Product Application Specification For 0.60mm Pitch Straddle Mount Mini Cool edge Connector

REVISION RECORD

REV	PAGE	DESCRIPTION	ECN#	DATE	Prepare By
A	11	First release	CD1750	2019-07-12	Rocky.Huang

Prepared by :	Date:	Approved by :	Date:
(Product Engineer)		(Engineering Manager)	

TABLE OF CONTENT:

1. OBJECTIVE

This specification provides information and requirements for customer application of the 0.60mm pitch straddle mount Mini Cool edge connector. It is intended to provide general guidance for process development. It should be recognized that no single process will work under all customer applications and the customers should develop processes to meet individual needs. However, if the processes vary from the recommended one, Amphenol cannot guarantee acceptable results.

2. SCOPE

This specification provides information and requirements regarding application of 0.60mm pitch straddle mount mini Cool edge connector to printed circuit boards (PCB). The connectors are designed for mother/daughter board applications and will accept different thickness of daughter card. They are available with multiple contacts.

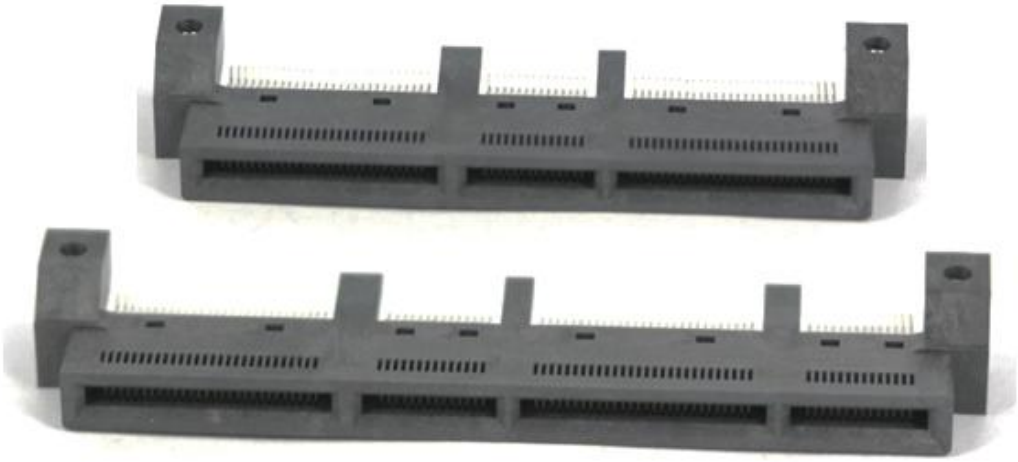


FIGURE 1 Straddle mount connector

3. DRAWING AND APPLICABLE DOCUMENTS

- Amphenol Product Specification S-ME-004
- Application Amphenol Customer Drawings

Amphenol product drawings and specifications are available by accessing the Amphenol website or contacting the Amphenol Technical Service. In the event of a conflict between this specification and the product drawing, the drawing takes precedence. Customers should refer to the latest revision level of Amphenol product drawings for appropriate product details.

4. PC BOARD REQUIREMENTS

4.1 MATERIAL AND THICKNESS

The pc board material shall depend on the Signal Integrity performance requirement.

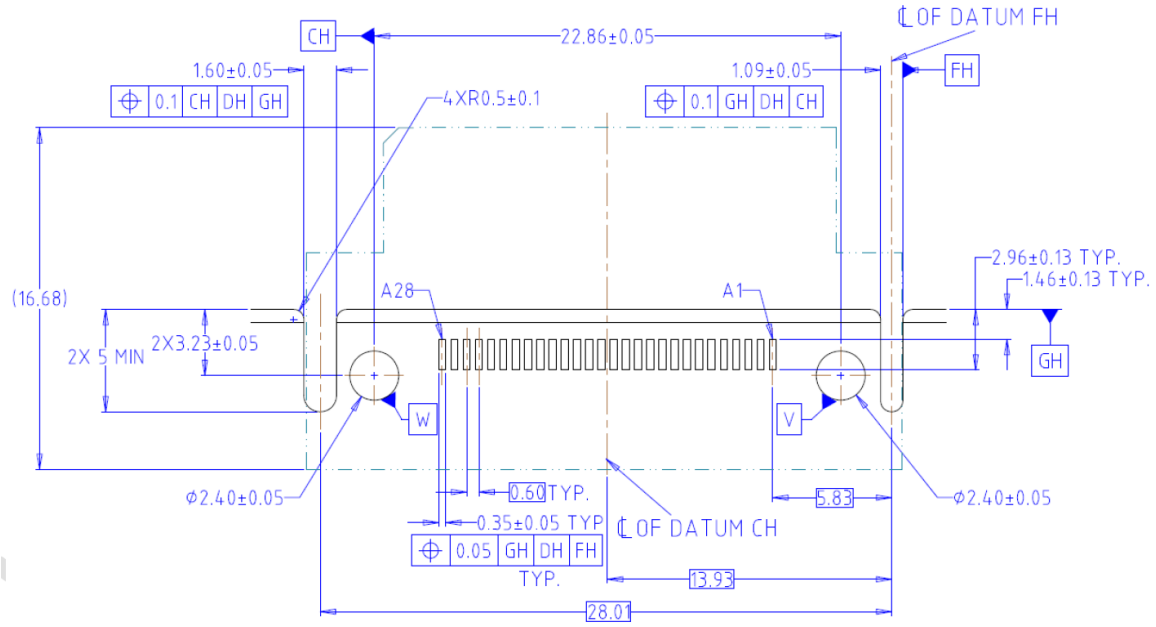
4.2 TOLERANCE

Maximum allowable bow of the pc board shall be 0.03mm over the length of the connector assembly.

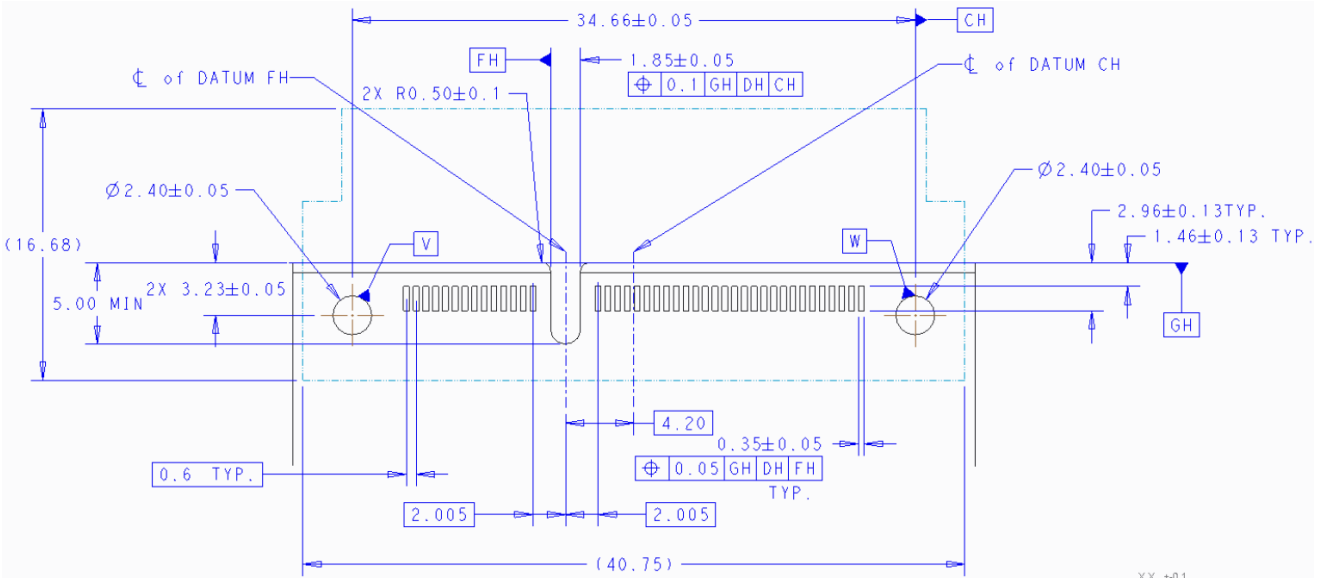
4.3 LAYOUT

The holes for the connector assembly must be precisely located to ensure proper placement and optimum performance of the connector assembly. Recommended general holes, pads, dimensions, and tolerances are provided in Figure 1 to 4. It's a general layout, please refer to appropriate sales drawing for recommended PCB layout and thickness for each parts

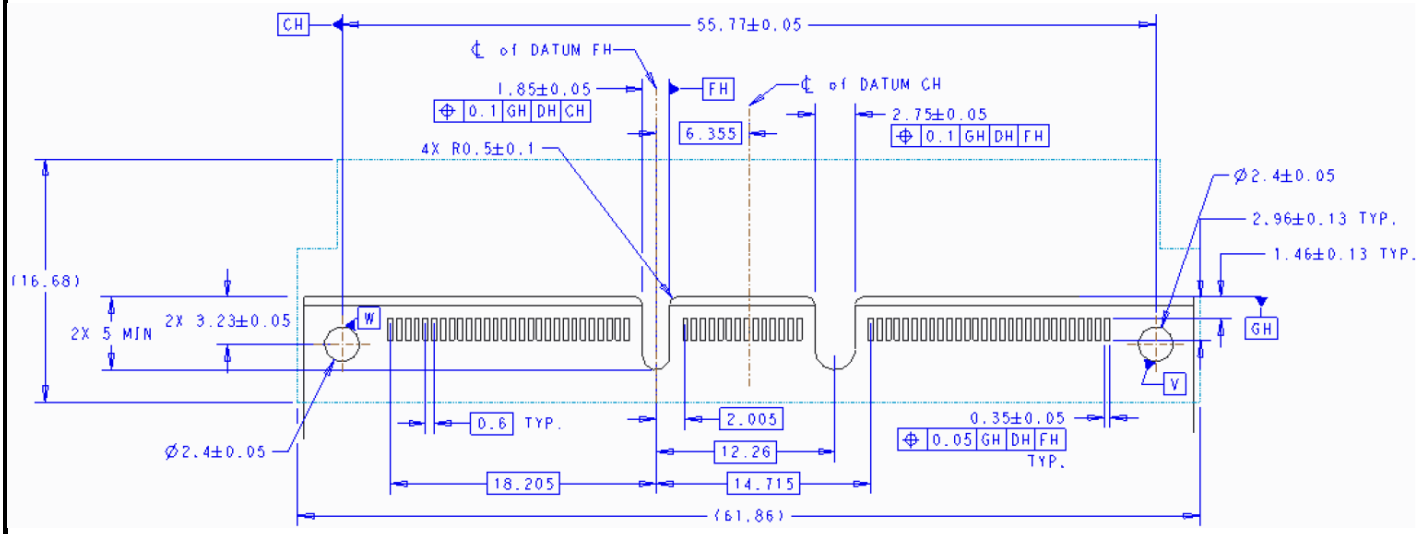
FOR SFF-TA-1002 1C (56pin) Straddle mount Connector



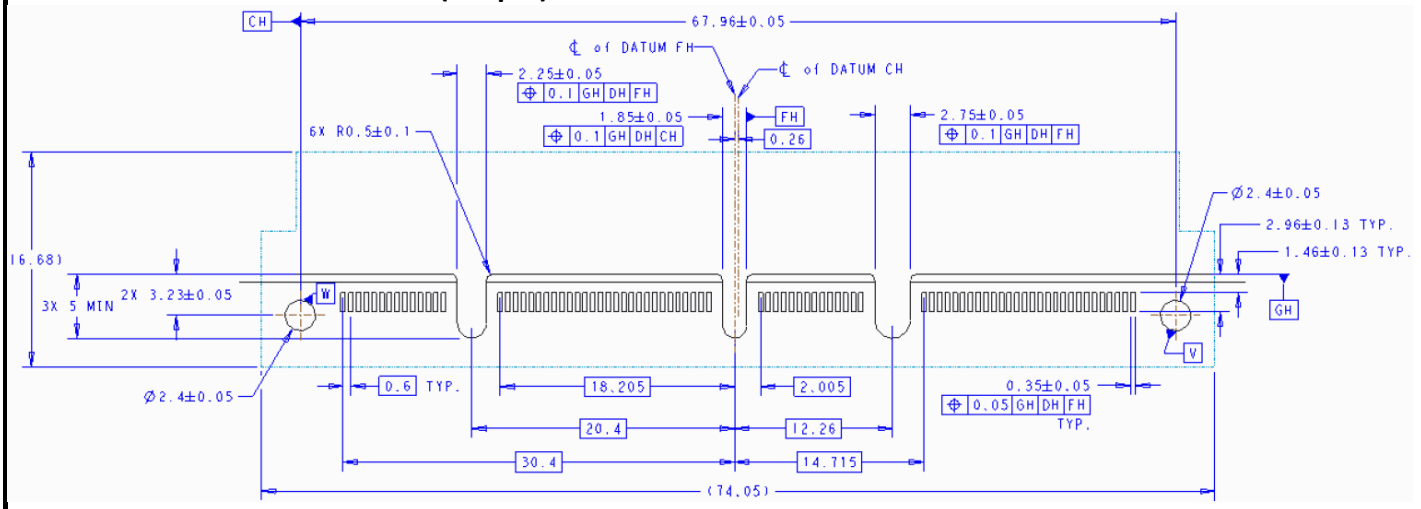
FOR SFF-TA-1002 2C (84pin) Straddle mount Connector



FOR SFF-TA-1002 4C (140pin) Straddle mount Connector



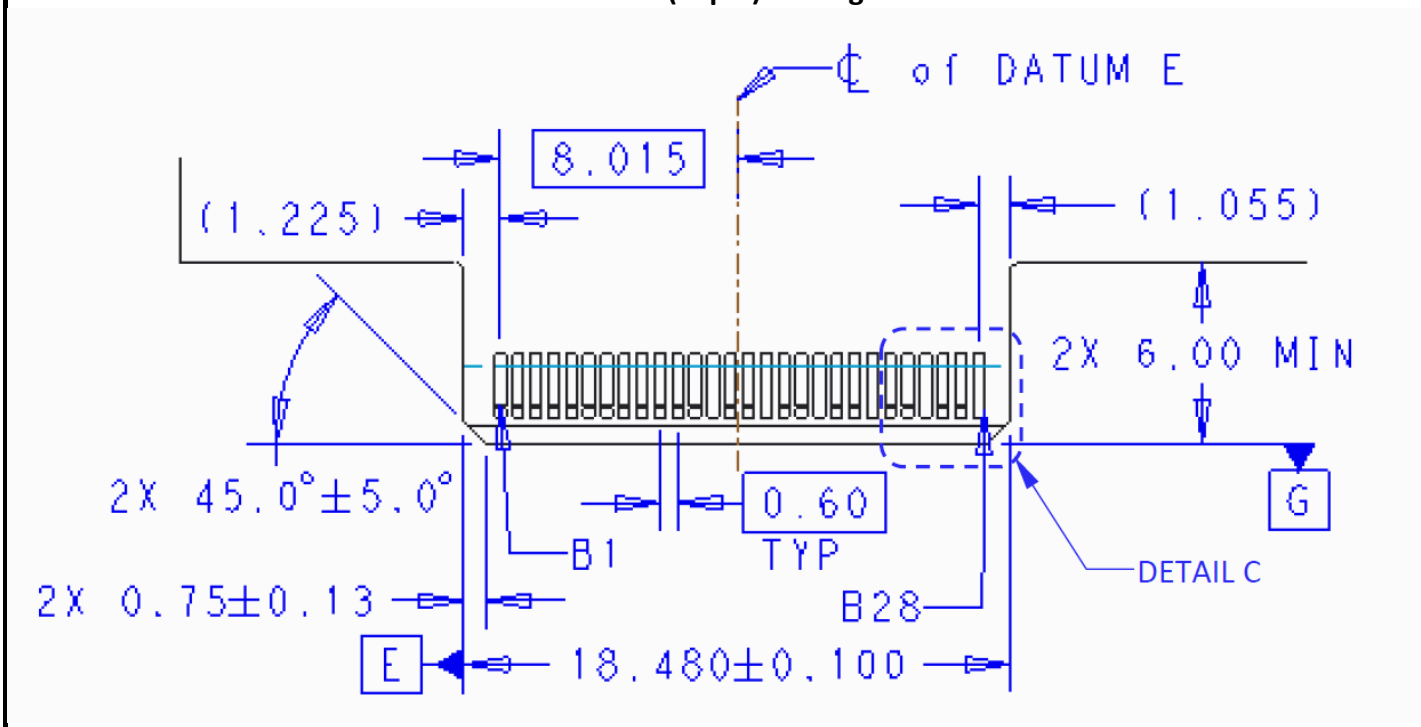
FOR SFF-TA-1002 4C +(168pin) Straddle mount Connector



GENERAL PCB LAYOUT FOR MOTHER BOARD
(YOUR CONFIGURATION MAY VARY)

FIGURE 2

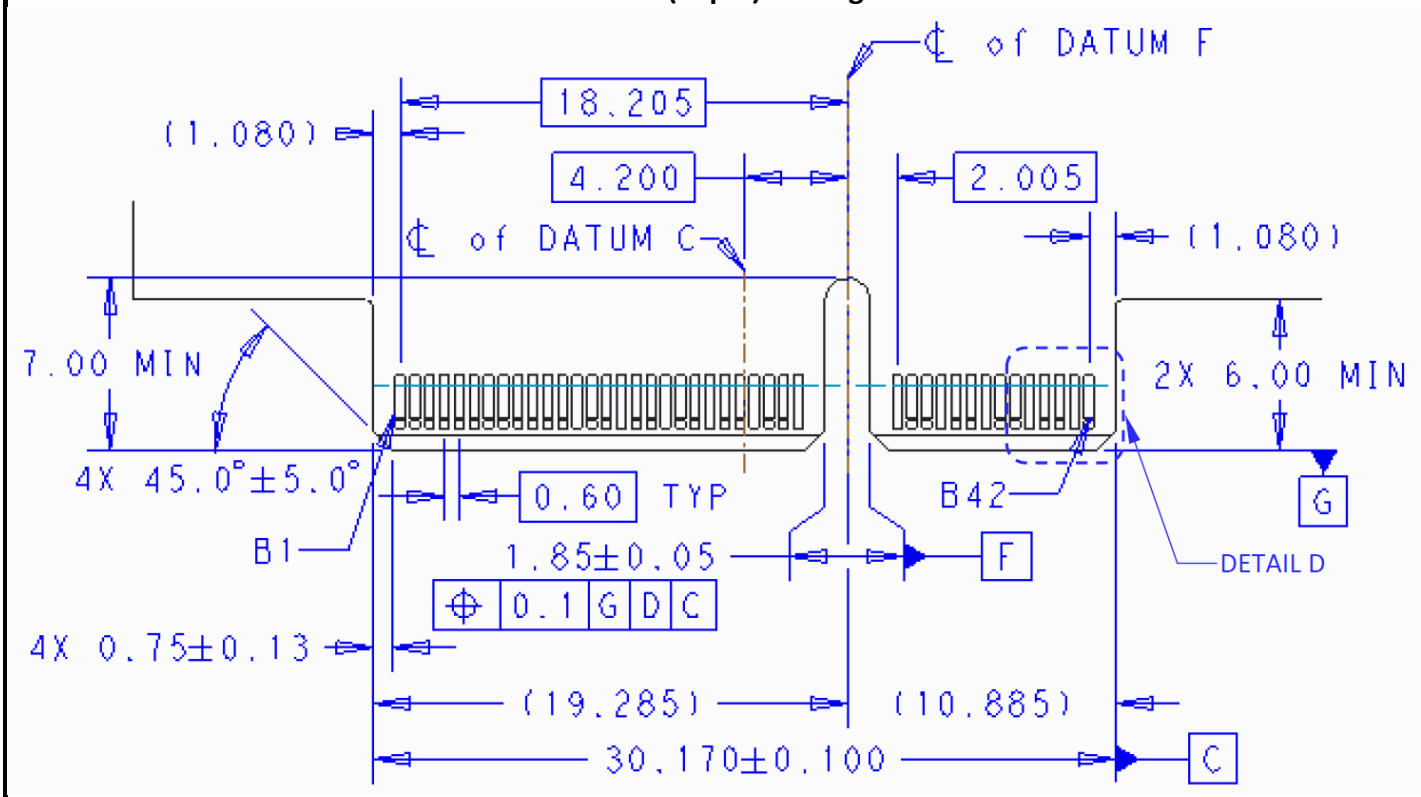
FOR 1.57mm Thickness SFF-TA-1002 1C(56pin) Mating Card



GENERAL PCB LAYOUT FOR MATING CARD
(YOUR CONFIGURATION MAY VARY)

FIGURE 3

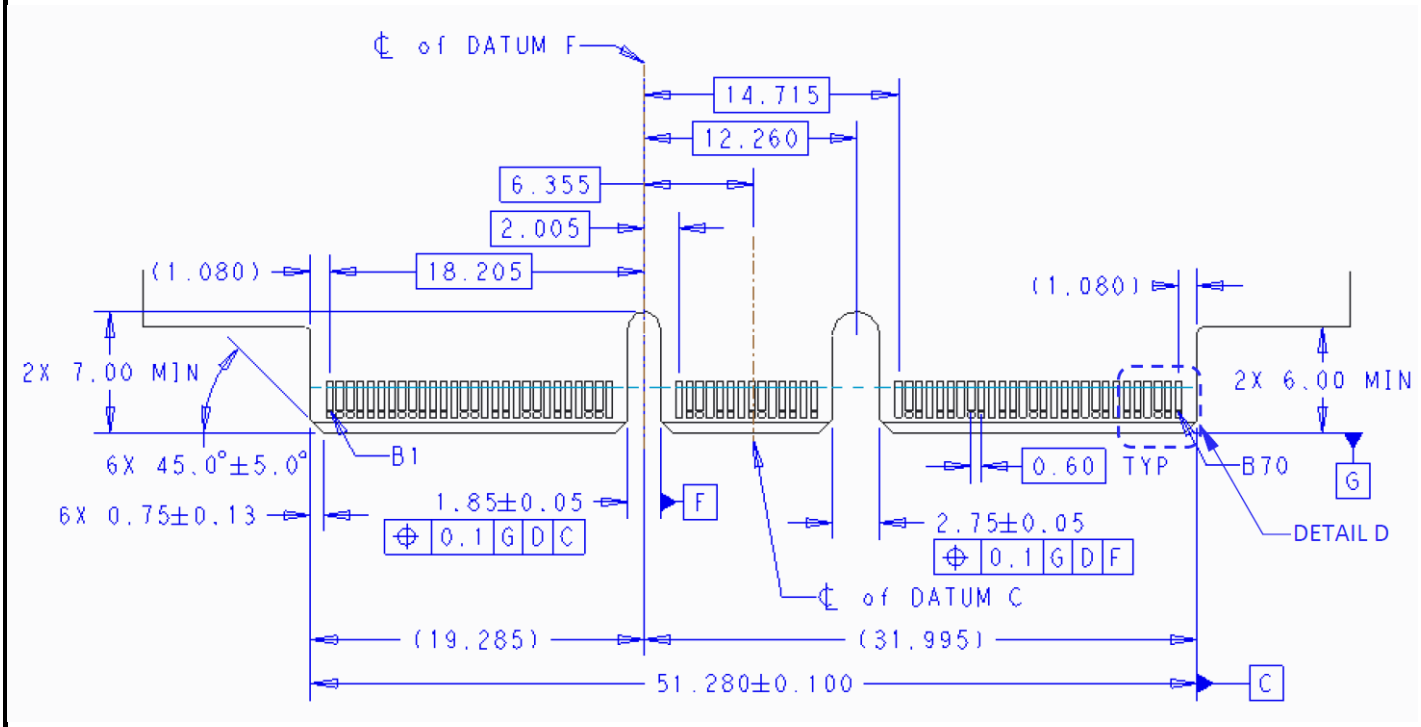
FOR 1.57mm Thickness SFF-TA-1002 2C(84pin) Mating Card



GENERAL PCB LAYOUT FOR MATING CARD
(YOUR CONFIGURATION MAY VARY)

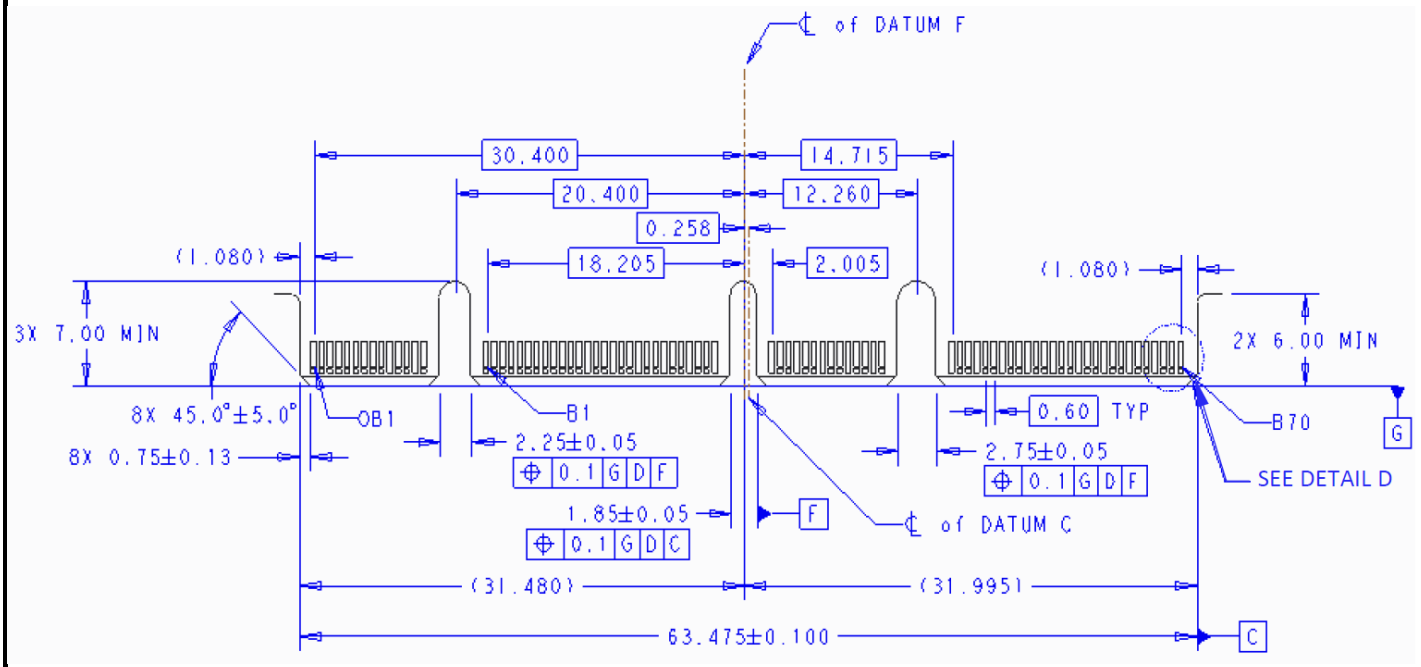
FIGURE 4

FOR 1.57mm Thickness SFF-TA-1002 4C(140pin) Mating Card



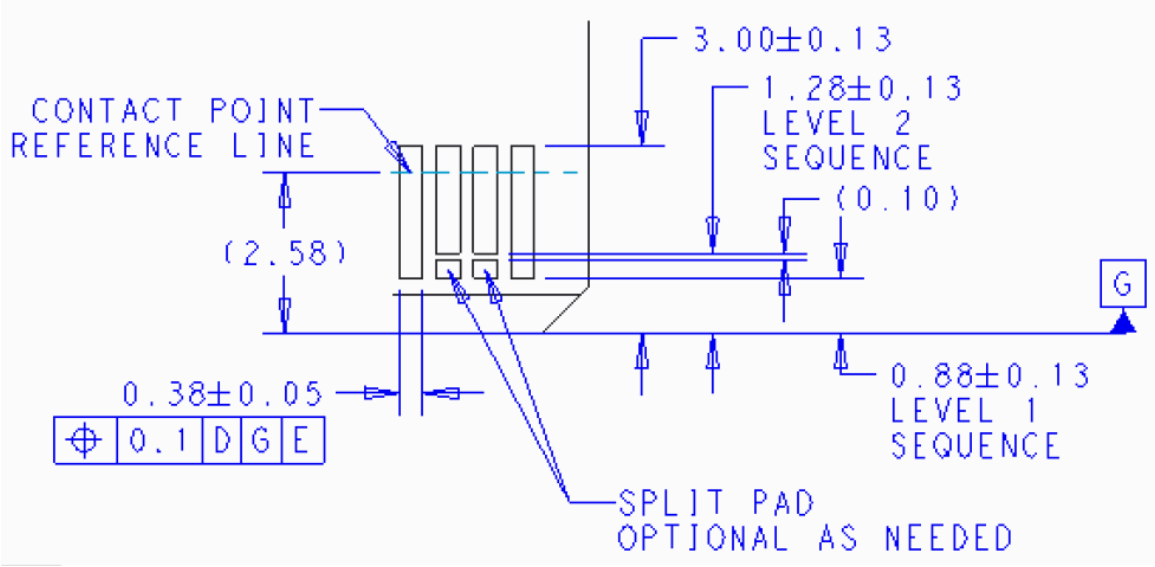
GENERAL PCB LAYOUT FOR MATING CARD
(YOUR CONFIGURATION MAY VARY)
FIGURE 5

FOR 1.57mm Thickness SFF-TA-1002 4C+(168pin) Mating Card

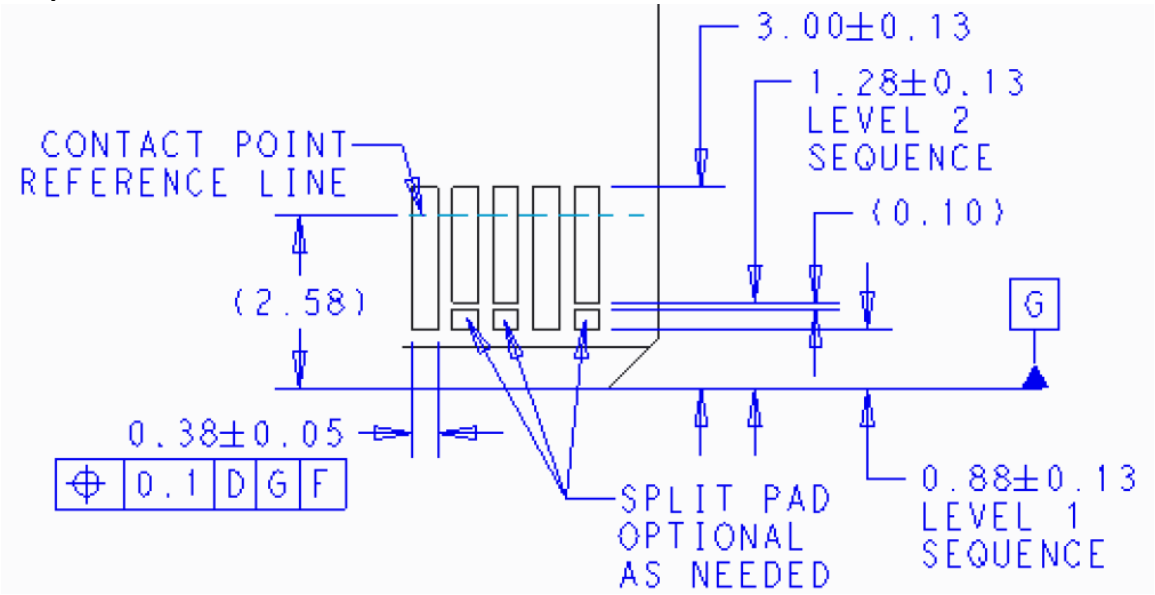


GENERAL PCB LAYOUT FOR MATING CARD
(YOUR CONFIGURATION MAY VARY)
FIGURE 6

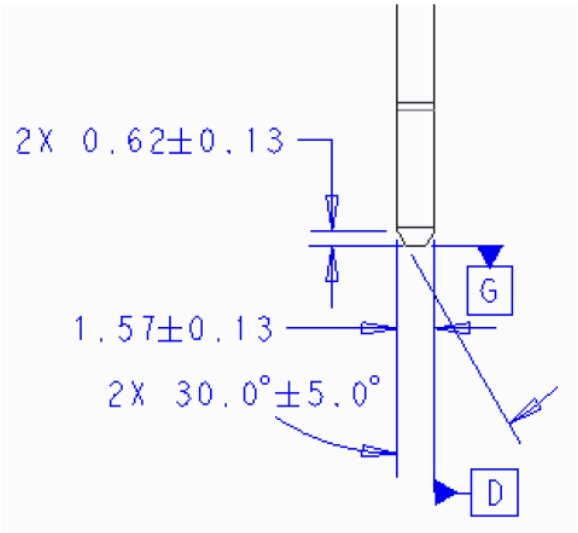
Detail C: SFF-TA-1002 ,1C AIC Mating Card Pad Dimensions . Optional split pad shown.



Detail D: SFF-TA-1002 ,2C 4C AND 4C+ AIC Mating Card Pad Dimensions . Optional split pad shown.

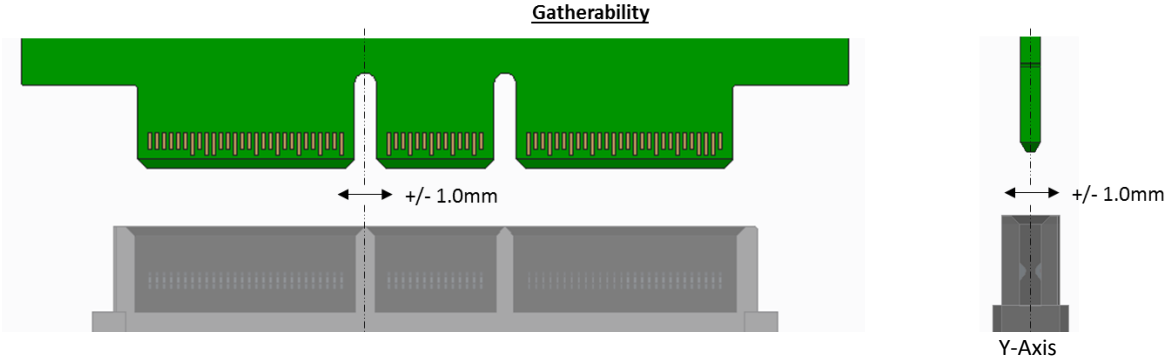


SFF-TA-1002, AIC MATING CARD PROFILE DIMENSION.



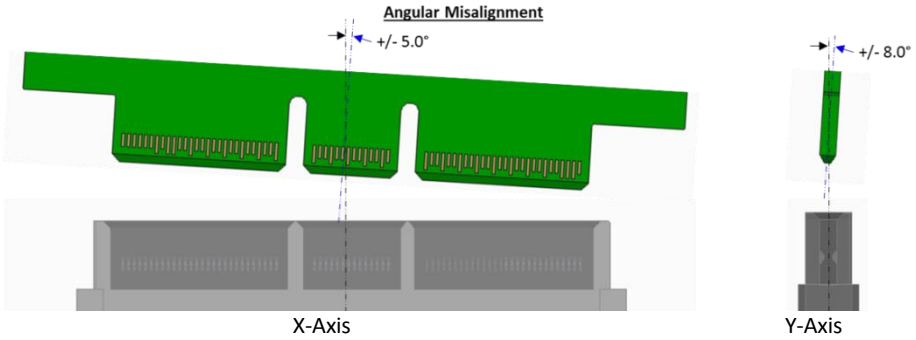
5. MATING AND ALIGNMENT

5.1 GATHERABILITY



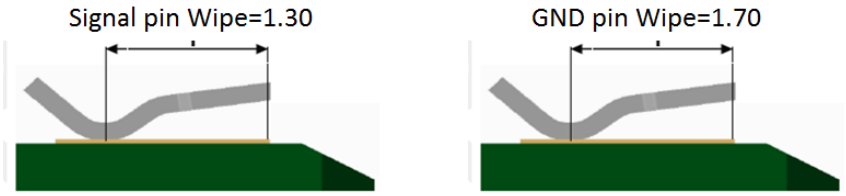
Gatherability: In 'X' direction is ±1.0mm, In 'Y' direction is ±1.0mm

5.2 ANGULAR GATHERABILITY



5.3 WIPE LENGTH

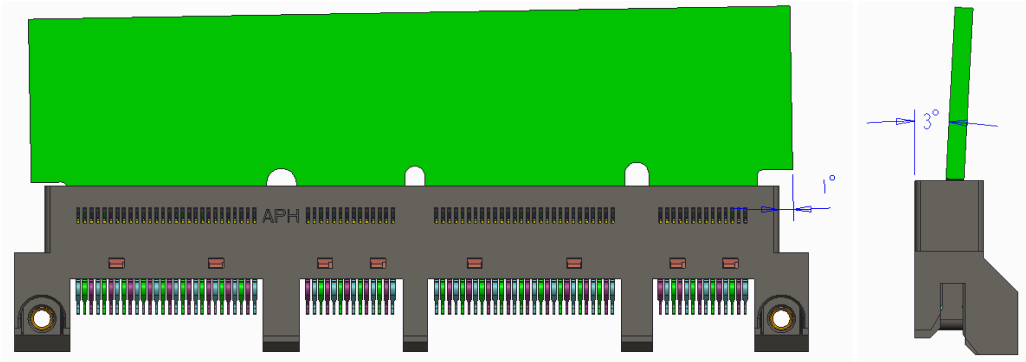
Signal pin: d=1.30mm, Ground pin: d=1.70mm



Notes:

This is a generic calculation based on Amphenol Cool edge tolerances and may be impacted by the PCB manufactures capabilities.

5.4 TILT AND SKEW



6. PRINT SOLDER PASTE TYPE PROPOSAL

1.Print solder paste on all PADs of PCB side 1(including PADs of straddle mount connectors).
2.Place SMT components on PCB side 1 (exclude straddle mount connectors).
3.Pass through 1st side reflow soldering process.
4.Print solder paste on all PADs of PCB side 2(including PADs of straddle mount connectors).
5.Flux pads with frozen solder on side 1 with RMA type flux.
6.Assembly straddle mount connectors on PCB with a special designed fixture.
7.Place SMT components on PCB side 2.
8.Pass through 2nd side reflow soldering process.

Remark: This is only recommended, the customer can make the corresponding adjustment according to the process technology.

7. ASSEMBLY TOOLING RECOMMEND

It's only recommended, the customer can make the corresponding adjustment according to the corresponding connector inserting force.

7.1 TOOLING RECOMMEND

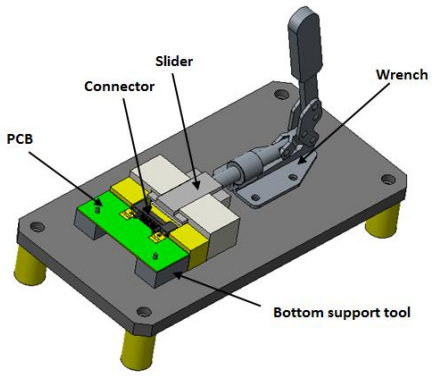


Figure 5: tooling recommend

7.2 ASSEMBLY PROCEDURE

Step 1. Placed PCB on the Bottom support tool, the bottom support tool cylinder cooperate with holes of PCB.

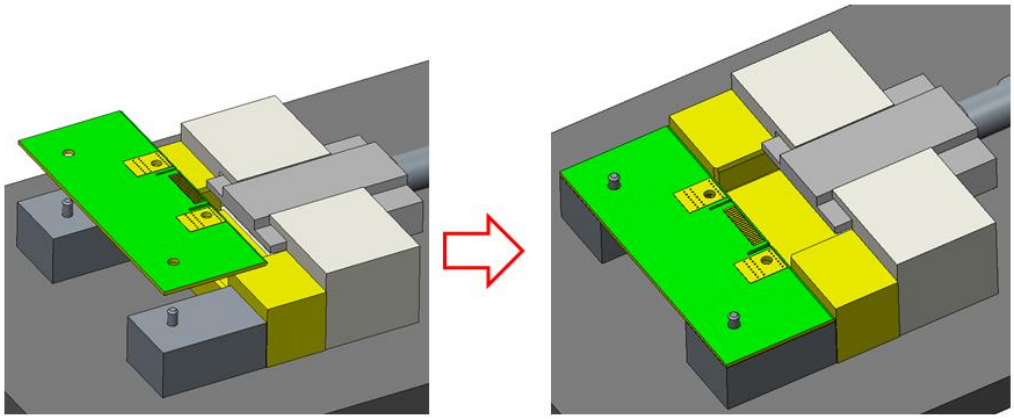


Figure 6: placed the PCB

Step 2. Placed the connector on the Bottom support tool;

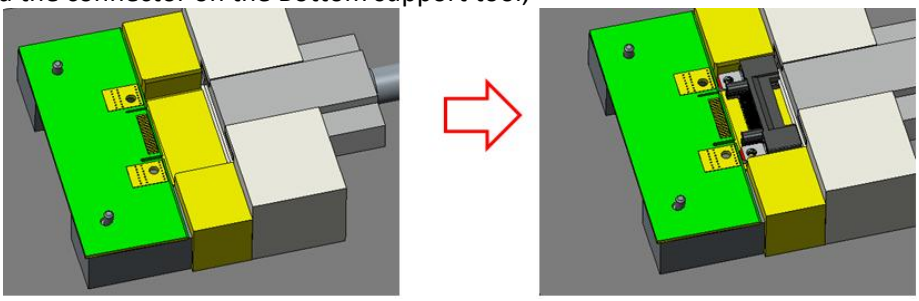


Figure 7: placed the connector

Step 3.put connector assembled with PCB by wrench, then loosed the wrench;

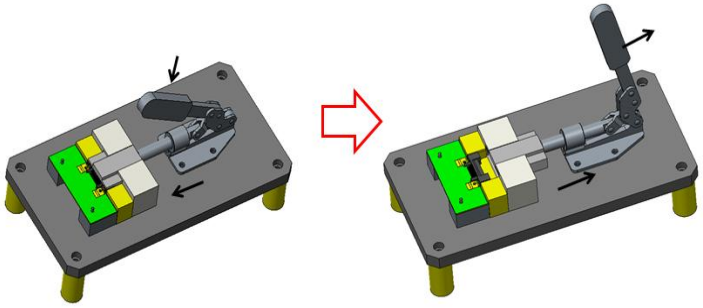


Figure 8: put connector assembled with PCB

Step 4. Lock the connector on the PCB use screw spec ISO 7045 M2 (China Standard GB 823) with washer (China standard GB 93), the spec please refer to table 1. And recommend the torque 0.17N.m

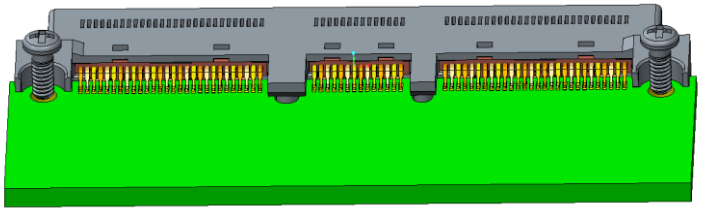


Figure 8: Lock the connector on the PCB by screw

Table 1

Screw Spec	Mother Board Thickness
M2*6.0	1.57mm
	1.93mm
	2.11mm
	2.36mm
M2*7.0	2.60mm
M2*8.0	3.00mm

8. REFLOW PROFILE RECOMMENDATION

The recommended profile is below. Customers should develop parameters that best suit individual application requirements.