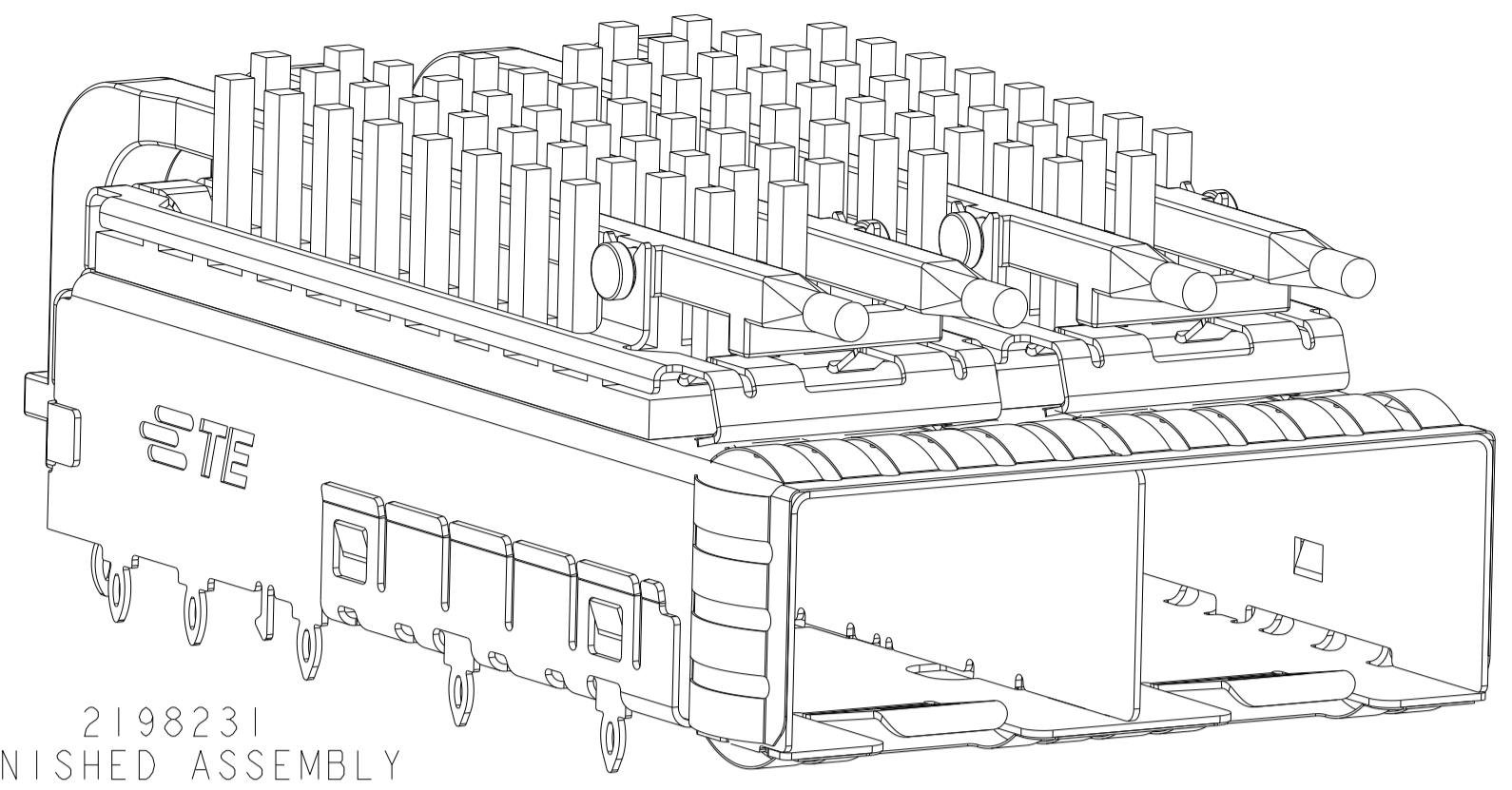


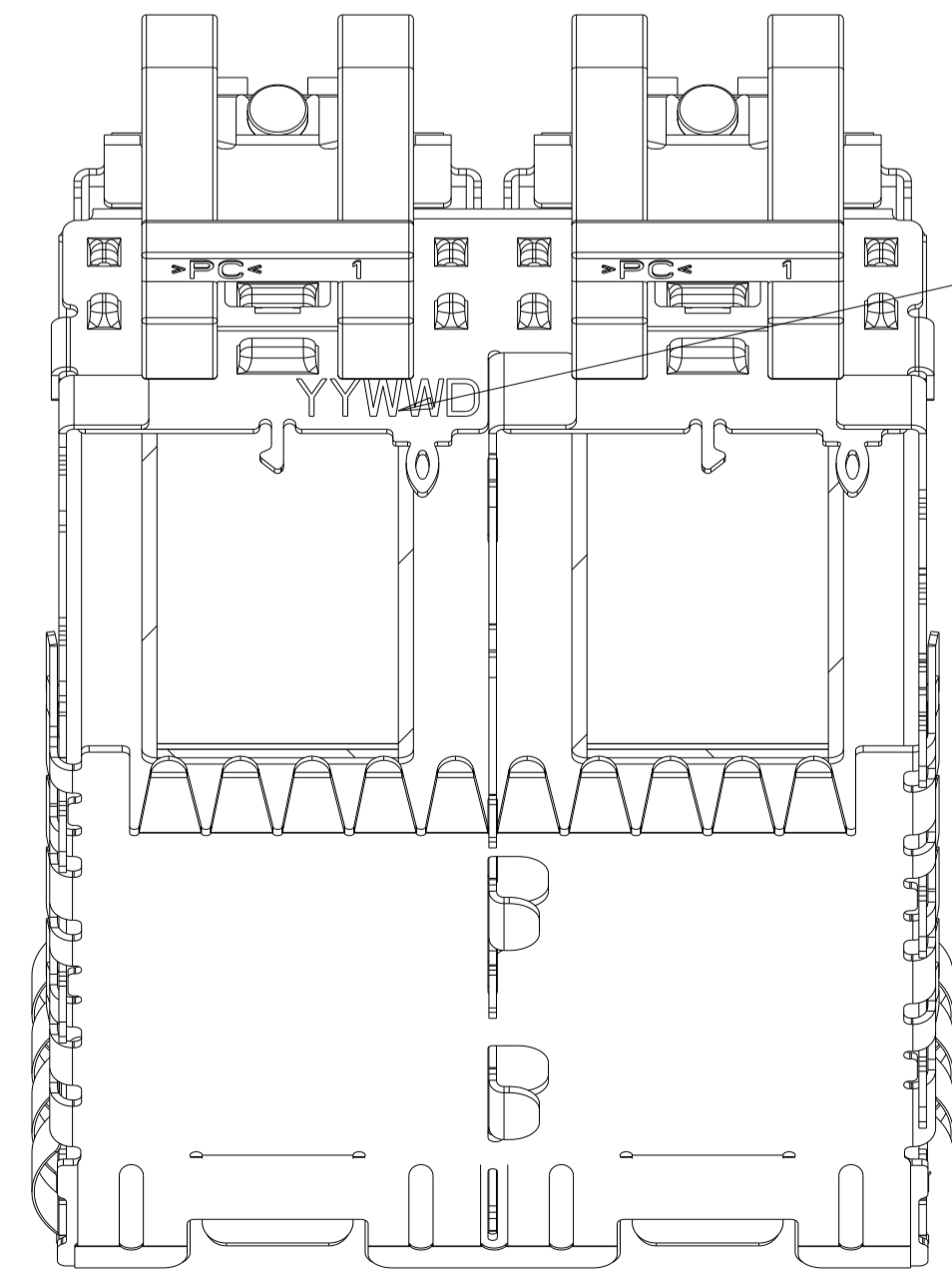
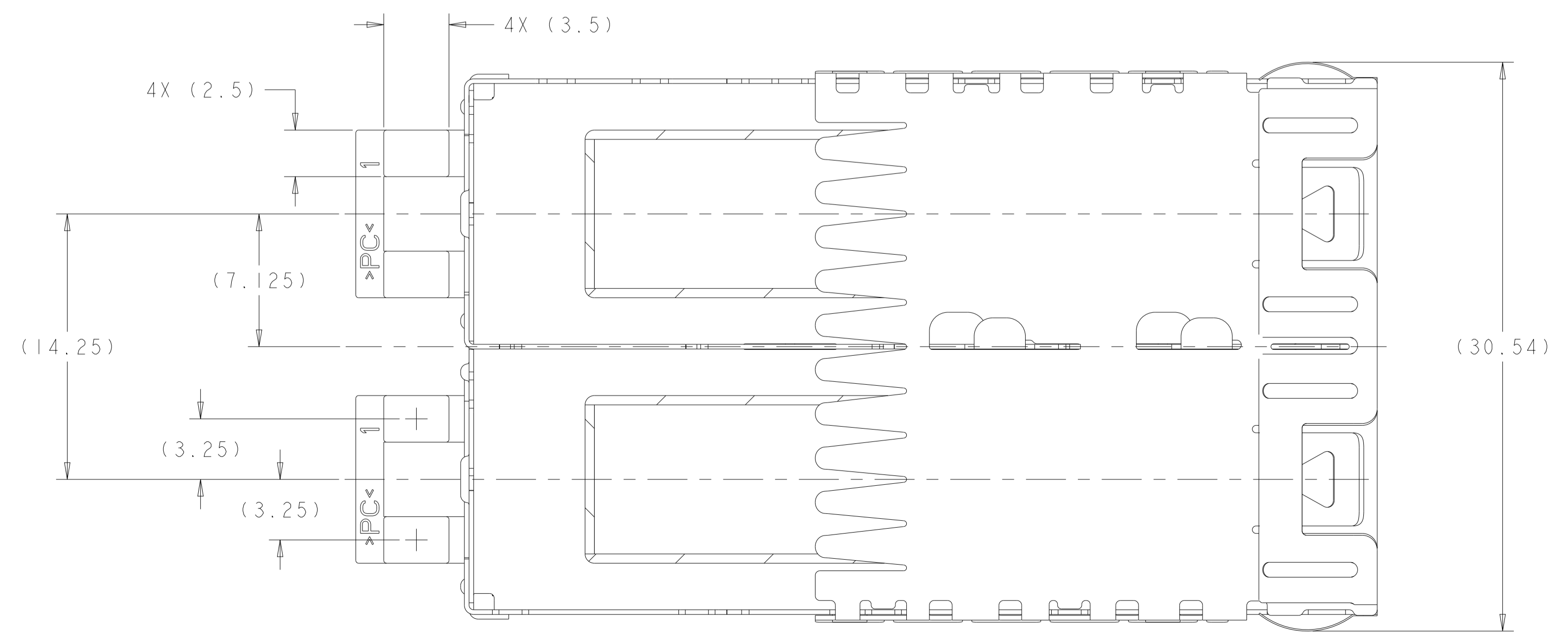
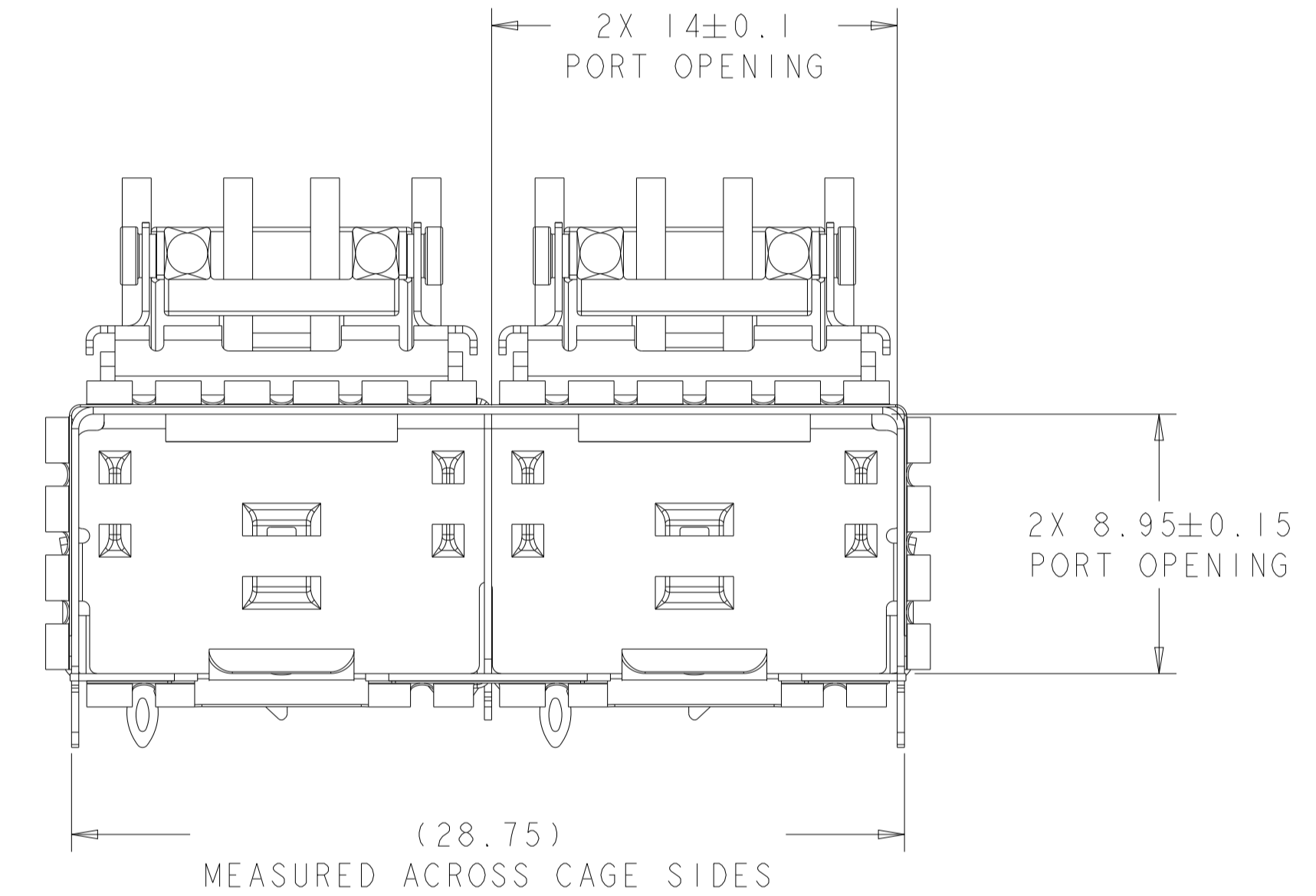
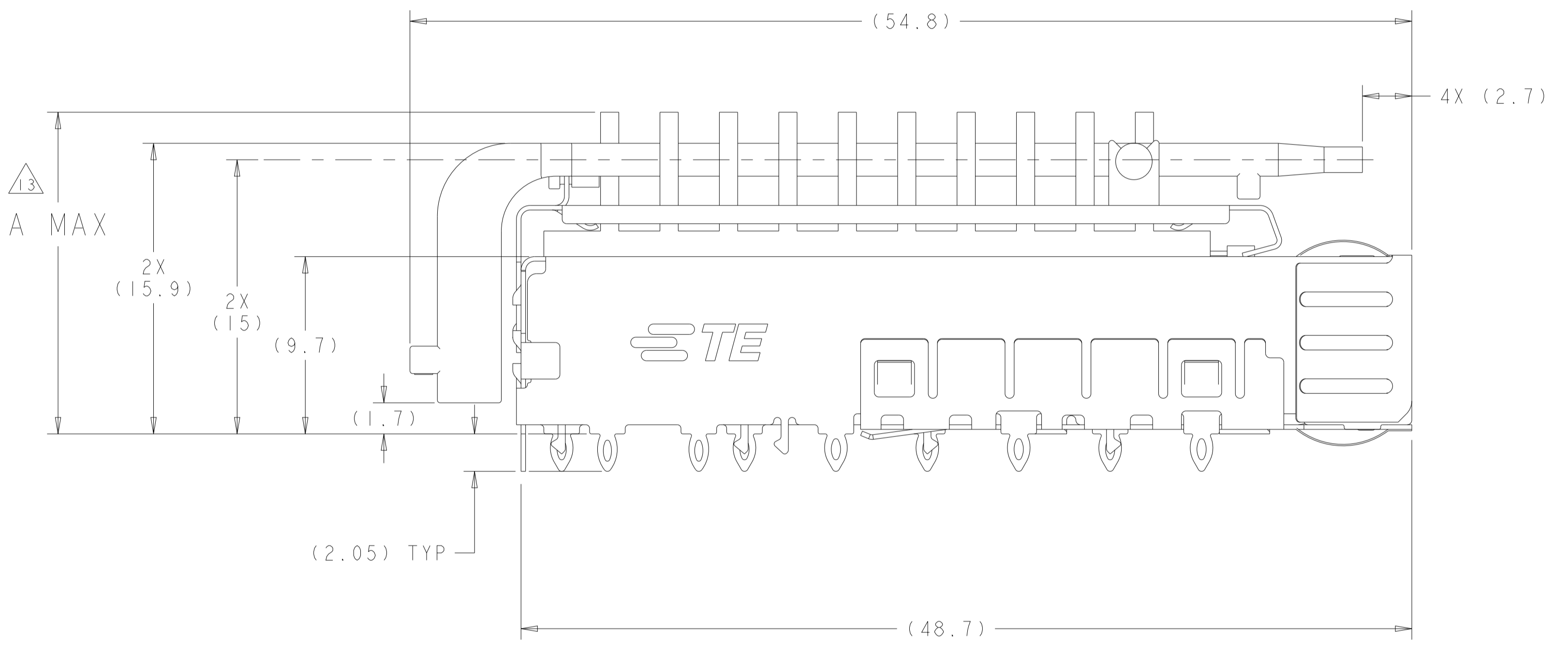
| LOC | DIST | REVISIONS | | | | | |
|-----|------|-----------|-----|----------------------------|------------|-----|------|
| GP | 00 | P | LTN | DESCRIPTION | DATE | DWN | APVD |
| | | A | | RELEASED PER ECO-12-013192 | 18OCT2012 | BMM | MRS |
| | | A1 | | RELEASED PER ECO-14-008488 | 06JUNE2014 | PP | SH |
| | | A2 | | REVISED PER ECN-24-262794 | 25APR2024 | KH | SZ |



2198231
 FINISHED ASSEMBLY
 SCALE 4:1

- 1 MATERIAL:
 CAGE ASSEMBLY: 0.25mm THICK NICKEL SILVER ALLOY
 EMI SPRINGS: COPPER ALLOY
 HEAT SINK: ALUMINUM
 HEAT SINK/LIGHTPIPE CLIP: STAINLESS STEEL.
 LIGHTPIPE: POLYCARBONATE, CLEAR
- 2 FINISH:
 SPRINGS: MINIMUM OF 0.8um TIN PLATE OVER MINIMUM OF 0.8um NICKEL UNDERPLATE. NON-PLATED EDGES PERMISSIBLE.
 HEAT SINK: ELECTROLESS NICKEL
 HEAT SINK CLIP: PASSIVATE.
- 3 DATUM AND BASIC DIMENSIONS ESTABLISHED BY CUSTOMER.
- 4 PADS AND VIAS CHASSIS GROUND.
- 5 MATES WITH SFP MSA COMPLIANT RECEIVERS.
- 6 INTERPRETATION OF DATUM REFERENCE FRAME IN ACCORDANCE WITH SECT 4.4.1.1 OR ASME Y14.5M-1994.
- 7 MINIMUM PC BOARD THICKNESS:
 SINGLE SIDED: 1.5mm
 DOUBLE SIDED: 2.25mm
- 8 HOLE PATTERN REPEATS FOR EACH PORT, SPACING BETWEEN PORTS IS 14.25mm.
- 9 REFERENCE APPLICATION SPEC. 114-13120, HOLE A, FOR RECOMMENDED DRILL HOLE DIAMETER AND PLATING THICKNESS.

- 10 REFERENCE APPLICATION SPEC. 114-13120, HOLE B, FOR RECOMMENDED DRILL HOLE DIAMETER AND PLATING THICKNESS.
- 11 CERTAIN MATING TRANCEIVERS MAY REQUIRE ADDITIONAL PCB THICKNESS THAT WOULD NEED TO BE DETERMINED BY THE CUSTOMER.
- 12 PRODUCT COMPLIES WITH SPECIFICATION SFF-8433 IMPROVED PLUGGABLE FORM FACTOR FOR SFP+ GANGED CAGES.
- 13 DIMENSION APPLIES PRIOR TO INSERTION OF SFP MODULE.
- 14 HEATSINK, HEATSINK CLIP, AND LIGHTPIPE SHIPPED UNASSEMBLED TO CAGE ASSEMBLY. CAGE ASSEMBLY TO BE PRESSED INTO PCB PRIOR TO ATTACHING HEATSINK, HEATSINK CLIP, AND LIGHTPIPE TO THE CAGE ASSEMBLY.
- 15 PACKAGED AS A COMPLETE ASSEMBLY.



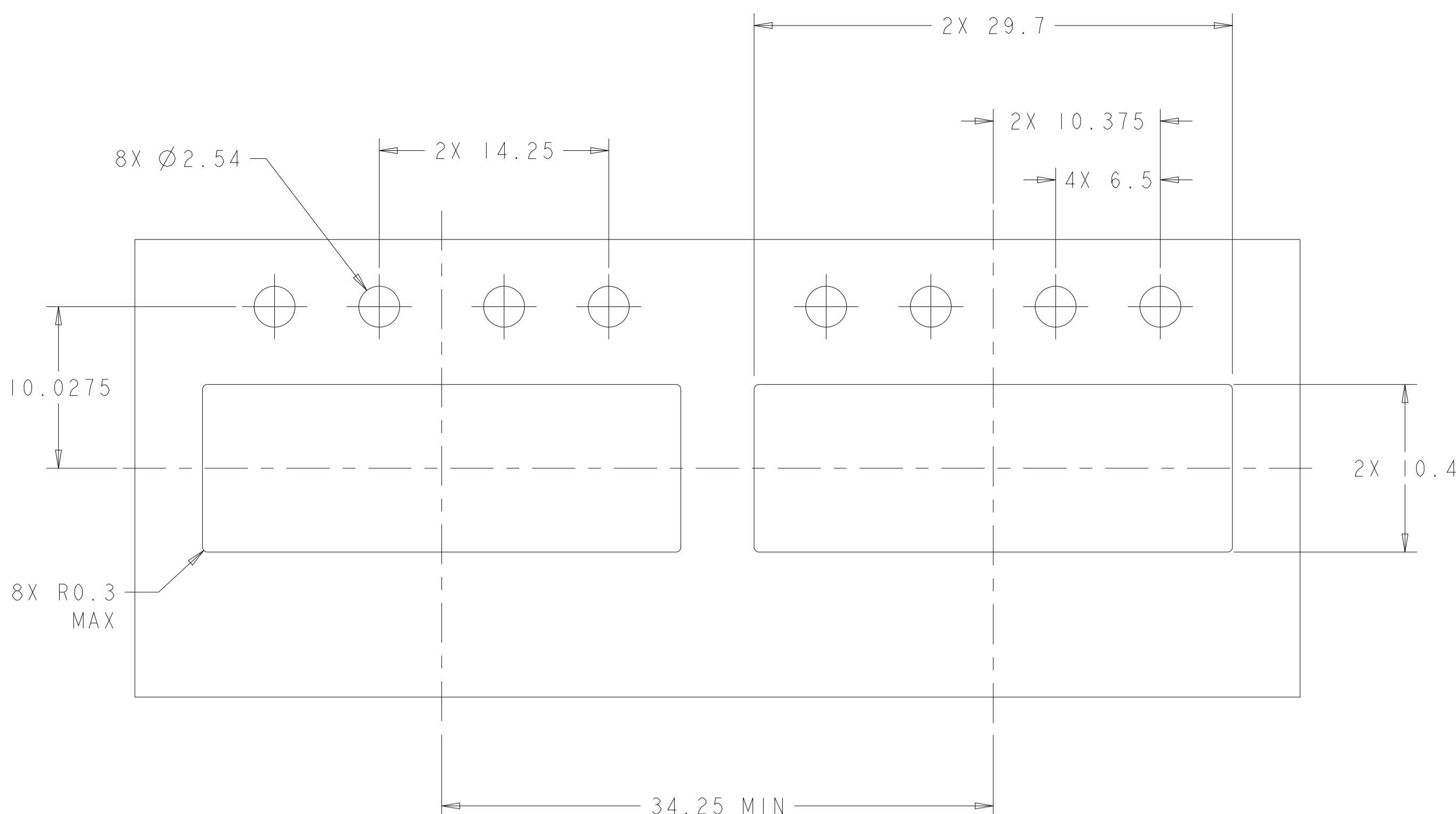
SCALE 4:1

| | | |
|-------|-------------------|-------------|
| 22.5 | NETWORKING, TALL | 2198231-4 |
| 18.1 | NETWORKING, SHORT | 2198231-3 |
| 15.5 | SAN | 2198231-2 |
| 13.2 | PCI | 2198231-1 |
| A MAX | DESCRIPTION | PART NUMBER |

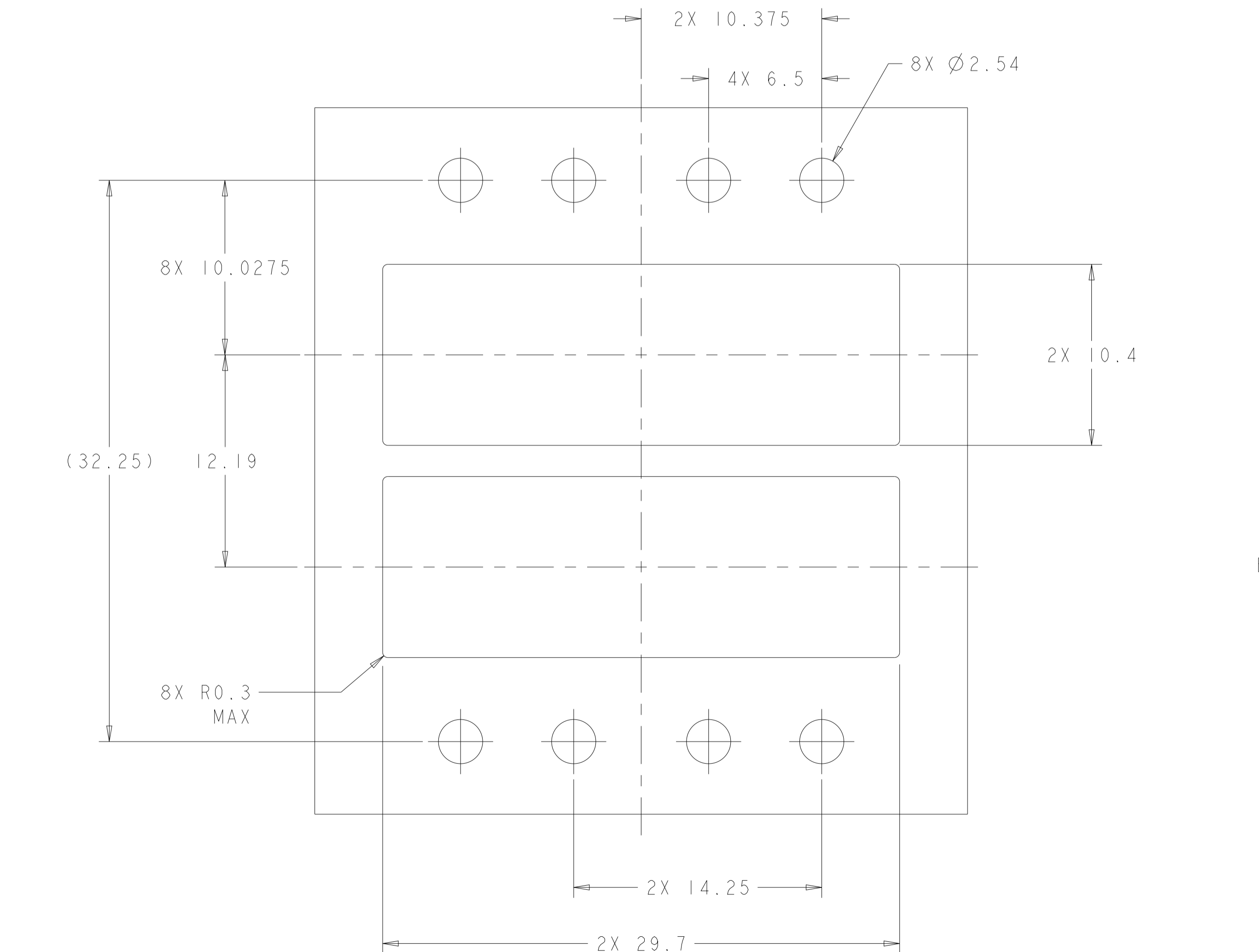
THIS DRAWING IS A CONTROLLED DOCUMENT.

| | | | | | |
|-------------|--|------------------------------|-----------------------------|------------------------------|--|
| DIMENSIONS: | TOLERANCES UNLESS OTHERWISE SPECIFIED: | OWN: B. MATTHEWS (15NOV2011) | CHK: M. SCHMITT (15NOV2011) | APVD: M. SCHMITT (15NOV2011) | NAME: SFP+ ENHANCED 1X2 CAGE ASSEMBLY, PRESS-FIT, EXTERNAL EMI SPRINGS WITH HEATSINK AND LIGHTPIPE |
| mm | 0 PLC ±0.13 1 PLC ±0.1 2 PLC ±0.08 3 PLC ±0.05 4 PLC ±0.05 | PRODUCT SPEC: 108-2364 | APPLICATION SPEC: 114-13120 | SIZE: A1 | RESTRICTED TO: - |
| MATERIAL: | FINISH: | WEIGHT: | CAGE CODE: 100779 | DRAWING NO: C=2198231 | SCALE: 6:1 |
| | | Customer Drawing | SHEET 1 OF 4 | REV A2 | |

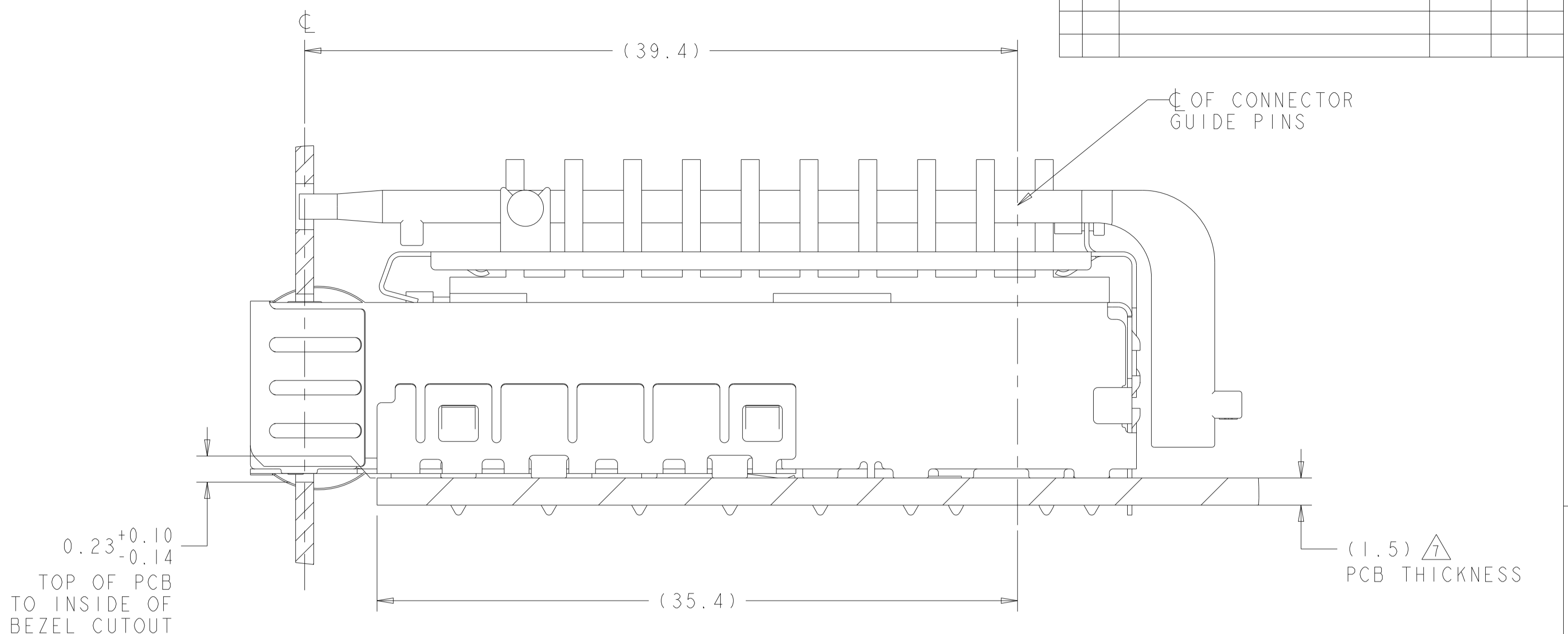
| LOC | | DIST | | REVISIONS | | | |
|-----|----|------|-----|-------------|------|-----|------|
| GP | 00 | P | LTN | DESCRIPTION | DATE | DMN | APVD |
| - | - | - | - | SEE SHEET 1 | - | - | - |



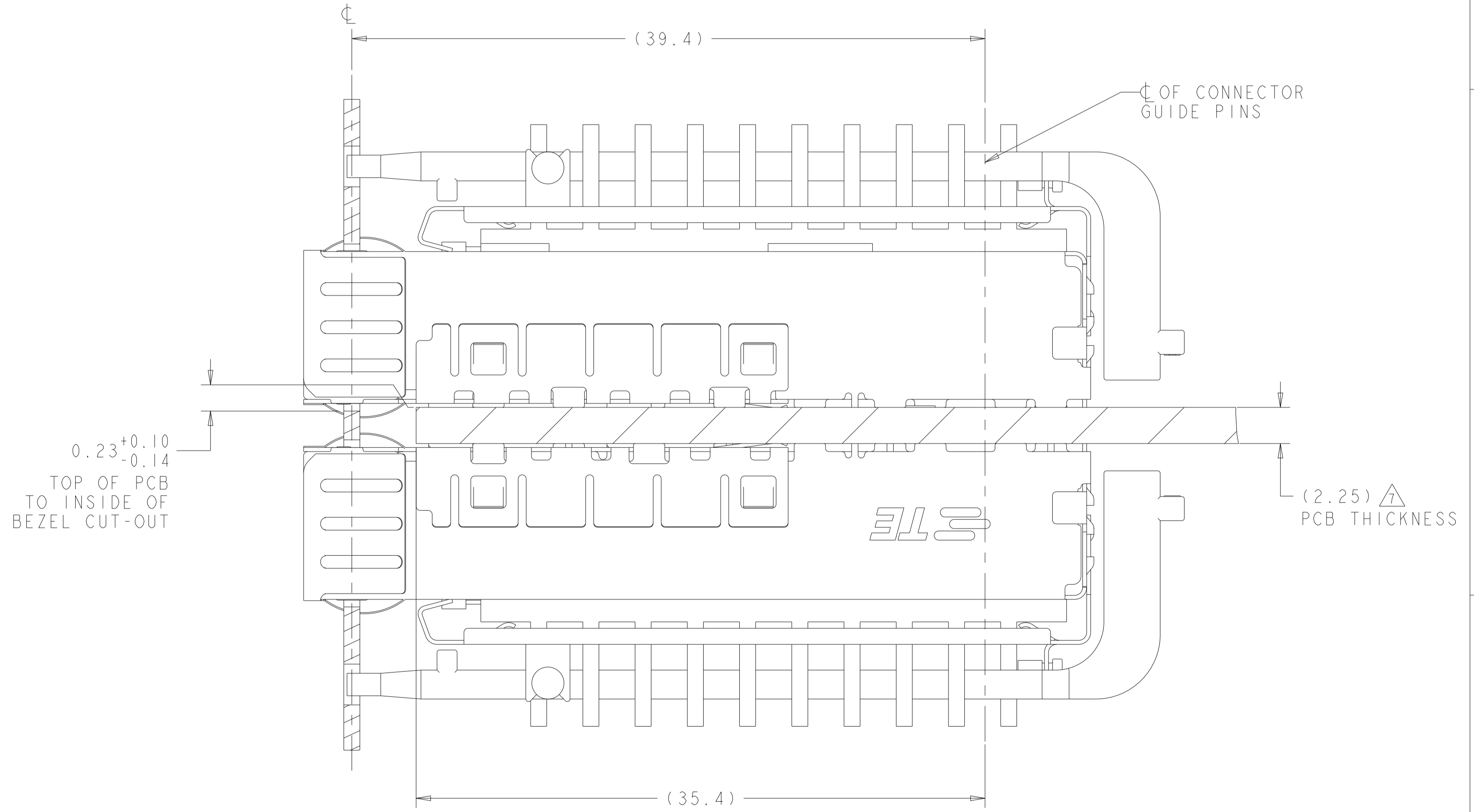
RECOMMENDED BEZEL CUT-OUT
 SINGLE SIDED APPLICATIONS
 SCALE 4:1



RECOMMENDED BEZEL CUT-OUT
 BELLY TO BELLY APPLICATIONS



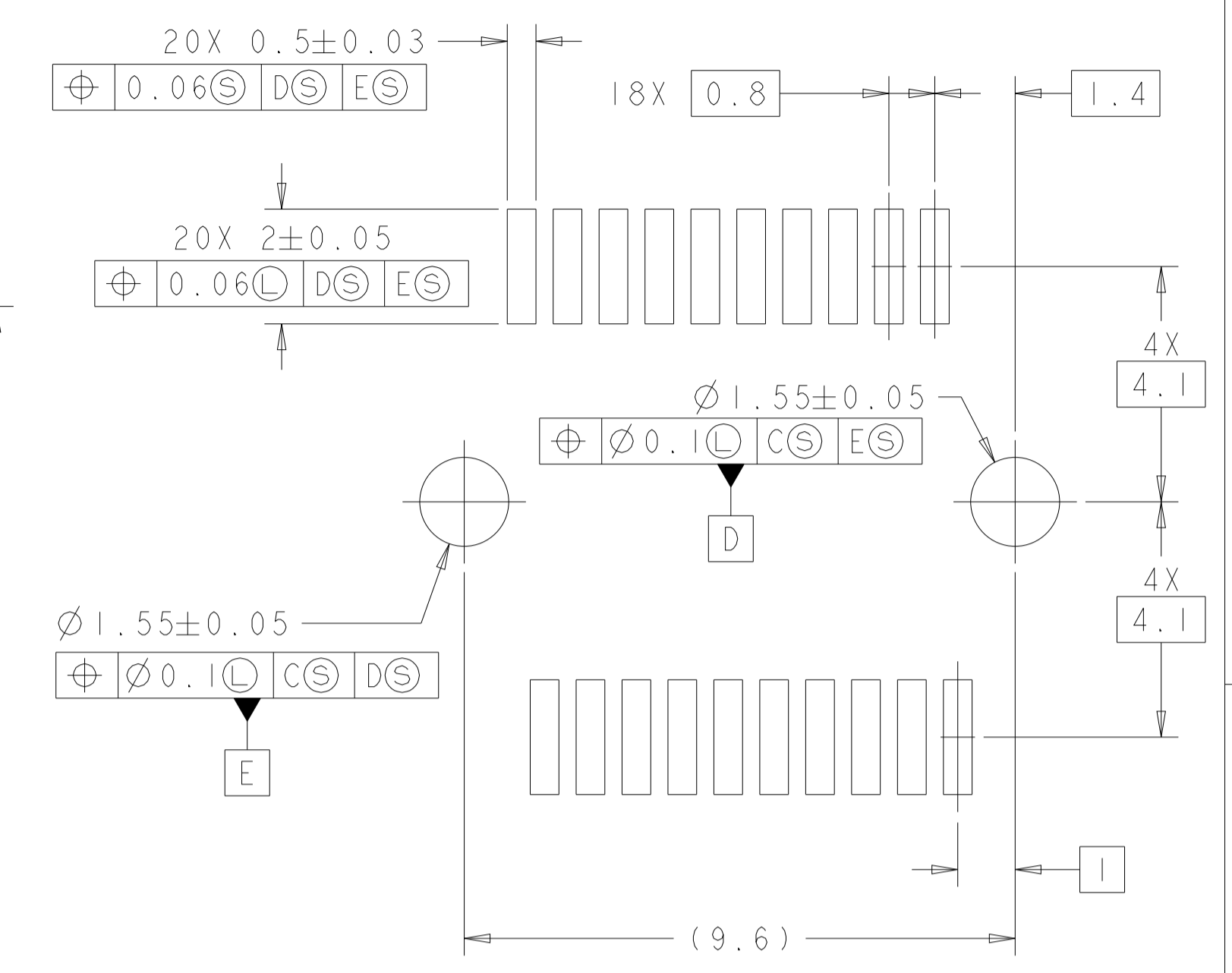
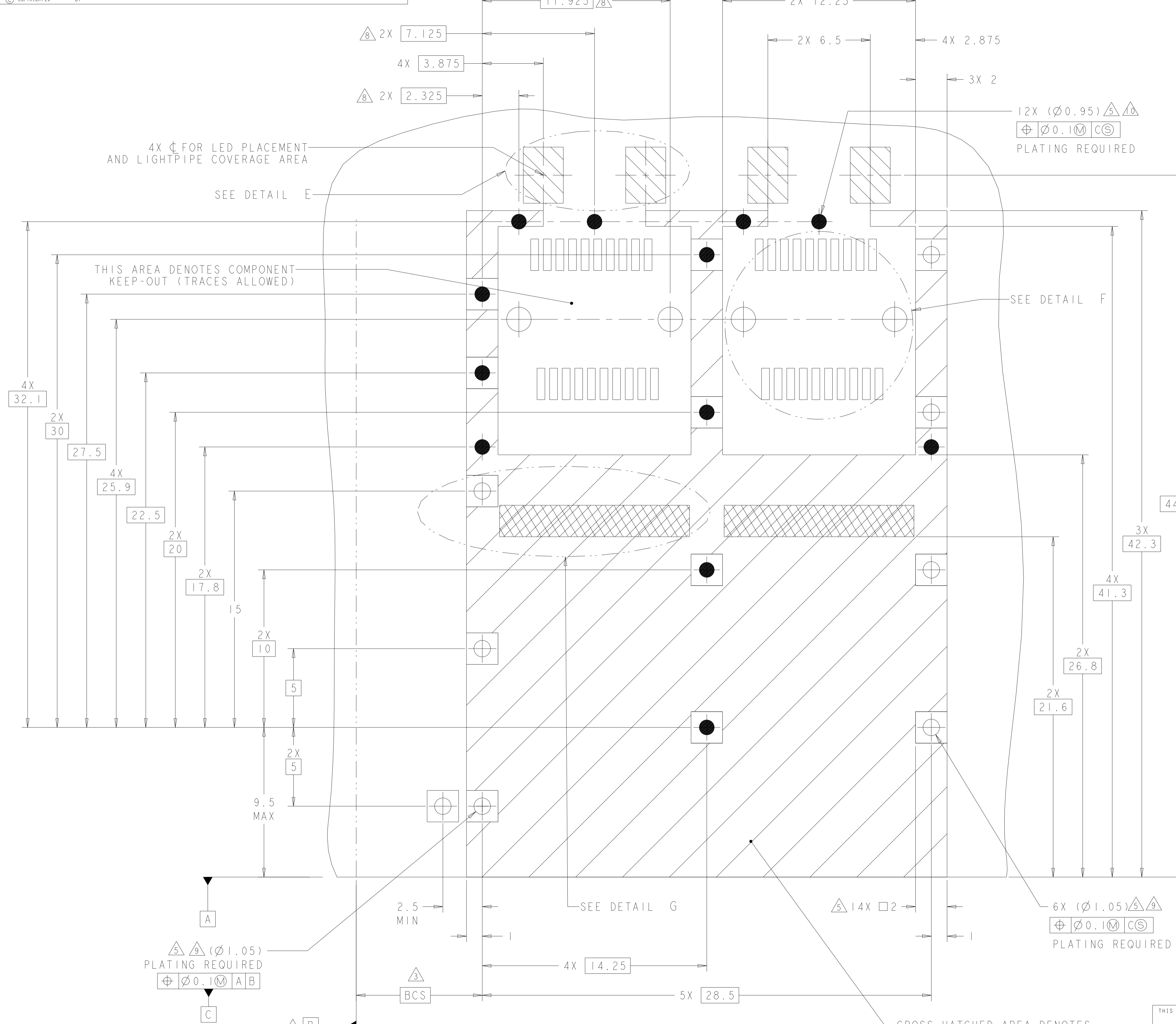
2198231
 MOUNTED ON PC BOARD
 SHOWN THRU RECOMMENDED BEZEL



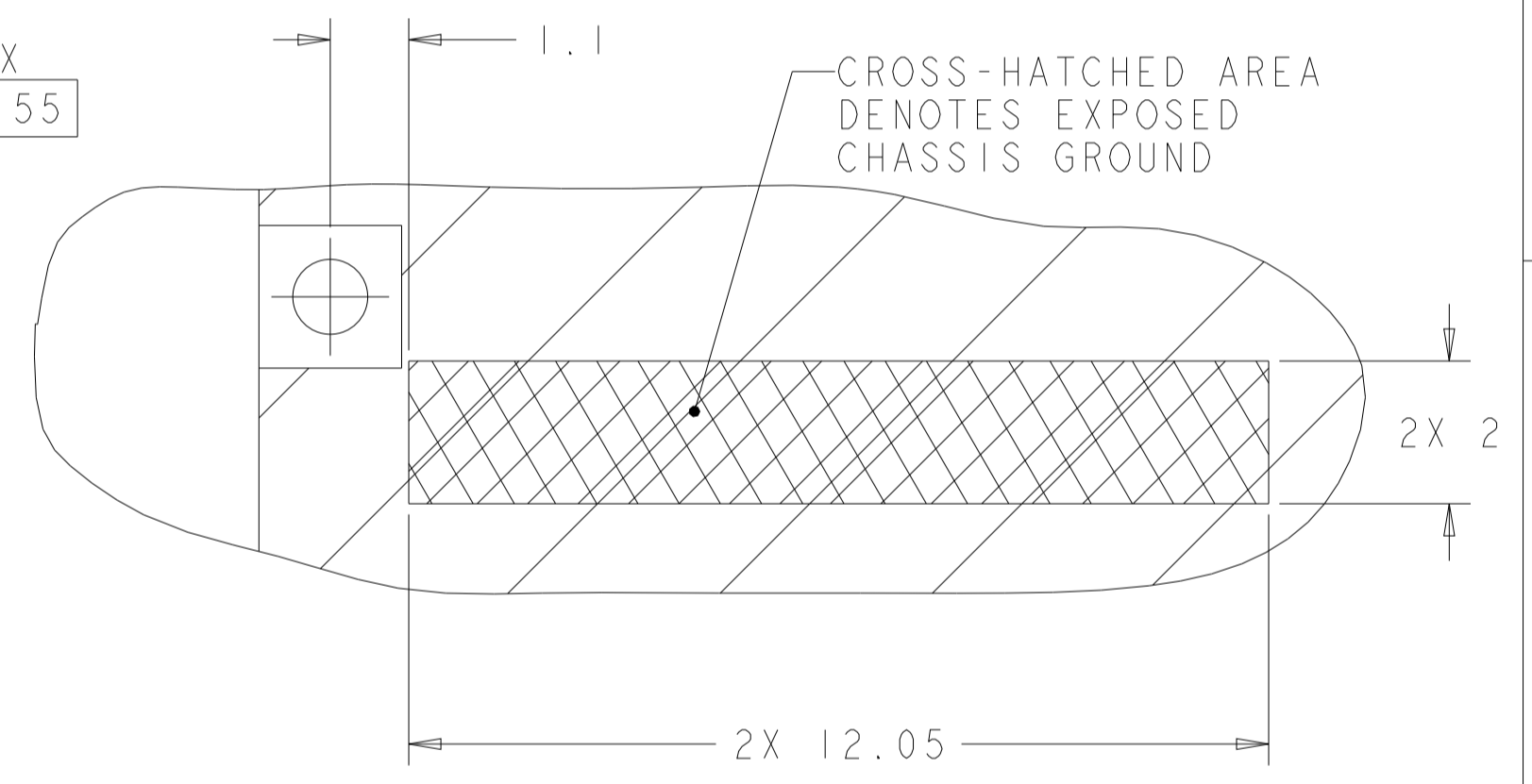
2198231
 MOUNTED BELLY TO BELLY ON PC BOARD
 SHOWN THRU RECOMMENDED BEZEL

| | | | |
|---|--|--|---|
| THIS DRAWING IS A CONTROLLED DOCUMENT. | | DMN: B. MATTHEWS 15NOV2011 | TE Connectivity |
| DIMENSIONS: mm | | CHK: M. SCHMITT 15NOV2011 | |
| TOLERANCES UNLESS OTHERWISE SPECIFIED: | | APVD: M. SCHMITT 15NOV2011 | NAME: SFP+ ENHANCED 1X2 CAGE ASSEMBLY, PRESS-FIT, EXTERNAL EMI SPRINGS WITH HEATSINK AND LIGHTPIPE PRODUCT SPEC: 108-2364 APPLICATION SPEC: 114-13120 |
| 0 PLC ±0.13 1 PLC ±0.1 2 PLC ±0.08 3 PLC ±0.05 4 PLC ±0.05 ANGLES ±1 | | SIZE: A1 CAGE CODE: 100779 DRAWING NO: 2198231 | |
| MATERIAL: | | WEIGHT: | RESTRICTED TO: |
| Customer Drawing | | SCALE: 5:1 | SHEET 2 OF 4 REV A2 |

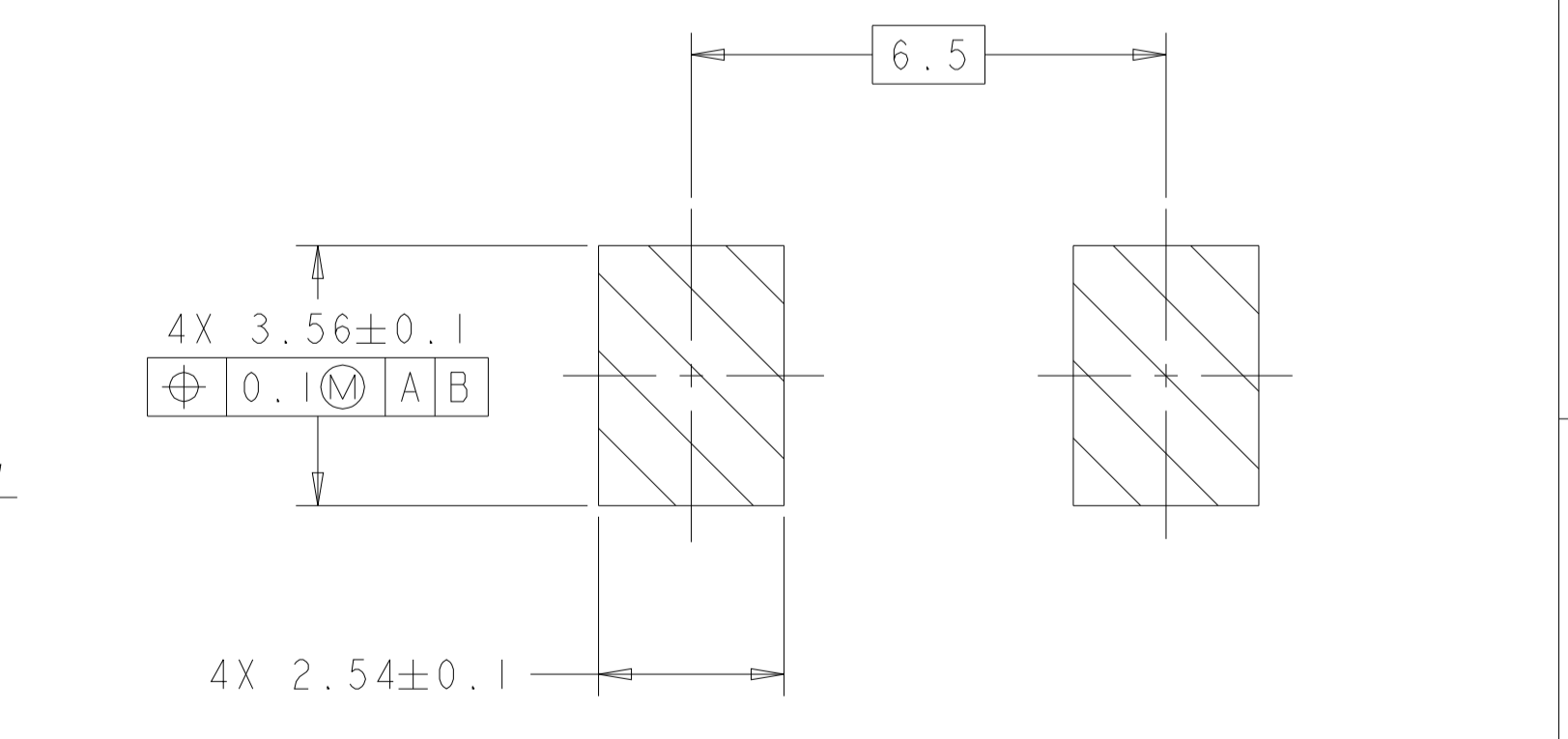
| LOC | DIST | REVISIONS | | | |
|-----|------|-------------|------|----|------|
| GP | 00 | REV | DATE | BY | APVD |
| - | - | SEE SHEET 1 | - | - | - |



DETAIL F
SCALE 10:1



DETAIL G
SCALE 10:1



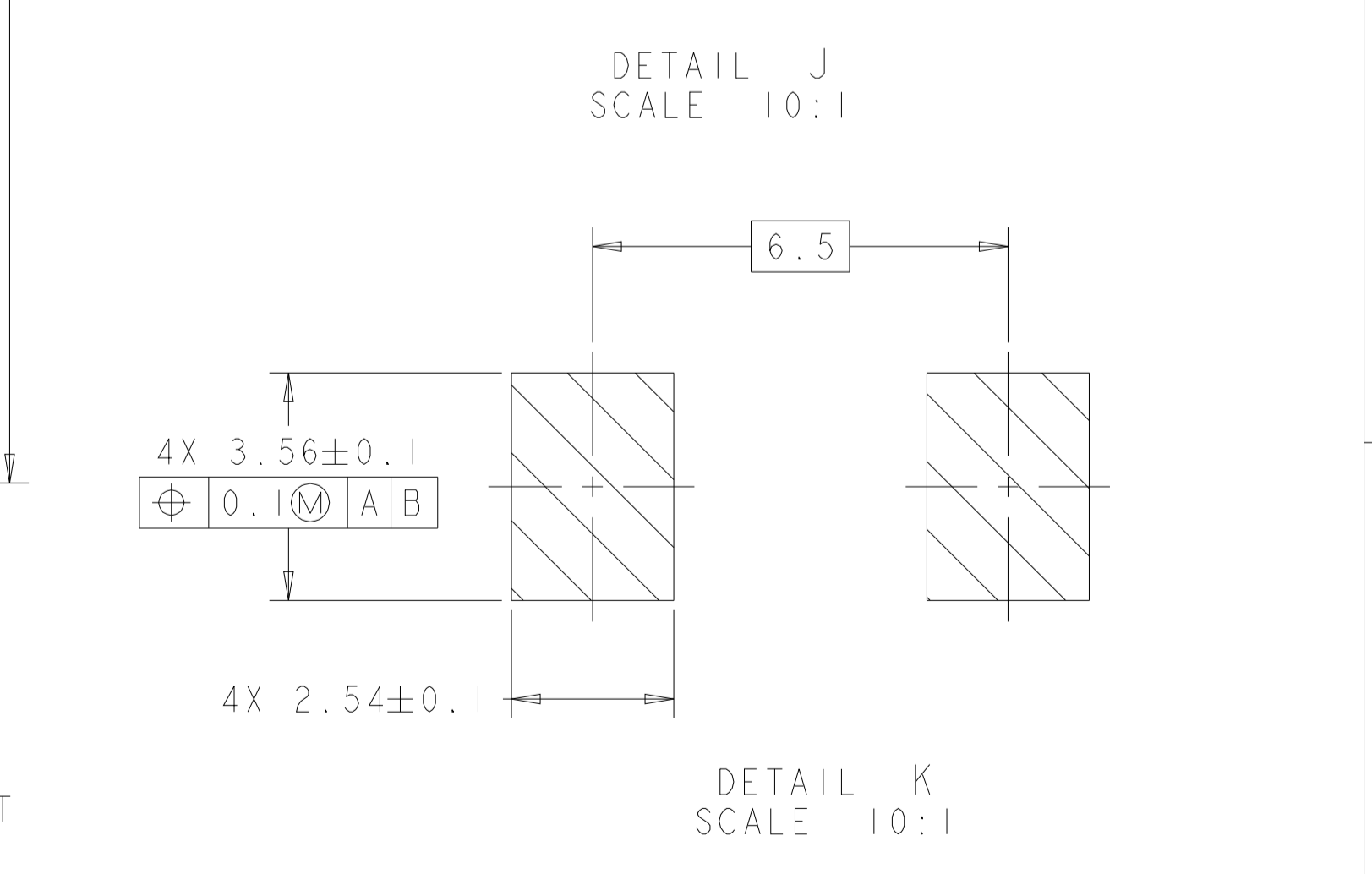
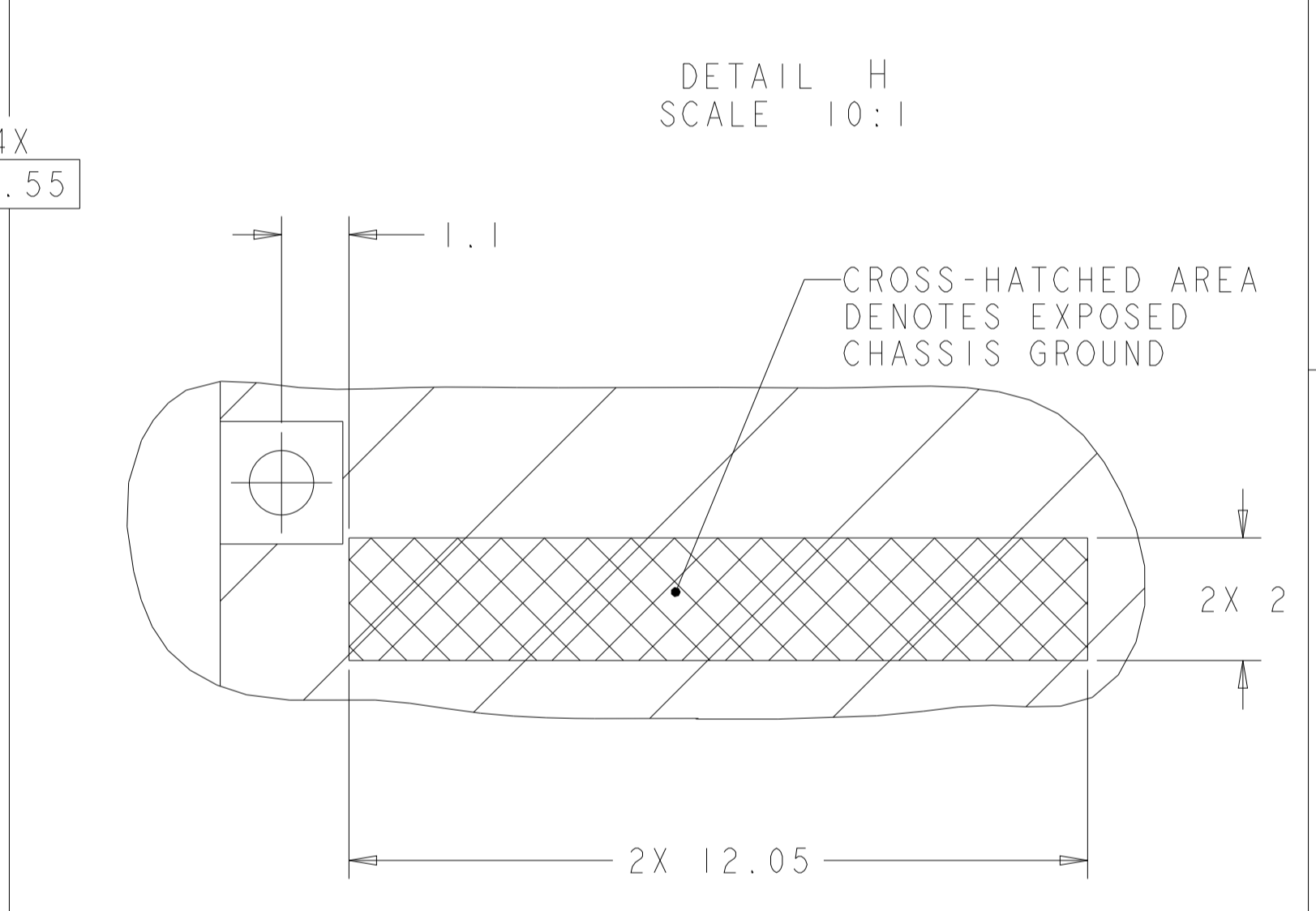
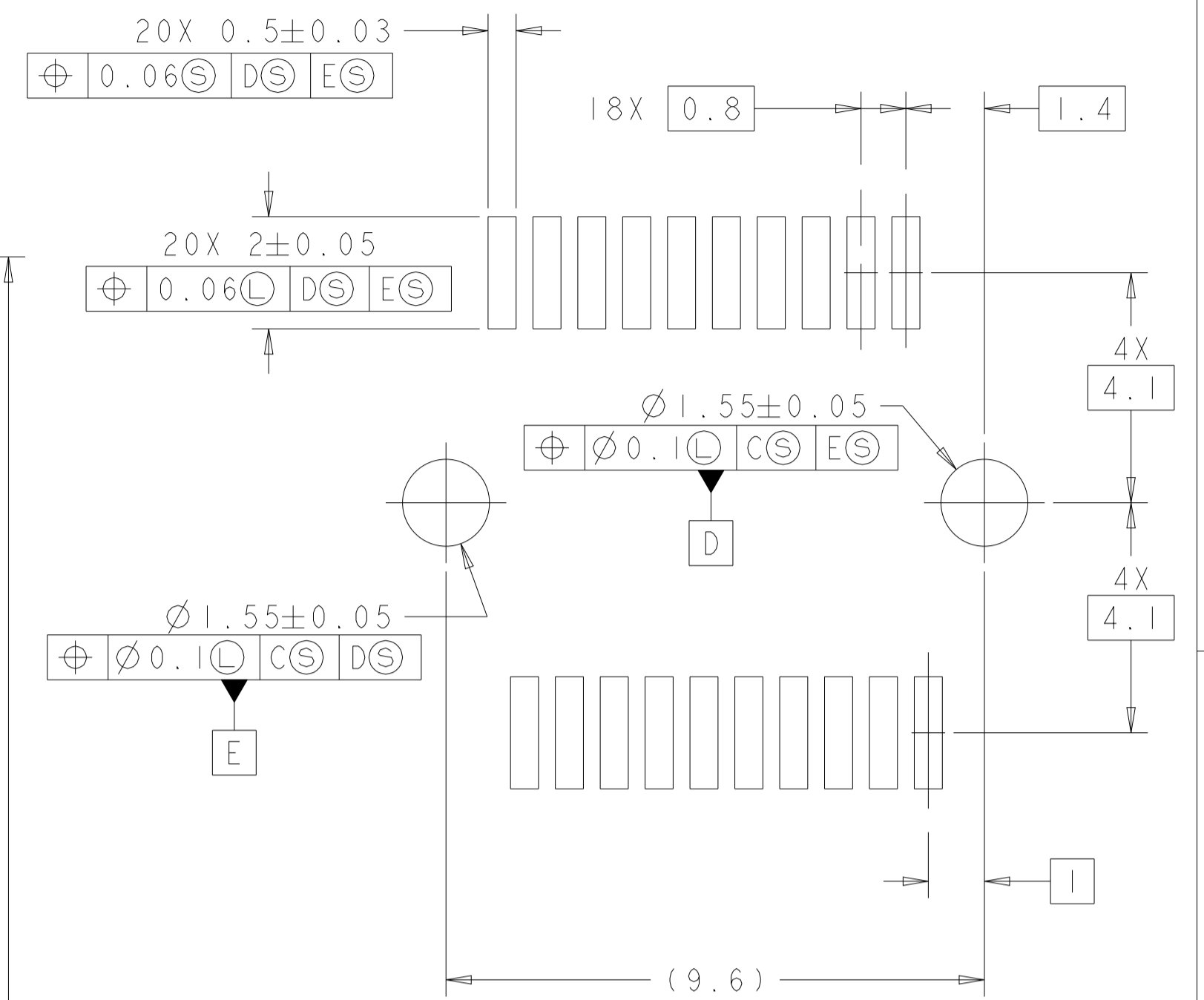
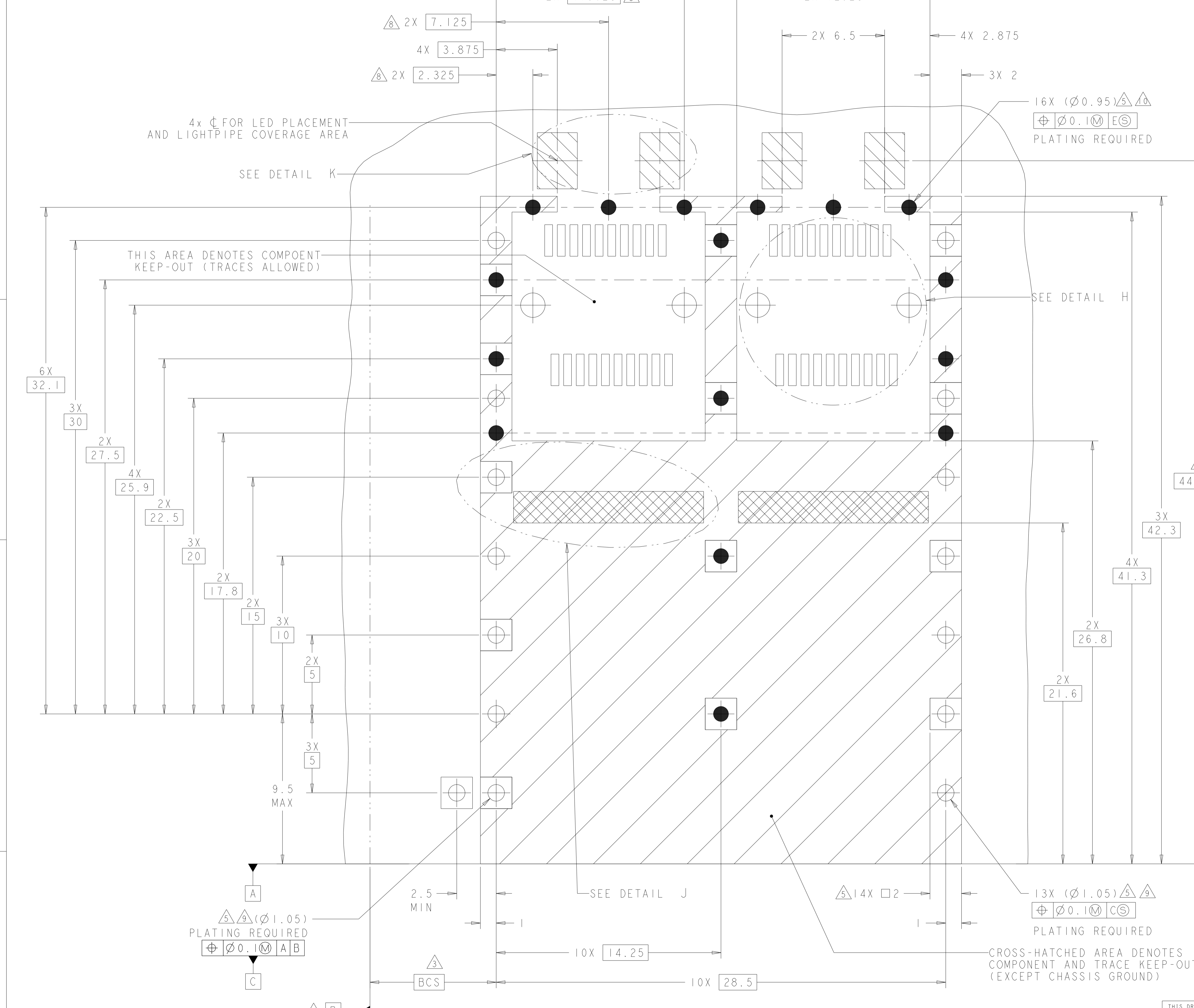
DETAIL E
SCALE 10:1

RECOMMENDED PCB CONFIGURATION
 WITH KEEP-OUT AREAS
 SINGLE SIDED APPLICATIONS
 SCALE 8:1

CROSS-HATCHED AREA DENOTES
 COMPONENT AND TRACE KEEP-OUT
 (EXCEPT CHASSIS GROUND)

| | | | | | |
|--|-------------|----------------------------|--|---|--|
| THIS DRAWING IS A CONTROLLED DOCUMENT. | | DWN B. MATTHEWS 15NOV2011 | | TE Connectivity | |
| DIMENSIONS: mm | | CHK M. SCHMITT 15NOV2011 | | NAME SFP+ ENHANCED 1X2 CAGE ASSEMBLY, PRESS-FIT, EXTERNAL EMI SPRINGS WITH HEATSINK AND LIGHTPIPE | |
| TOLERANCES UNLESS OTHERWISE SPECIFIED: | | APVD M. SCHMITT 15NOV2011 | | SIZE CAGE CODE DRAWING NO RESTRICTED TO | |
| 0 PLC ±0.13 | 1 PLC ±0.1 | PRODUCT SPEC 108-2364 | | A100779C=2198231 | |
| 2 PLC ±0.08 | 3 PLC ±0.05 | APPLICATION SPEC 114-13120 | | SCALE 5:1 SHEET 3 OF 4 REV A2 | |
| 4 PLC ±0.05 | ANGLES ±1 | MATERIAL FINISH | | Customer Drawing | |
| | | WEIGHT | | | |

| LOC | | DIST | | REVISIONS | | | |
|-----|----|------|-----|-------------|------|-----|------|
| GP | 00 | P | LYR | DESCRIPTION | DATE | OWN | APVD |
| | | - | - | SEE SHEET 1 | - | - | - |



4x ϕ FOR LED PLACEMENT AND LIGHTPIPE COVERAGE AREA
 SEE DETAIL K
 THIS AREA DENOTES COMPONENT KEEP-OUT (TRACES ALLOWED)
 SEE DETAIL H
 SEE DETAIL J
 CROSS-HATCHED AREA DENOTES EXPOSED CHASSIS GROUND
 CROSS-HATCHED AREA DENOTES COMPONENT AND TRACE KEEP-OUT (EXCEPT CHASSIS GROUND)
 PLATING REQUIRED
 PLATING REQUIRED
 PLATING REQUIRED
 PLATING REQUIRED
 RECOMMENDED PCB CONFIGURATION WITH KEEP-OUT AREAS BELLY TO BELLY APPLICATIONS SCALE 8:1

| | | | |
|---|--|--|---|
| THIS DRAWING IS A CONTROLLED DOCUMENT. | | OWN: B. MATTHEWS 15NOV2011 | TE Connectivity |
| DIMENSIONS: mm | | CHK: M. SCHMITT 15NOV2011 | |
| TOLERANCES UNLESS OTHERWISE SPECIFIED: | | APVD: M. SCHMITT 15NOV2011 | NAME: SFP+ ENHANCED 1X2 CAGE ASSEMBLY, PRESS-FIT, EXTERNAL EMI SPRINGS WITH HEATSINK AND LIGHTPIPE PRODUCT SPEC: 108-2364 APPLICATION SPEC: 114-13120 |
| 0 PLC ±0.13 1 PLC ±0.1 2 PLC ±0.08 3 PLC ±0.05 4 PLC ±0.05 ANGLES ±1 | | SIZE: 114-13120 WEIGHT: - Customer Drawing | |
| MATERIAL FINISH | | SCALE: 5:1 | RESTRICTED TO: A2 |