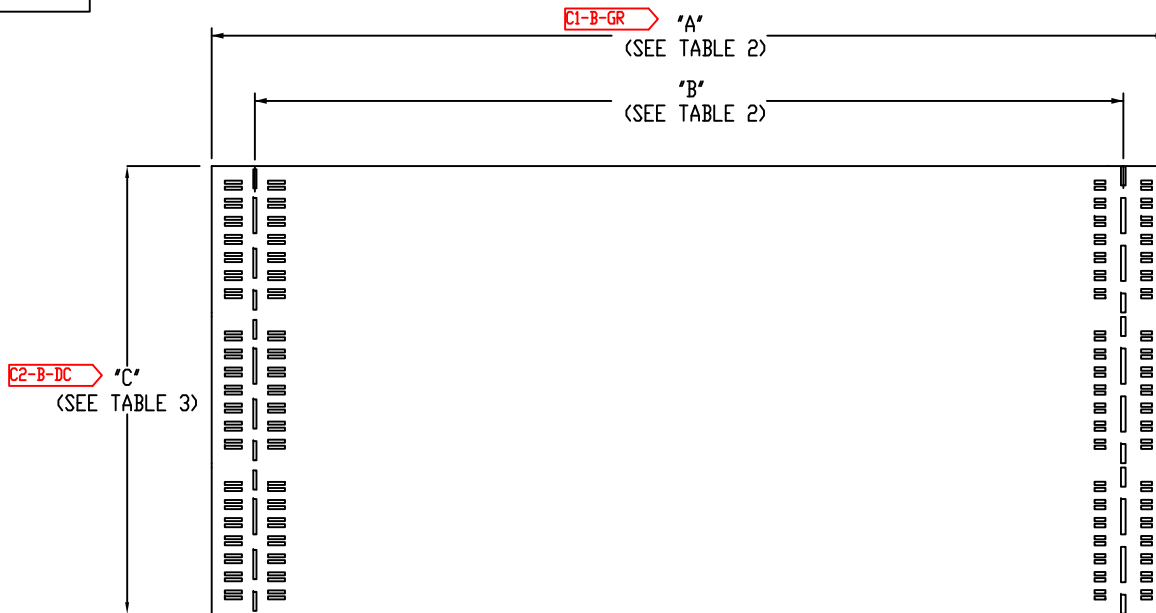


PK THIS PRODUCT MANUFACTURED WITH LEAD-FREE PROCESSING



PFC-HFEM2-XXX-T-XX.XX-DP-XXX
 No. OF POSITIONS _____
 -014, -028, -042 (PER ROW)
 LENGTH _____
 -03.00: 3.00[76.2] INCHES
 -05.00: 5.00[127.0] INCHES
 -10.00: 10.00[254.] INCHES
 SIGNAL _____
 -DP: DIFFERENTIAL PAIR
 OPTION _____
 -MH: MOUNTING HOLES (SEE FIG. 2, SHT 2)
 -RT1: RETENTION FEATURE (SEE FIG. 3, SHT 2)

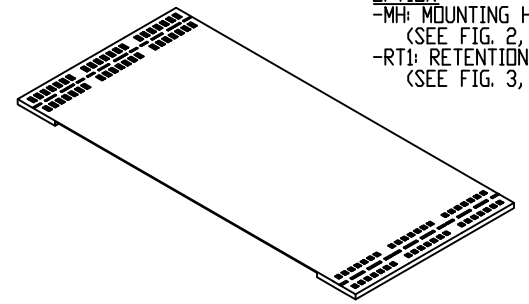
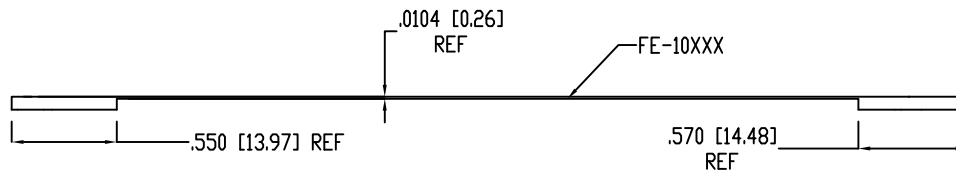


FIG. 1
 PFC-HFEM2-042-T-05.00-DP SHOWN

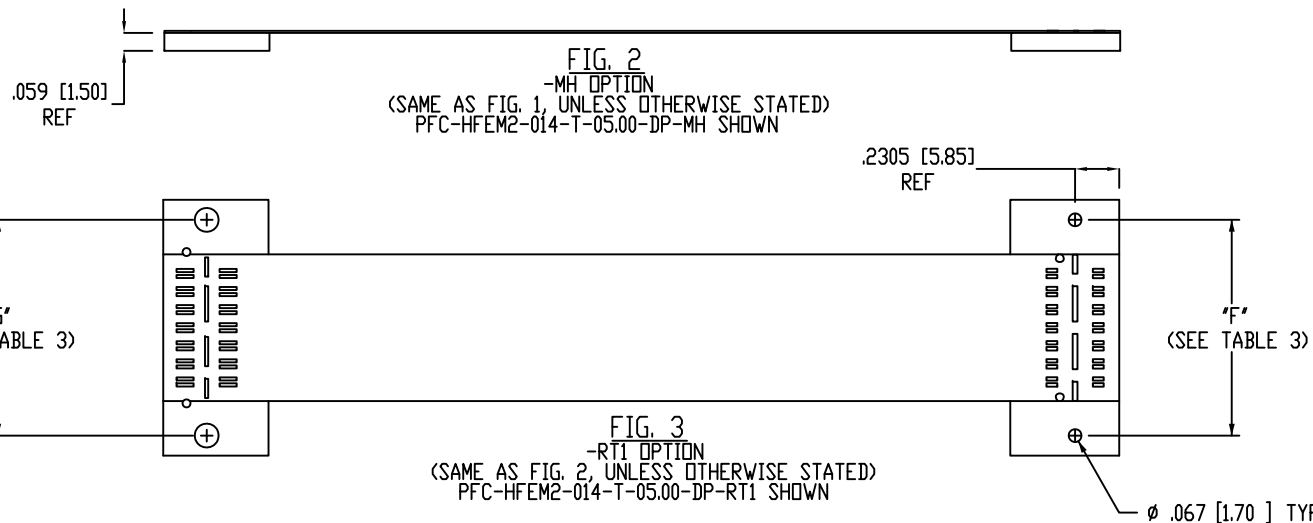
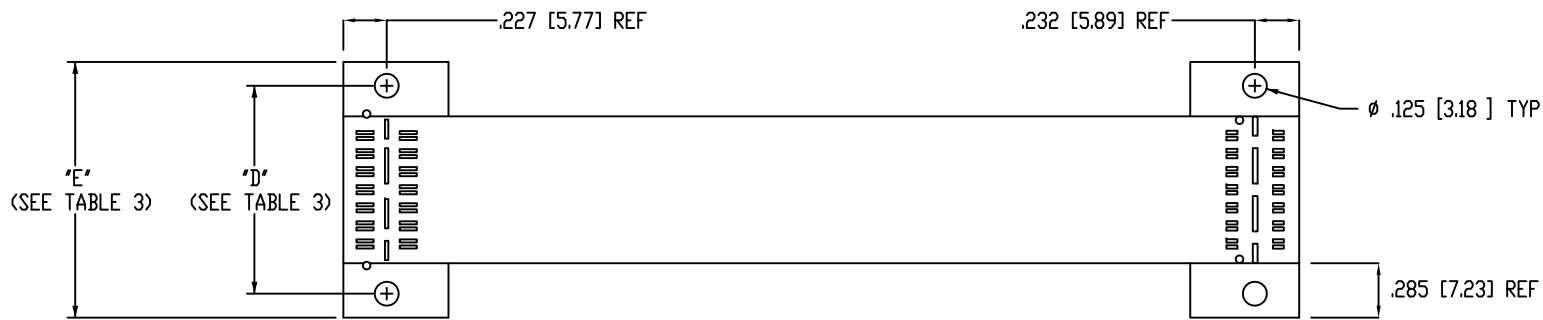


LENGTH	"A"	"B"
-03.00	3.00[76.2]	2.54[64.5]
-05.00	5.00[127.0]	4.54[115.3]
-10.00	10.00[254.0]	9.54[242.3]

ASSEMBLY PART #
PFC-HFEM2-014-T-03.00-DP
PFC-HFEM2-014-T-03.00-DP-MH
PFC-HFEM2-014-T-03.00-DP-RT1
PFC-HFEM2-028-T-03.00-DP
PFC-HFEM2-028-T-03.00-DP-MH
PFC-HFEM2-028-T-03.00-DP-RT1
PFC-HFEM2-042-T-03.00-DP
PFC-HFEM2-042-T-03.00-DP-MH
PFC-HFEM2-042-T-03.00-DP-RT1
PFC-HFEM2-014-T-05.00-DP
PFC-HFEM2-014-T-05.00-DP-MH
PFC-HFEM2-014-T-05.00-DP-RT1
PFC-HFEM2-028-T-05.00-DP
PFC-HFEM2-028-T-05.00-DP-MH
PFC-HFEM2-028-T-05.00-DP-RT1
PFC-HFEM2-042-T-05.00-DP
PFC-HFEM2-042-T-05.00-DP-MH
PFC-HFEM2-042-T-05.00-DP-RT1
PFC-HFEM2-014-T-10.00-DP
PFC-HFEM2-014-T-10.00-DP-MH
PFC-HFEM2-014-T-10.00-DP-RT1
PFC-HFEM2-028-T-10.00-DP
PFC-HFEM2-028-T-10.00-DP-MH
PFC-HFEM2-028-T-10.00-DP-RT1
PFC-HFEM2-042-T-10.00-DP
PFC-HFEM2-042-T-10.00-DP-MH
PFC-HFEM2-042-T-10.00-DP-RT1

- NOTES:
- C1-B-GR** REPRESENTS A CRITICAL DIMENSION.
 - FABRICATION OF THIS FLEX SHALL BE IN CONFORMANCE WITH IPC-6013 CLASS 2.
 - DIMENSIONS ARE IN INCHES.
 - FLAME CLASS TO BE UL 94V-0 AND MUST MEET REQUIREMENTS OF UL796.
 - SEE GERBER PACKAGE FOR HOLE CHART AND PLATING SPECS.
 - SEE GERBER PACKAGE FOR CONDUCTOR GEOMETRY.
 - COVERFILM/SOLDERMASK: MUST BE IN ACCORDANCE WITH IPC 6013 CLASS 2.
 - FINISH: IMMERSION GOLD (ENIG) PER IPC-4552
 - FR4 T_g: MINIMUM GLASS TRANSITION TEMPERATURE (T_g) OF 170 C.
 - BOW AND TWIST: MAXIMUM ALLOWABLE BOW AND TWIST TO BE IN ACCORDANCE WITH IPC-6013 CLASS 2.
 - ROHS: ALL MATERIALS MUST BE COMPLIANT WITH THE EUROPEAN UNION ROHS DIRECTIVE, 2002/95/EC.
 - LAYER STACK-UP FOR IMPEDANCE:
 LAYER 1-GROUND PLANE
 LAYER 2-SIGNAL TRACE- 100 OHMS DIFFERENTIAL PAIRS ;
 MINIMUM TRACE = 0.0047" ; SPACING= 0.0046"
 CONTROLLED IMPEDANCE REQUIREMENT OF ±10%
 - MIN TRACE= 0.0043" ; MIN SPACE= 0.0046"

TOLERANCES DO NOT APPLY TO REFERENCE DIMENSIONS. UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.	PROPRIETARY NOTE THIS DOCUMENT CONTAINS INFORMATION CONFIDENTIAL AND PROPRIETARY TO PFC FLEXIBLE CIRCUITS AND SHALL NOT BE REPRODUCED OR TRANSFERRED TO OTHER INDIVIDUALS OR DISCLOSED TO OTHERS OR USED FOR ANY PURPOSE OTHER THAN THAT WHICH IT WAS OBTAINED WITHOUT THE EXPRESSED WRITTEN CONSENT OF PFC FLEXIBLE CIRCUITS	PFC FLEXIBLE CIRCUITS 11 CANADIAN ROAD UNIT 7 SCARBOROUGH ONTARIO PHONE: 416-750-8433 FAX: 416-750-0016 e-Mail: sales@pfcflex.com
		DESCRIPTION: PFC-HFEM2 FLEX CIRCUIT DWG. NO. PFC-HFEM2-XXX-T-XX.XX-DP-XXX BY: PFC 08/08/2012 SHEET 1 OF 6



LAYER STACKUP

FR0110	TOP COVERFILM: 1 MIL KAPTON
	1 MIL ADHESIVE
	SIGNAL LAYER 1: 1/2 OZ COPPER
AP8535 OR EQUIVALENT	3 MIL KAPTON
	SIGNAL LAYER 2: 1/2 OZ COPPER
	1 MIL ADHESIVE
FR0110	BOTTOM COVERFILM: 1 MIL KAPTON
LF0200	2 MIL ADHESIVE
FR4	STIFFENER FARSIDE: 59 MIL (STANDARD)
	- MH OPTION: 93 MIL
	- RT1 OPTION: 93 MIL

TABLE 3

No. OF POS	"C"	"D"	"E"	"F"	"G"
-014	.768 +/- .010 [19.50 +/- 0.25]	1.088[27.62]	1.338[33.97]	1.129[28.66]	1.129[28.66]
-028	1.556 +/- .010 [39.52 +/- 0.25]	1.876[47.64]	2.126[53.99]	1.916[40.87]	1.916[40.87]
-042	2.344 +/- .010 [59.54 +/- 0.25]	2.664[67.65]	2.914[74.00]	2.704[60.878]	2.704[60.88]

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	<p>DO NOT SCALE DRAWING</p>	<p>DESCRIPTION: PFC-HFEM2 FLEX CIRCUIT</p>	
<p>SHEET SCALE: 1:1</p>	<p>DWG. NO. PFC-HFEM2-XXX-T-XX.XX-DP-XXX</p>		
	<p>BY: PFC</p>	<p>08/08/2012</p>	<p>SHEET 2 OF 6</p>

TABLE 2							
No. OF POS	"C"	"D"	"E"	"F"	"G"	CONNECTORS	FLEX
-014	.768 +/- .010 [19.50 +/- 0.25]	1.0875[27.623]	1.3375[33.973]	1.1285[28.663]	1.1285[28.663]	QXE-014-01-H-D-DP-A OR QXE-014-01-H-D-DP-A-RT1 (FOR -RT1 OPTION)	3", FE-10183 (QTY:1) 5", FE-10184 (QTY:1) 10", FE-10185 (QTY:1)
-028	1.556 +/- .010 [39.52 +/- 0.25]	1.8755[47.638]	2.1255[53.988]	1.916[40.872]	1.916[40.872]	QXE-028-01-H-D-DP-A OR QXE-028-01-H-D-DP-A-RT1 (FOR -RT1 OPTION)	3", FE-10183 (QTY:2) 5", FE-10184 (QTY:2) 10", FE-10185 (QTY:2)
-042	2.344 +/- .010 [59.54 +/- 0.25]	2.6635[67.653]	2.9135[74.003]	2.7035[60.875]	2.7035[60.875]	QXE-042-01-H-D-DP-A OR QXE-042-01-H-D-DP-A-RT1 (FOR -RT1 OPTION)	3", FE-10183 (QTY:3) 5", FE-10184 (QTY:3) 10", FE-10185 (QTY:3)

TABLE 1		
LENGTH	"A"	"B"
-3.00	3.00[76.2]	2.54[64.5]
-5.00	5.00[127.0]	4.54[115.3]
-10.00	10.00[254.0]	9.54[242.3]

PFC-HFEM2-XXX-T-XX.XX-DP-XXX

No. OF POSITIONS
-014, -028, -042 (PER ROW)

TRANSFER END
(MALE-FEMALE)

OPTION
-MH: MOUNTING HOLES
(SEE FIG. 2, SHEET 2)
-RT1: RETENTION FEATURE
(SEE FIG 3, SHEET 3)
(LEAVE BLANK FOR
STANDARD)

-DP: DIFFERENTIAL PAIRS

LENGTH
-03.00: 3.00[76.2] INCHES
-05.00: 5.00[127.0] INCHES
-10.00: 10.00[254.0] INCHES

NO THIS PRODUCT MANUFACTURED
WITH LEAD-FREE PROCESSING

TABLE 3
(FOR PFC MANUFACTURING REFERENCE)

PFC-HFEM2-014-T-03.00-DP
PFC-HFEM2-014-T-03.00-DP-MH
PFC-HFEM2-014-T-03.00-DP-RT1
PFC-HFEM2-028-T-03.00-DP
PFC-HFEM2-028-T-03.00-DP-MH
PFC-HFEM2-028-T-03.00-DP-RT1
PFC-HFEM2-042-T-03.00-DP
PFC-HFEM2-042-T-03.00-DP-MH
PFC-HFEM2-042-T-03.00-DP-RT1

PFC-HFEM2-014-T-05.00-DP
PFC-HFEM2-014-T-05.00-DP-MH
PFC-HFEM2-014-T-05.00-DP-RT1
PFC-HFEM2-028-T-05.00-DP
PFC-HFEM2-028-T-05.00-DP-MH
PFC-HFEM2-028-T-05.00-DP-RT1
PFC-HFEM2-042-T-05.00-DP
PFC-HFEM2-042-T-05.00-DP-MH
PFC-HFEM2-042-T-05.00-DP-RT1

PFC-HFEM2-014-T-10.00-DP
PFC-HFEM2-014-T-10.00-DP-MH
PFC-HFEM2-014-T-10.00-DP-RT1
PFC-HFEM2-028-T-10.00-DP
PFC-HFEM2-028-T-10.00-DP-MH
PFC-HFEM2-028-T-10.00-DP-RT1
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PFC-HFEM2-042-T-10.00-DP-RT1

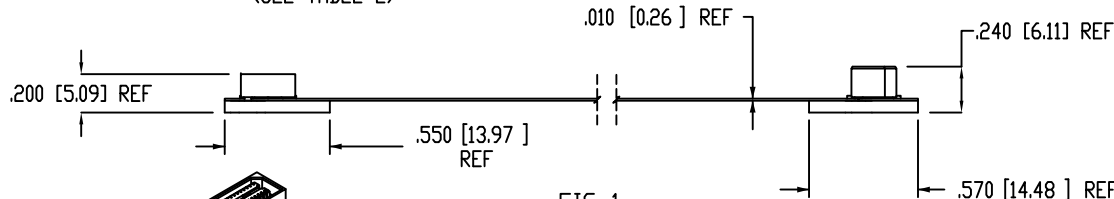
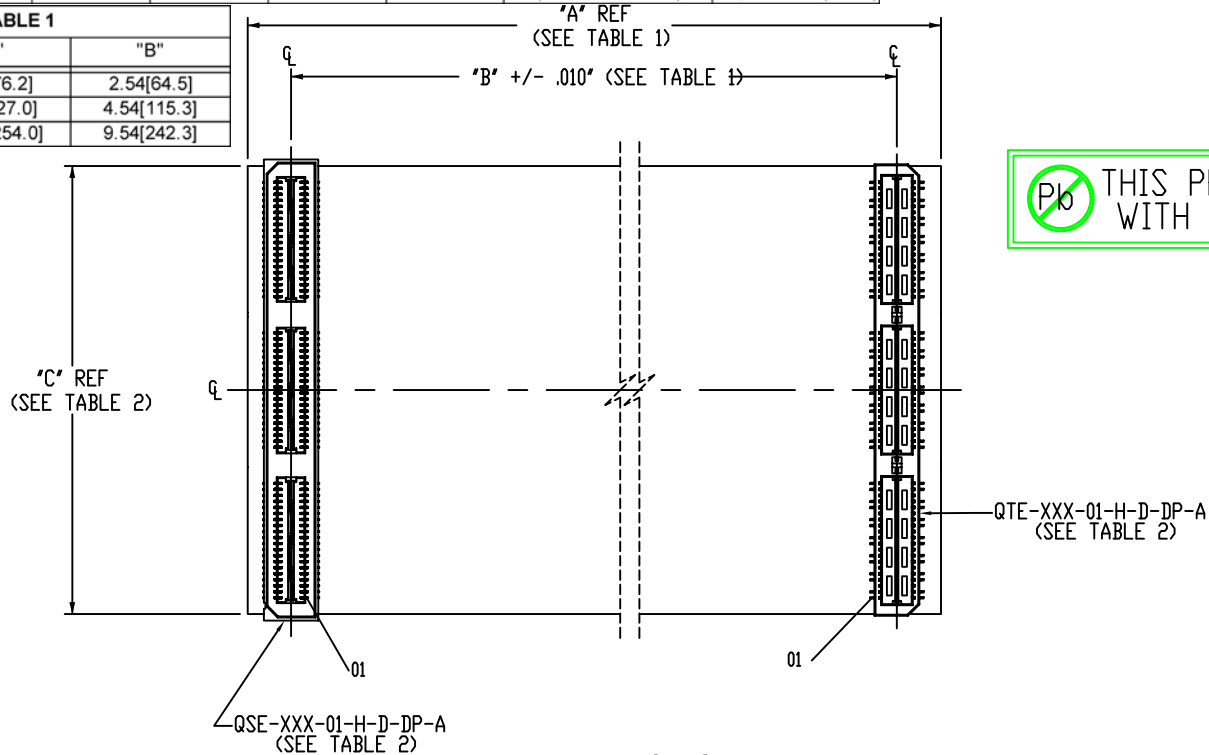


FIG 1
PFC-HFEM2-042-T-10.00-DP SHOWN

NOTE:

- Ⓢ REPRESENTS A CRITICAL DIMENSION.
- ALL DIMENSIONS TO BE SYMMETRICAL ABOUT CENTERLINE WITHIN ±.002[.05] UNLESS OTHERWISE STATED.
- PARTS TO BE IN LAYER FOAM PACKAGE.
- ALL SIGNALS ROUTED PIN TO PIN, (E.G. 1 TO 1, 2 TO 2, ETC.)
- PARTS TO BE RoHS COMPLIANT
- SOLDER TYPE: NO CLEAN LEAD-FREE

UNLESS OTHERWISE SPECIFIED,
DIMENSIONS ARE IN INCHES.

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OBTAINED WITHOUT THE EXPRESSED WRITTEN
CONSENT OF PFC FLEXIBLE CIRCUITS.

CONNECTOR MATERIALS:
INSULATORS: LCP
CONTACTS, TERMINALS, & GROUND PLANES:
PHOS BRONZE
FLEX MATERIALS:
SEE CROSS SECTION DETAIL

DO NOT SCALE DRAWING SHEET SCALE: 1:1

PFC FLEXIBLE CIRCUITS

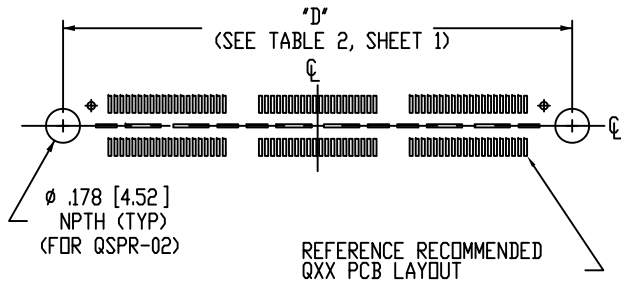
11 CANADIAN ROAD UNIT 7 SCARBOROUGH, ONTARIO
PHONE: 416-750-8433 FAX: 416-750-0016
e-Mail sales@pfcflex.com

DESCRIPTION:
HIGH SPEED FLEX 0.8mm ASSEMBLY

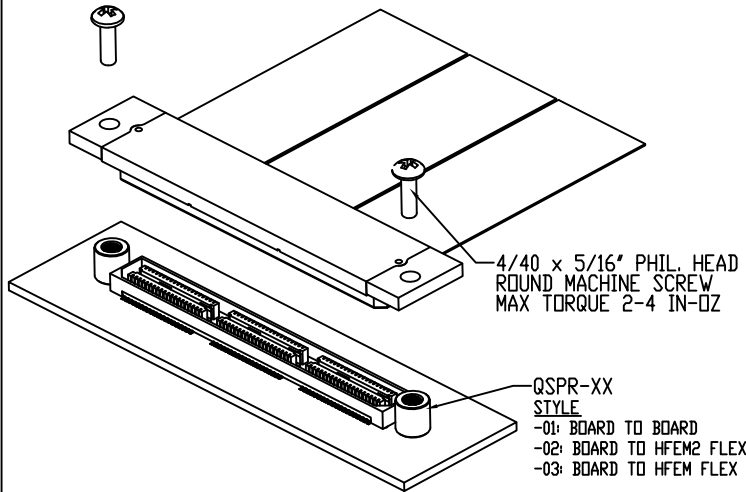
DWG. NO.
PFC-HFEM2-XXX-T-XX.XX-DP-XXX

BY: PFC 08/08/2012 SHEET 3 OF 6

RECOMMENDED LAYOUT FOR -MH SCREW DOWN OPTIONS



SCREW DOWN APPLICATION VIEW

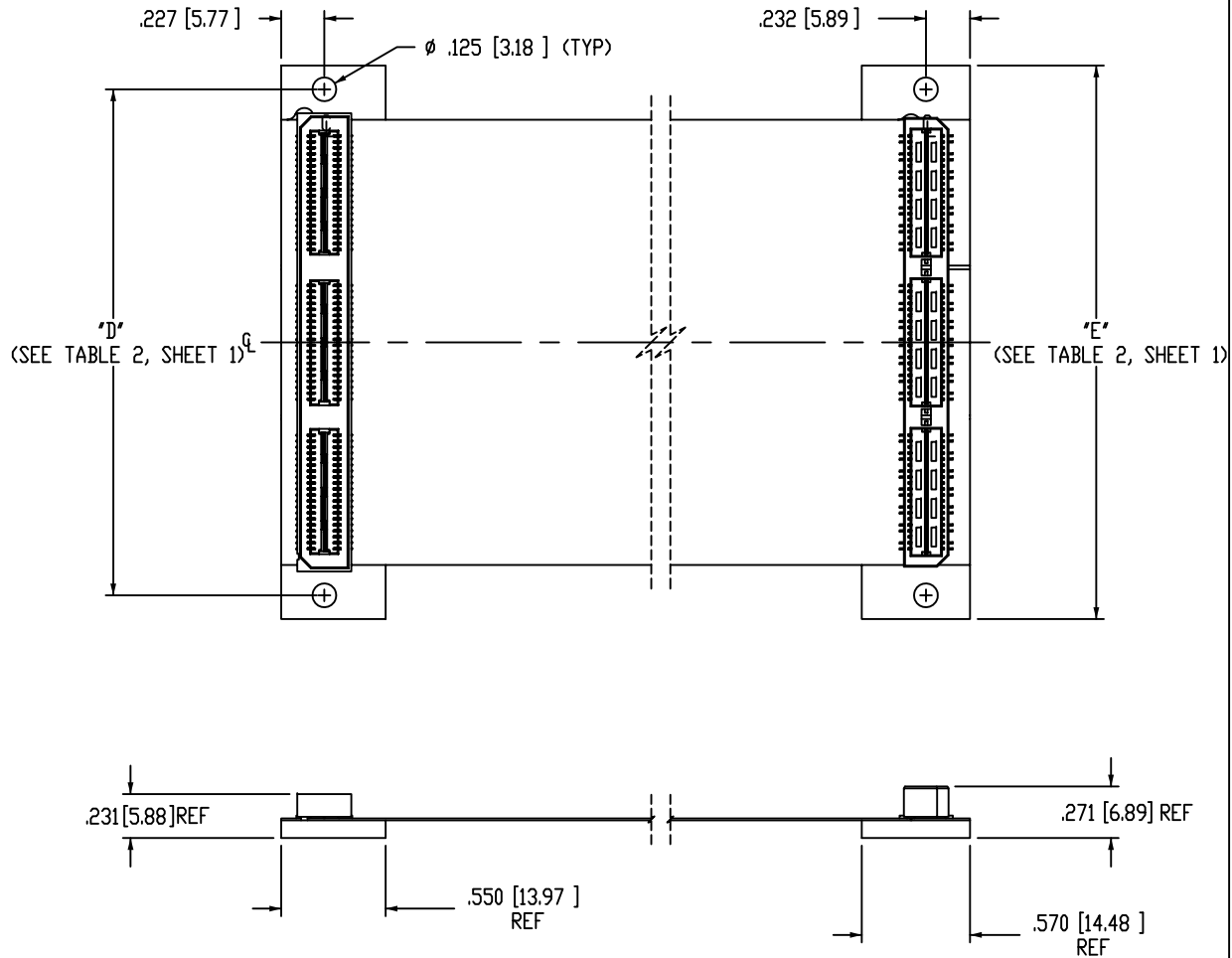


COVERFILM		.001[0.03] POLYIMIDE .001[0.03] ADHESIVE
COPPER CLAD		1/2 oz COPPER .003[0.076] POLYIMIDE 1/2 oz COPPER
COVERFILM		.001[0.03] ADHESIVE .001[0.03] POLYIMIDE
ADHESIVE		.002[0.05] ADHESIVE
STIFFENER		STANDARD: .059[1.50] FR4 -MH OPTION: .093[2.36] FR4 -RT1 OPTION: .093[2.36] FR4

CROSS SECTION OF FLEX & STIFFENER

NOT TO SCALE

FIG 2
-MH OPTION
(SAME AS FIG. 1, UNLESS OTHERWISE STATED)
PFC-HFEM2-042-T-10.00-DP-MH SHOWN



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DO NOT SCALE DRAWING

SHEET SCALE: 1:1

PFC FLEXIBLE CIRCUITS

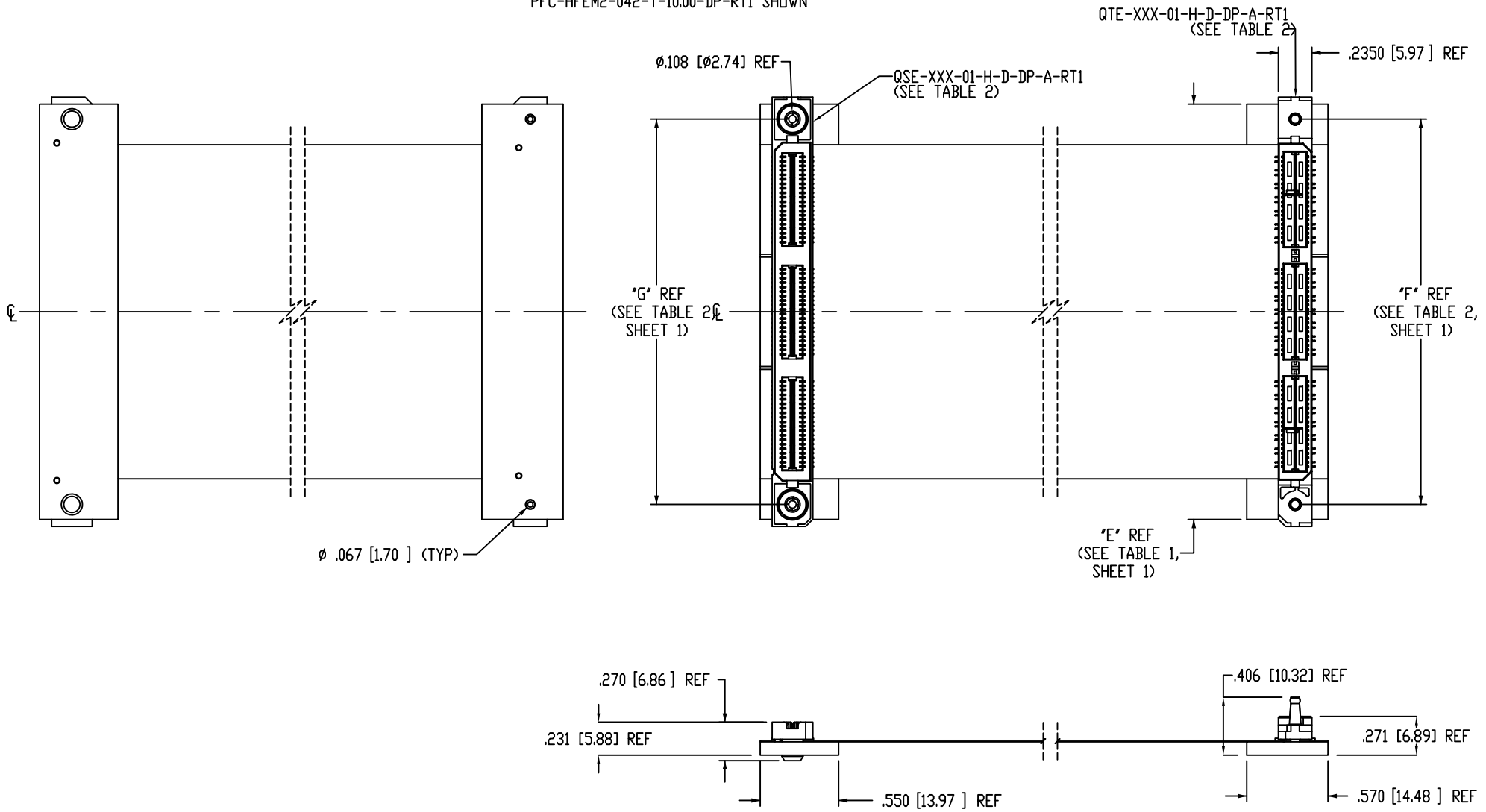
11 CANADIAN ROAD UNIT 7 SCARBOROUGH ONTARIO
PHONE: 416-750-8433 FAX: 416-750-0016
e-Mail: sales@pfcflex.com

DESCRIPTION:
HIGH SPEED FLEX 0.8mm ASSEMBLY

DWG. NO.
PFC-HFEM2-XXX-T-XX.XX-DP-XXX

BY: PFC 08/08/2012 SHEET 4 OF 6

FIG 3
 -RT1 OPTION
 (SAME AS FIG. 1, UNLESS OTHERWISE STATED)
 PFC-HFEM2-042-T-10.00-DP-RT1 SHOWN



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DO NOT SCALE DRAWING

SHEET SCALE: 1:1

PFC FLEXIBLE CIRCUITS

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 PHONE: 416-750-8433 FAX: 416-750-0016
 e-Mail sales@pfcflex.com

DESCRIPTION: HIGH SPEED FLEX 0.8mm ASSEMBLY

DWG. NO. PFC-HFEM2-XXX-T-XX.XX-DP-XXX

BY: PFC 08/08/2012 SHEET 5 OF 6

HFEM2-DP

-14 Shown. -28 and -42 repeat same pattern

J1 Pin	Signal	J2 Pin	DP Pair
1	S	1	Pair
3	S	3	
5	G	5	Pin Omitted
2	S	2	Pair
4	S	4	
6	G	6	Pin Omitted
7	S	7	Pair
9	S	9	
11	G	11	Pin Omitted
8	S	8	Pair
10	S	10	
12	G	12	Pin Omitted
13	S	13	Pair
15	S	15	
17	G	17	Pin Omitted
14	S	14	Pair
16	S	16	
18	G	18	Pin Omitted
19	S	19	Pair
21	S	21	
23	G	23	Pin Omitted
20	S	20	Pair
22	S	22	
24	G	24	Pin Omitted
25	S	25	Pair
27	S	27	
29	G	29	Pin Omitted
26	S	26	Pair
28	S	28	
30	G	30	Pin Omitted
31	S	31	Pair
33	S	33	
35	G	35	Pin Omitted
32	S	32	Pair
34	S	34	
36	G	36	Pin Omitted
37	S	37	Pair
39	S	39	
38	S	38	Pair
40	S	40	

PROPRIETARY NOTE

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OBTAINED WITHOUT THE EXPRESSED WRITTEN
CONSENT OF PFC FLEXIBLE CIRCUITS

DO NOT SCALE DRAWING

SHEET SCALE: 1:1

PFC FLEXIBLE CIRCUITS

11 CANADIAN ROAD UNIT 7 SCARBOROUGH ONTARIO
PHONE: 416-750-8433 FAX: 416-750-0016
e-Mail: sales@pfcflex.com

DESCRIPTION: HIGH SPEED FLEX 0.8mm ASSEMBLY

DWG. NO. PFC-HFEM2-XXX-T-XX.XX-DP-XXX

BY: PFC 08/08/2012 SHEET 6 OF 6