144T1.0-DC348CN DAISY CHAIN | | | |
| SCALE NONE | SIZE A | DRAWING NO. 180050 | REV A |
| DO NOT SCALE DRAWING | | | SHEET 7 OF 16 |

NET LIST DAISY CHAIN CONNECTION TABLE

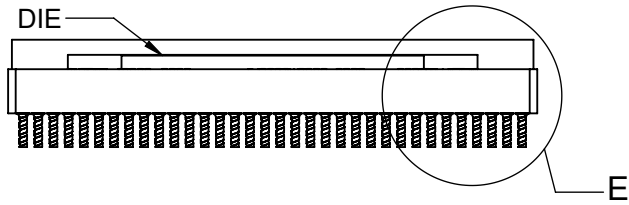
| DC PAIR | |
|---------|-----|
| U16 | V16 |
| U17 | U18 |
| U19 | V19 |
| U2 | V2 |
| U21 | V21 |
| U23 | V23 |
| U25 | V25 |
| U27 | V27 |
| U29 | V29 |
| U31 | V31 |
| U33 | V33 |
| U4 | V4 |
| U6 | V6 |
| U8 | V8 |
| V1 | W1 |
| V11 | W11 |
| V13 | W13 |
| V15 | W15 |
| V17 | V19 |
| V20 | W20 |
| V22 | W22 |
| V24 | W24 |
| V26 | W26 |
| V28 | W28 |
| V3 | W3 |
| V30 | W30 |
| V32 | W32 |
| V34 | W34 |
| V5 | W5 |
| V7 | W7 |
| V9 | W9 |
| W10 | Y10 |
| W12 | Y12 |
| W14 | Y14 |
| W16 | W17 |
| W18 | W19 |
| W2 | Y2 |
| W21 | Y21 |
| W23 | Y23 |
| W25 | Y25 |
| W27 | Y27 |
| W29 | Y29 |
| W31 | Y31 |

| DC PAIR | |
|---------|-----|
| W33 | Y33 |
| W4 | Y4 |
| W6 | Y6 |
| W8 | Y8 |
| Y15 | Y16 |
| Y17 | Y18 |
| Y19 | Y20 |

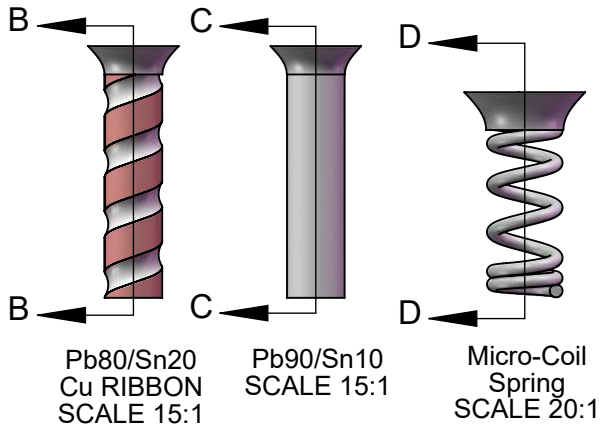
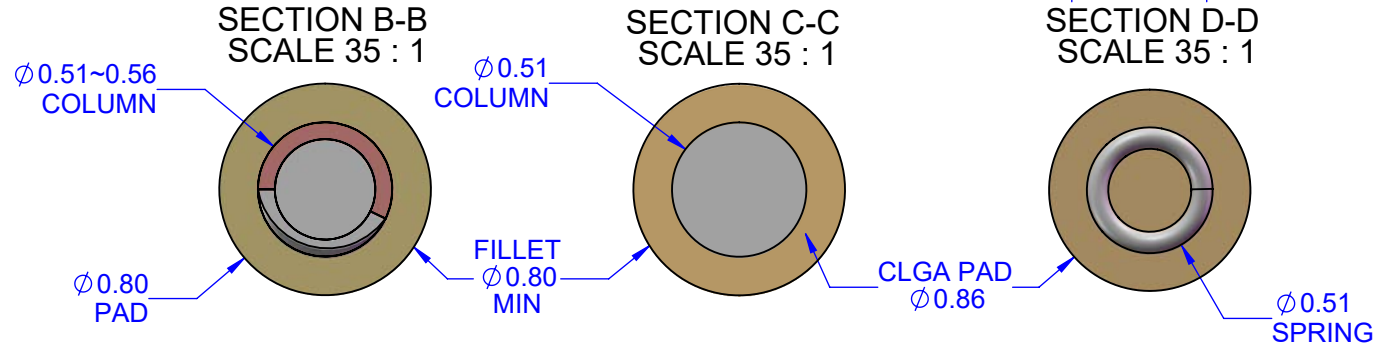
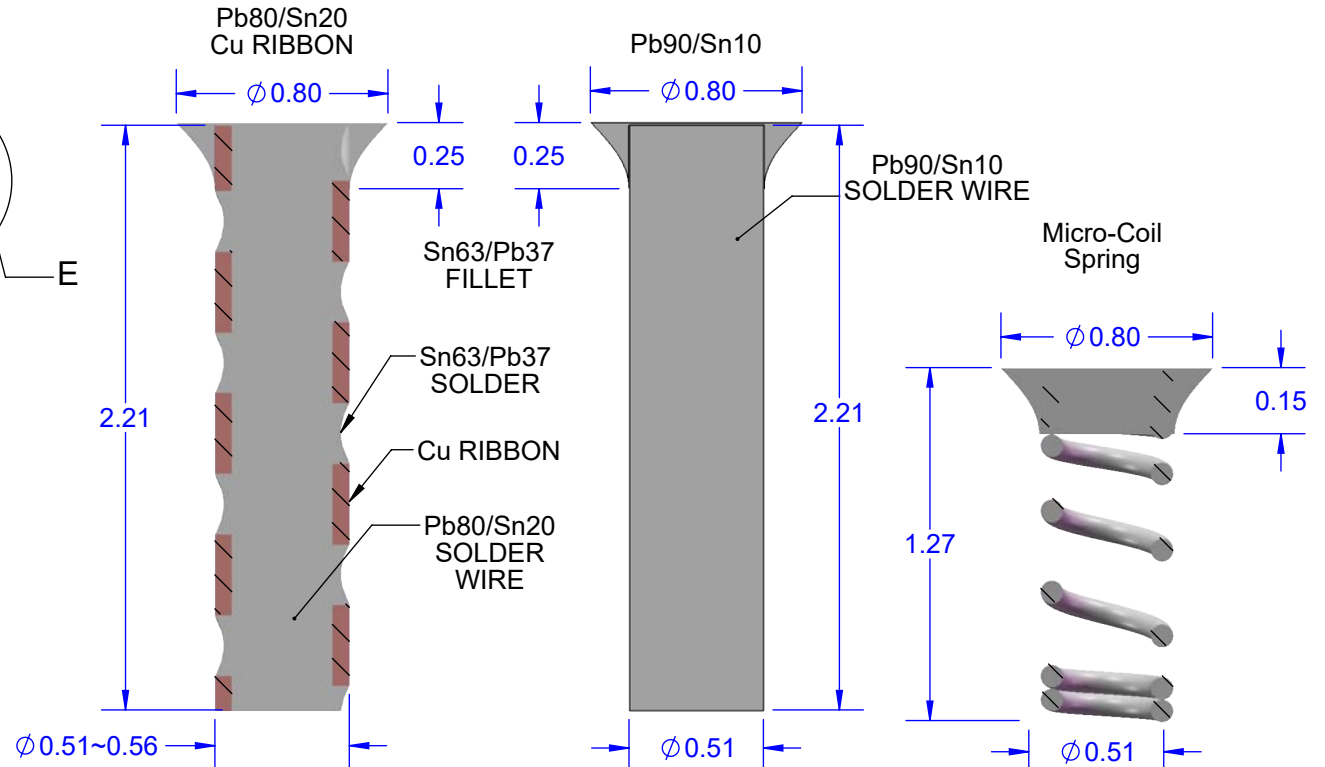
| PAD 1 | PAD 2 | PAD 3 |
|-------|-------|-------|
| AM1 | AP3 | AP4 |
| AM34 | AP31 | AP32 |
| B2 | B3 | C1 |
| A31 | A32 | C34 |

| | | | |
|---|-----------|-----------------------|---------------|
| TopLine[®] | | | |
| TITLE CCGA1144T1.0-DC348CN DAISY CHAIN | | | |
| SCALE NONE | SIZE A | DRAWING NO. 180050 | REV A |
| DO NOT SCALE DRAWING | | | SHEET 8 OF 16 |

SOLDER PIN OPTIONS



DETAIL E
SCALE 6 : 1



PART NUMBER OPTIONS

| PART NUMBER | DUMMY DIE | SOLDER PIN |
|-----------------------|-----------|------------------------|
| CCGA1144T1.0-DC348CN | YES | Pb80/Sn20 Cu RIBBON |
| CCGA1144T1.0A-DC348CN | YES | Pb90/Sn10 |
| CCGA1144T1.0M-DC348CN | YES | Micro-Coil |
| CLGA1144T1.0-DC348CN | YES | NONE |

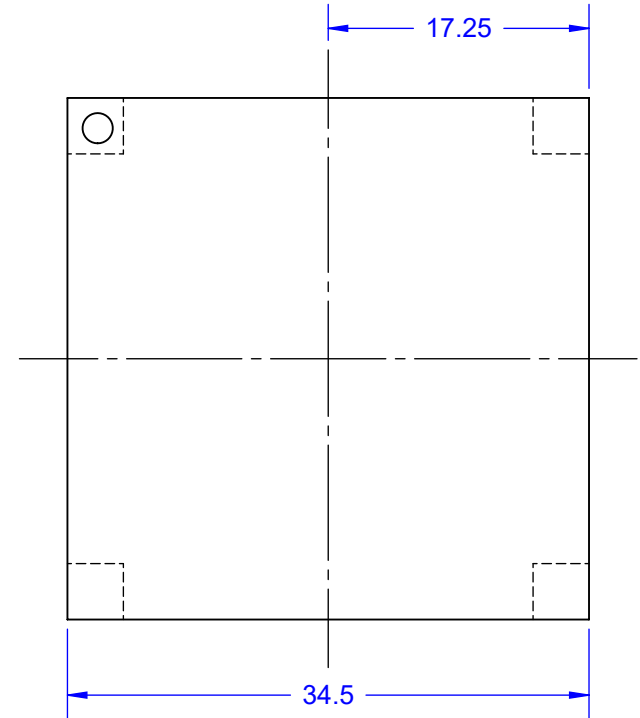
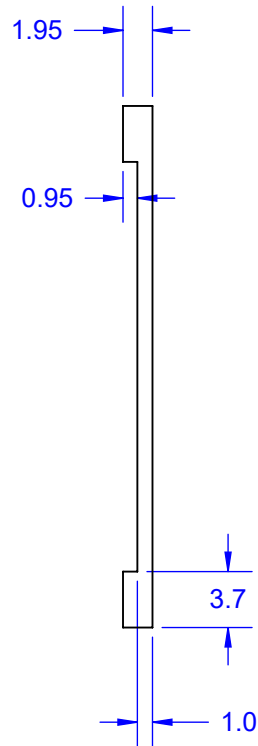
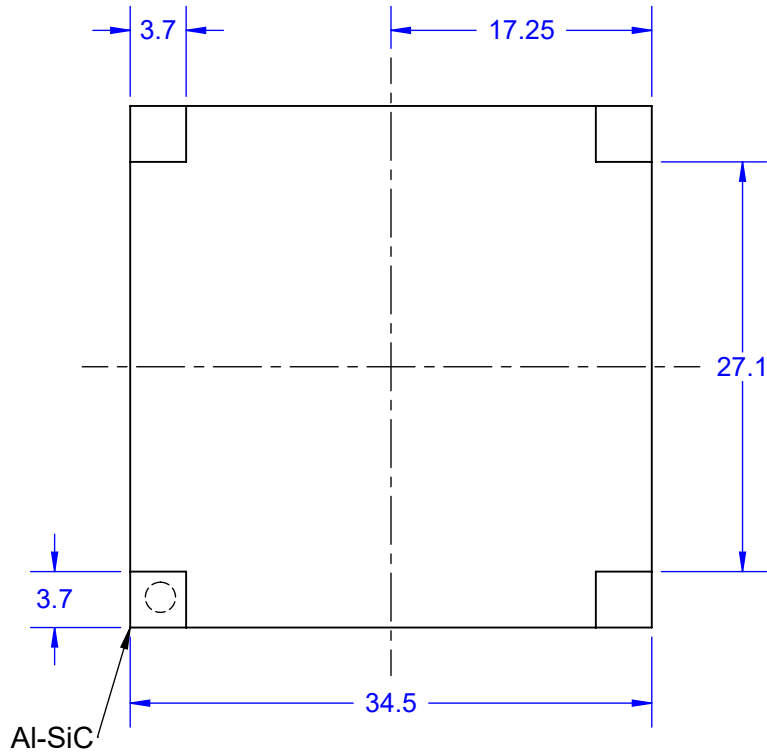


| | | | |
|---|-----------|-----------------------|---------------|
| TITLE CCGA1144T1.0-DC348CN DAISY CHAIN | | | |
| SCALE 2:1 | SIZE A | DRAWING NO. 180050 | REV A |
| DO NOT SCALE DRAWING | | | SHEET 9 OF 16 |

BOTTOM VIEW

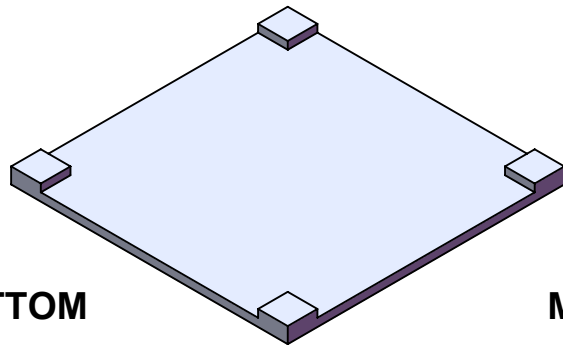
OPTIONAL "CN" STYLE HEAT SPREADER

TOP VIEW

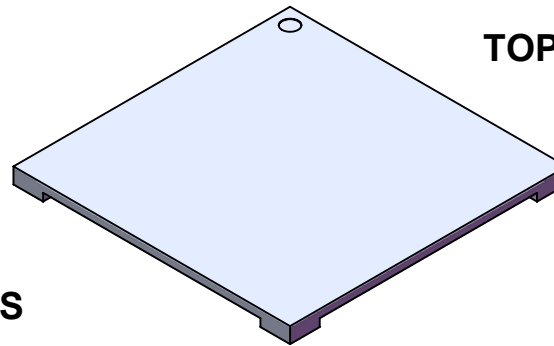


Al-SiC

BOTTOM



MODELS



TOP

- NOTES ABOUT HEAT SINK:
 1. DIMENSIONS: MM.
 2. MATERIAL: Al-SiC HEAT SINK.
 3. NON-HERMETIC.

| | | | |
|---|-----------|-----------------------|----------------|
| TopLine® | | | |
| TITLE CCGA1144T1.0-DC348CN DAISY CHAIN | | | |
| SCALE 2:1 | SIZE A | DRAWING NO. 180050 | REV A |
| DO NOT SCALE DRAWING | | | SHEET 10 OF 16 |