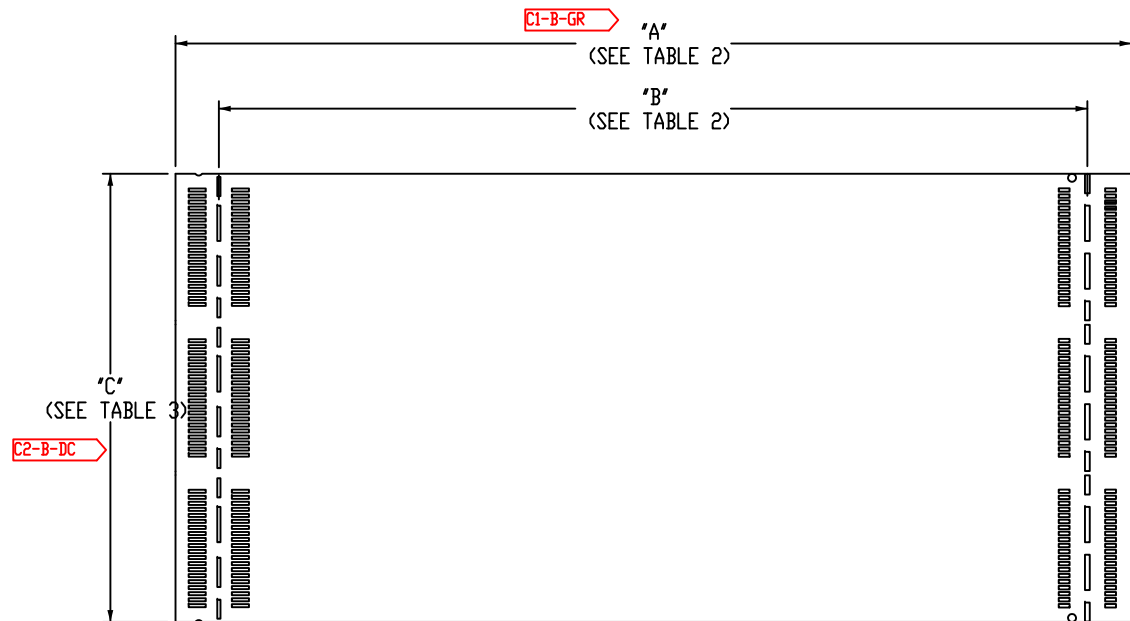


PK THIS PRODUCT MANUFACTURED WITH LEAD-FREE PROCESSING



PFC-HFEM2-XXX-T-XX.XX-SE-XXX
 No. OF POSITIONS _____
 -020, -040, -060 (PER ROW)
 LENGTH _____
 -03.00: 3.00[76.2] INCHES
 -05.00: 5.00[127.0] INCHES
 -10.00: 10.00[254.0] INCHES
 SIGNAL _____
 -SE: SINGLE ENDED
 OPTION _____
 -MH: MOUNTING HOLES (SEE FIG. 2, SHT 2)
 -RT1: RETENTION FEATURE (SEE FIG. 3, SHT 2)

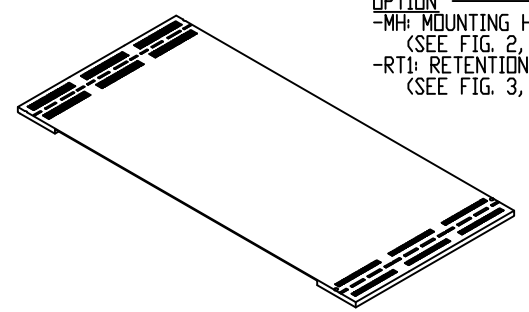


FIG. 1
 PFC-SUB-HFEM2-060-T-05.00-SE SHOWN

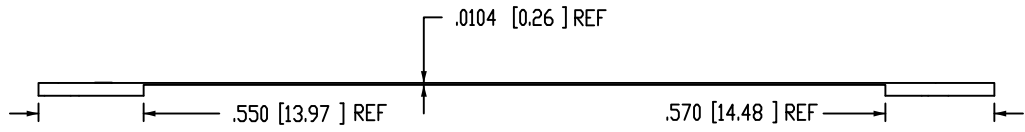
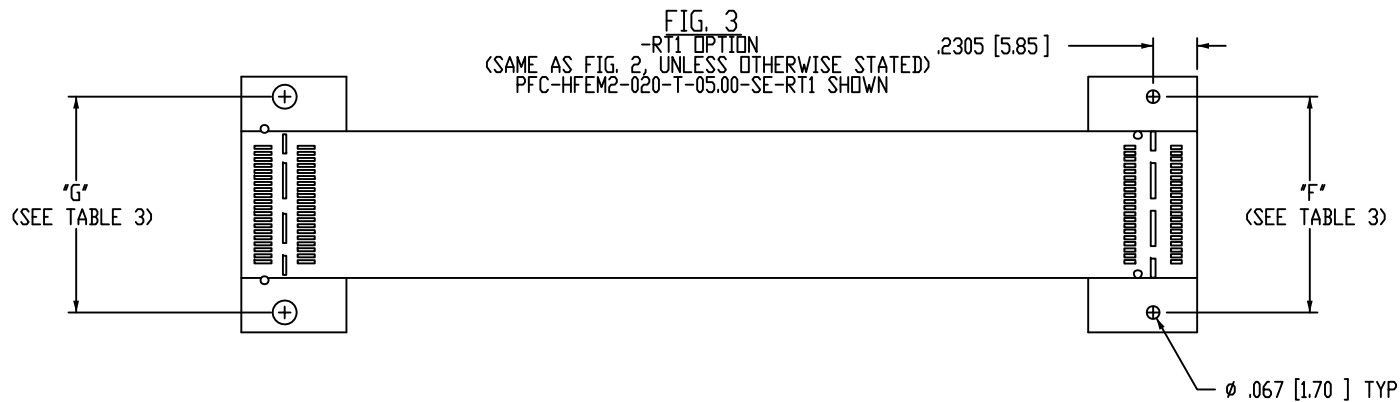
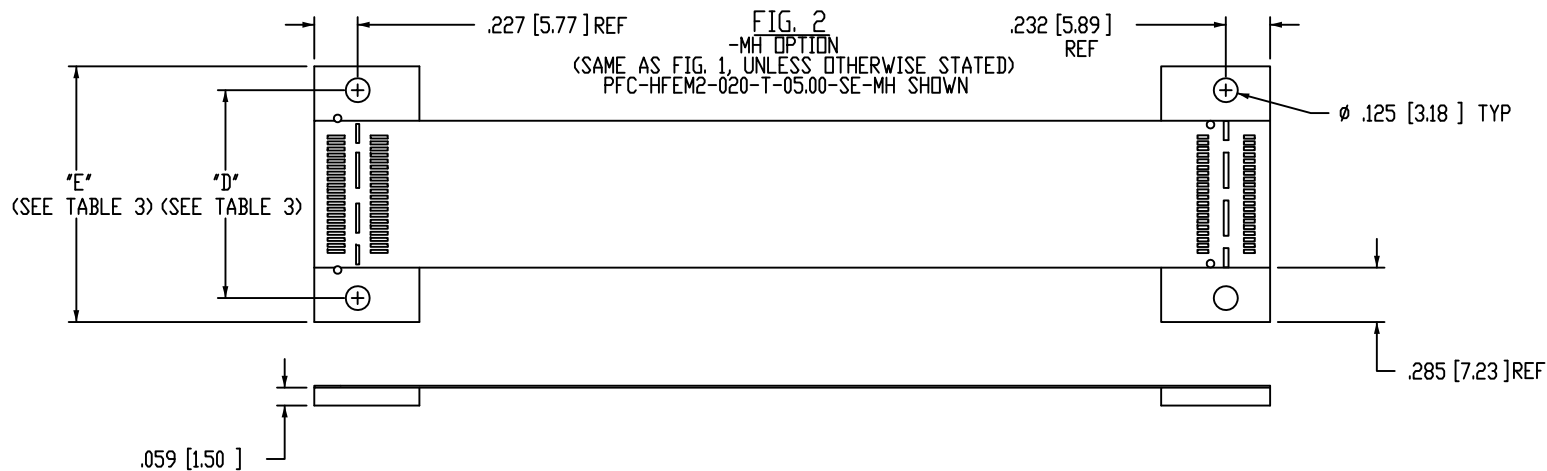


TABLE 2		
LENGTH	"A"	"B"
-03.00	3.00[76.2]	2.54[64.5]
-05.00	5.00[127.0]	4.54[115.3]
-10.00	10.00[254.0]	9.54[242.3]

TABLE 1
ASSEMBLY PART #
PFC-HFEM2-020-T-03.00-SE
PFC-HFEM2-040-T-03.00-SE
PFC-HFEM2-060-T-03.00-SE
PFC-HFEM2-020-T-03.00-SE-MH
PFC-HFEM2-040-T-03.00-SE-MH
PFC-HFEM2-060-T-03.00-SE-MH
PFC-HFEM2-020-T-03.00-SE-RT1
PFC-HFEM2-040-T-03.00-SE-RT1
PFC-HFEM2-060-T-03.00-SE-RT1
PFC-HFEM2-020-T-05.00-SE
PFC-HFEM2-040-T-05.00-SE
PFC-HFEM2-060-T-05.00-SE
PFC-HFEM2-020-T-05.00-SE-MH
PFC-HFEM2-040-T-05.00-SE-MH
PFC-HFEM2-060-T-05.00-SE-MH
PFC-HFEM2-020-T-05.00-SE-RT1
PFC-HFEM2-040-T-05.00-SE-RT1
PFC-HFEM2-060-T-05.00-SE-RT1
PFC-HFEM2-020-T-10.00-SE
PFC-HFEM2-040-T-10.00-SE
PFC-HFEM2-060-T-10.00-SE
PFC-HFEM2-020-T-10.00-SE-MH
PFC-HFEM2-040-T-10.00-SE-MH
PFC-HFEM2-060-T-10.00-SE-MH
PFC-HFEM2-020-T-10.00-SE-RT1
PFC-HFEM2-040-T-10.00-SE-RT1
PFC-HFEM2-060-T-10.00-SE-RT1

- NOTES:
- CRITICAL** 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 Tg: MINIMUM GLASS TRANSITION TEMPERATURE (Tg) 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-50 OHMS (SE)=.0060" TRACE
 CONTROLLED IMPEDANCE REQUIREMENT OF ±10%
 13. MIN TRACE= 0.006" ; MIN SPACE= .0056"

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 DOCUMENTS 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	
		DO NOT SCALE DRAWING SHEET SCALE: 1:1	DESCRIPTION: PFC-HFEM2 FLEX CIRCUIT
		DWG. NO. PFC-HFEM2-XXX-T-XX.XX-SE-XXX	
		BY: PFC 07/10/2012	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	STIFFENERS FAR SIDE: 59 MIL

TABLE 3

No. OF POS	"C"	"D"	"E"	"F"	"G"
-020	.768 +/- .010 [19.50 +/- 0.25]	1.088[27.62]	1.338[33.97]	1.129[28.66]	1.129[28.66]
-040	1.556 +/- .010 [39.52 +/- 0.25]	1.876[47.64]	2.126[53.99]	1.916[40.87]	1.916[40.87]
-060	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>JWG. NO. PFC-HFEM2-XXX-T-XX.XX-SE-XXX BY: PFC 07/10/2012 SHEET 2 OF 6</p>

TABLE 2								
No. OF POS	"C"	"D"	"E"	"F"	"G"	QSE-XXX-01-X-D-XXX	QTE-XXX-01-X-D-XXX	FLEX
-020	.768 +/- .010 [19.50 +/- 0.25]	1.0875[27.623]	1.3375[33.973]	1.1285[28.663]	1.1285[28.663]	QSE-020-01-H-D-A OR QSE-020-01-H-D-A-RT1 (FOR -RT1 OPTION)	QTE-020-01-H-D-A OR QTE-020-01-H-D-A-RT1 (FOR -RT1 OPTION)	3", FE-10235 (QTY:1) 5", FE-10236 (QTY:1) 10", FE-10237 (QTY:1)
-040	1.556 +/- .010 [39.52 +/- 0.25]	1.8755[47.638]	2.1255[53.988]	1.916[40.872]	1.916[40.872]	QSE-040-01-H-D-A OR QSE-040-01-H-D-A-RT1 (FOR -RT1 OPTION)	QTE-040-01-H-D-A OR QTE-040-01-H-D-A-RT1 (FOR -RT1 OPTION)	3", FE-10235 (QTY:2) 5", FE-10236 (QTY:2) 10", FE-10237 (QTY:2)
-060	2.344 +/- .010 [59.54 +/- 0.25]	2.6635[67.653]	2.9135[74.003]	2.7035[60.875]	2.7035[60.875]	QSE-060-01-H-D-A OR QSE-060-01-H-D-A-RT1 (FOR -RT1 OPTION)	QTE-060-01-H-D-A OR QTE-060-01-H-D-A-RT1 (FOR -RT1 OPTION)	3", FE-10235 (QTY:3) 5", FE-10236 (QTY:3) 10", FE-10237 (QTY:3)

PFC-HFEM2-XXX-T-XX.XX-SE-XXX

No OF POSITIONS
-020, -040, -060 (PER ROW)

TRANSFER END
(MALE-FEMALE)

OPTION

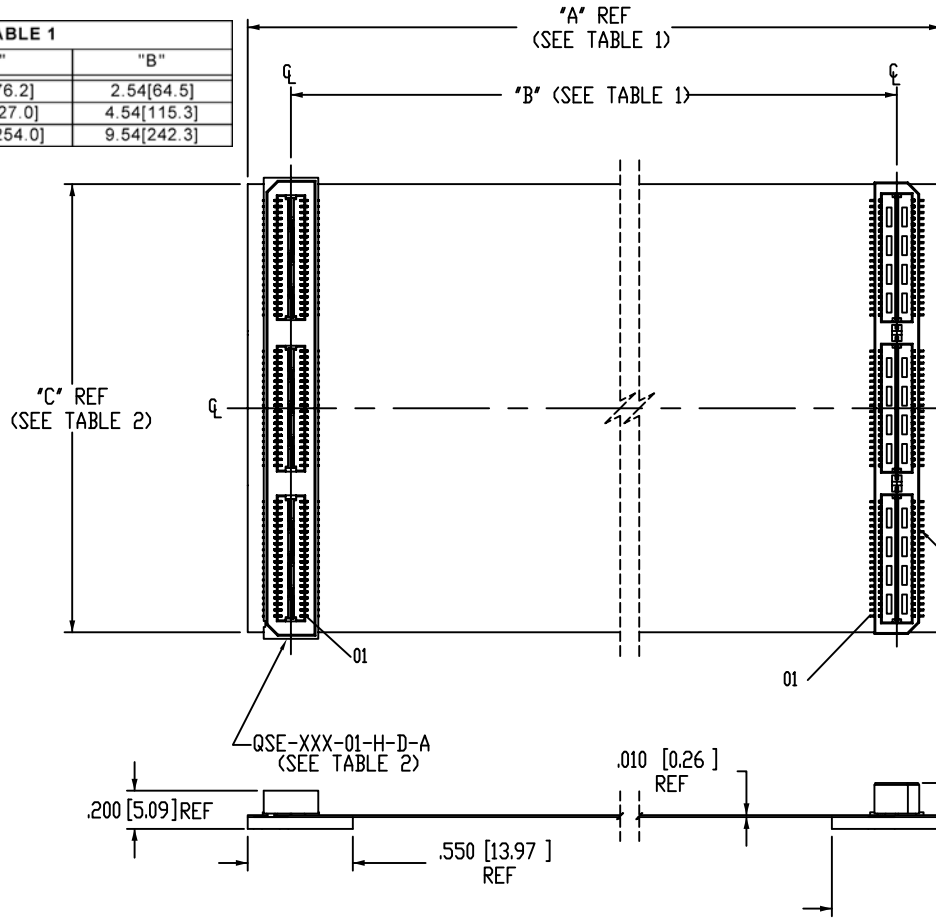
-MH: MOUNTING HOLES
(SEE FIG. 2, SHEET 2)
-RT1: RETENTION FEATURE
(SEE FIG. 3, SHEET 3)
(LEAVE BLANK FOR
STANDARD)

-SE: SINGLE ENDED

LENGTH

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

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]



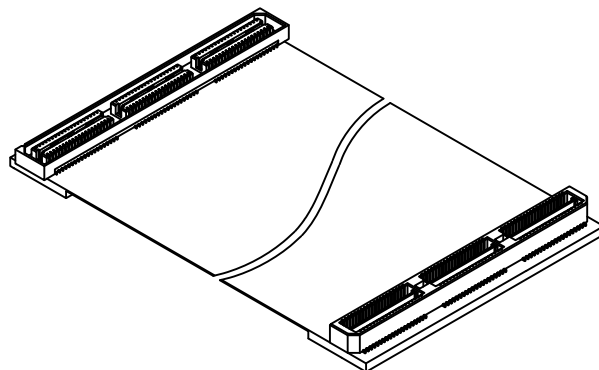
NOTE:

- *=NOT TOOLED
- 1. Ⓢ REPRESENTS A CRITICAL DIMENSION.
- 2. ALL DIMENSIONS TO BE SYMMETRICAL ABOUT CENTERLINE WITH ± 0.05 UNLESS OTHERWISE STATED.
- 3. LAYER PACKAGE IN PAWPAK WITH FOAM.
- 4. ALL SIGNALS ROUTED PIN TO PIN, E.G. 1 TO 1, 2 TO 2, ETC.
- 5. PARTS TO BE RoHS COMPLIANT
- 6. SOLDER TYPE: NO CLEAN LEAD-FREE

PROHIBITED THIS PRODUCT MANUFACTURED WITH LEAD-FREE PROCESSING

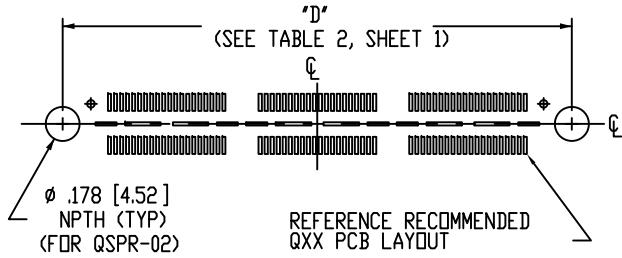
FIG 1
PFC-HFEM2-060-T-10.00-SE SHOWN

TABLE 3 (FOR PFC MANUFACTURING REFERENCE)
PART NUMBER
PFC-HFEM2-020-T-03.00-SE
PFC-HFEM2-020-T-03.00-SE-MH
PFC-HFEM2-020-T-03.00-SE-RT1
PFC-HFEM2-040-T-03.00-SE
PFC-HFEM2-040-T-03.00-SE-MH
PFC-HFEM2-040-T-03.00-SE-RT1
PFC-HFEM2-060-T-03.00-SE
PFC-HFEM2-060-T-03.00-SE-MH
PFC-HFEM2-060-T-03.00-SE-RT1
PFC-HFEM2-020-T-05.00-SE
PFC-HFEM2-020-T-05.00-SE-MH
PFC-HFEM2-020-T-05.00-SE-RT1
PFC-HFEM2-040-T-05.00-SE
PFC-HFEM2-040-T-05.00-SE-MH
PFC-HFEM2-040-T-05.00-SE-RT1
PFC-HFEM2-060-T-05.00-SE
PFC-HFEM2-060-T-05.00-SE-MH
PFC-HFEM2-060-T-05.00-SE-RT1
PFC-HFEM2-020-T-10.00-SE
PFC-HFEM2-020-T-10.00-SE-MH
PFC-HFEM2-020-T-10.00-SE-RT1
PFC-HFEM2-040-T-10.00-SE
PFC-HFEM2-040-T-10.00-SE-MH
PFC-HFEM2-040-T-10.00-SE-RT1
PFC-HFEM2-060-T-10.00-SE
PFC-HFEM2-060-T-10.00-SE-MH
PFC-HFEM2-060-T-10.00-SE-RT1

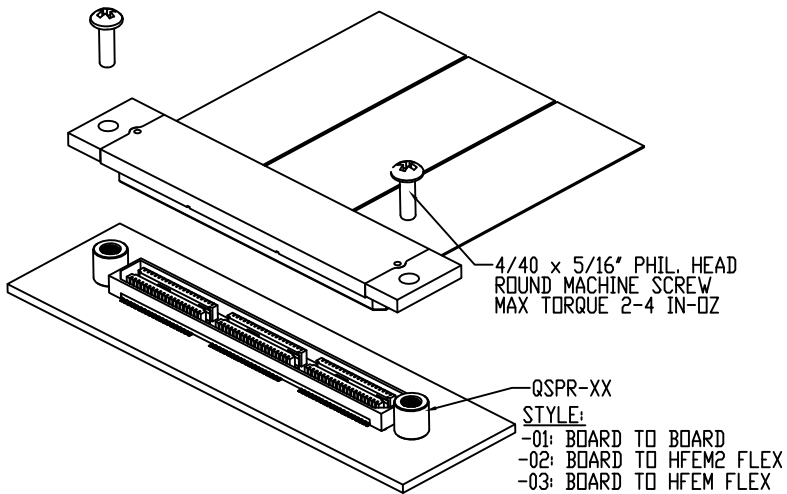


UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE:	PROPRIETARY NOTE THIS DOCUMENT CONTAINS INFORMATION CONFIDENTIAL AND PROPRIETARY TO PFC FLEXIBLE CIRCUITS AND SHALL NOT BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS OR DISCLOSED TO OTHERS OR USED FOR ANY PURPOSE OTHER THAN THAT 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
	CONNECTOR MATERIALS: INSULATORS: LCP CONTACTS, TERMINALS, & GROUND PLANES: PHOS BRONZE FLEX MATERIALS: SEE CROSS SECTION DETAIL	DO NOT SCALE DRAWING SHEET SCALE: 1:1 DESCRIPTION: HIGH SPEED FLEX 0.8mm ASSEMBLY

RECOMMENDED LAYOUT FOR -MH SCREW DOWN OPTIONS



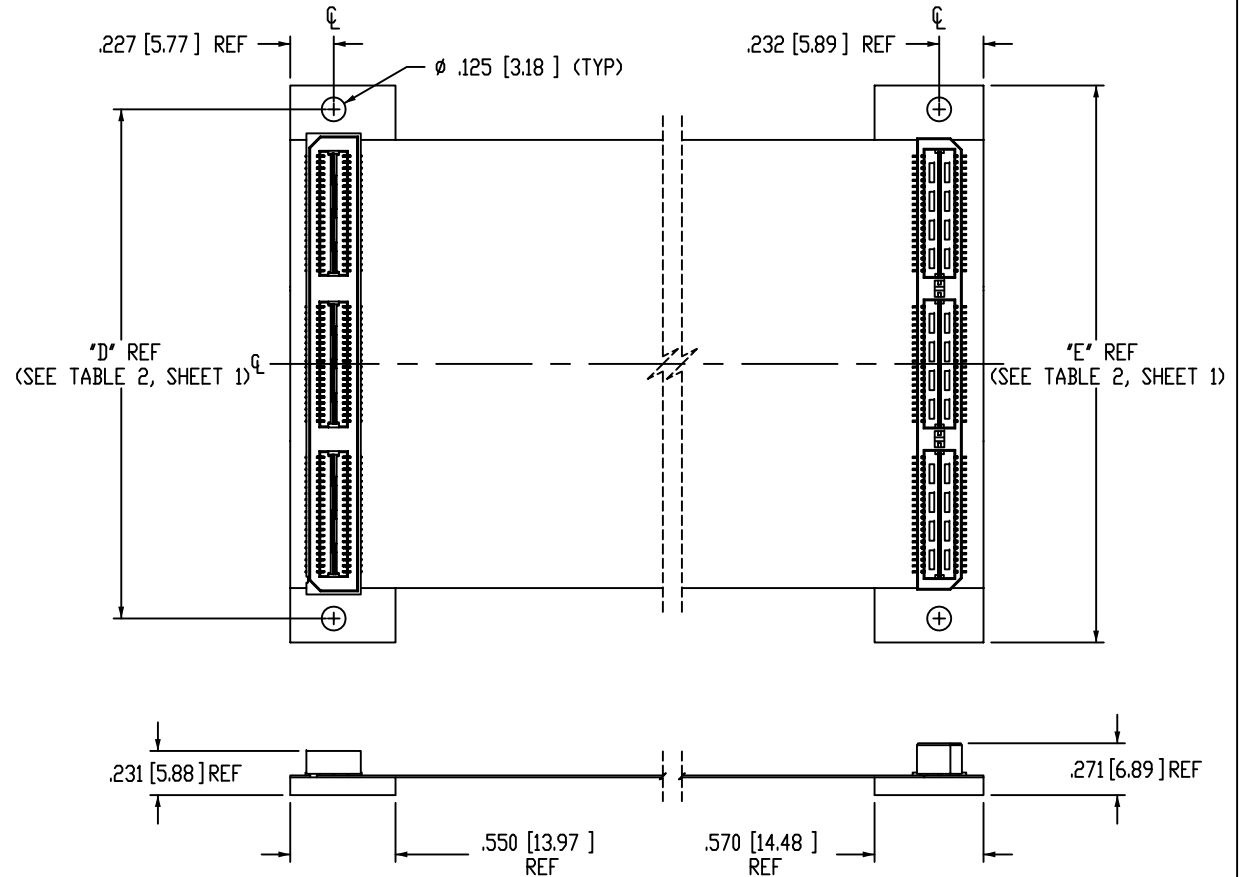
SCREW DOWN APPLICATION VIEW



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-HFEM2-060-T-10.00-SE-MH SHOWN



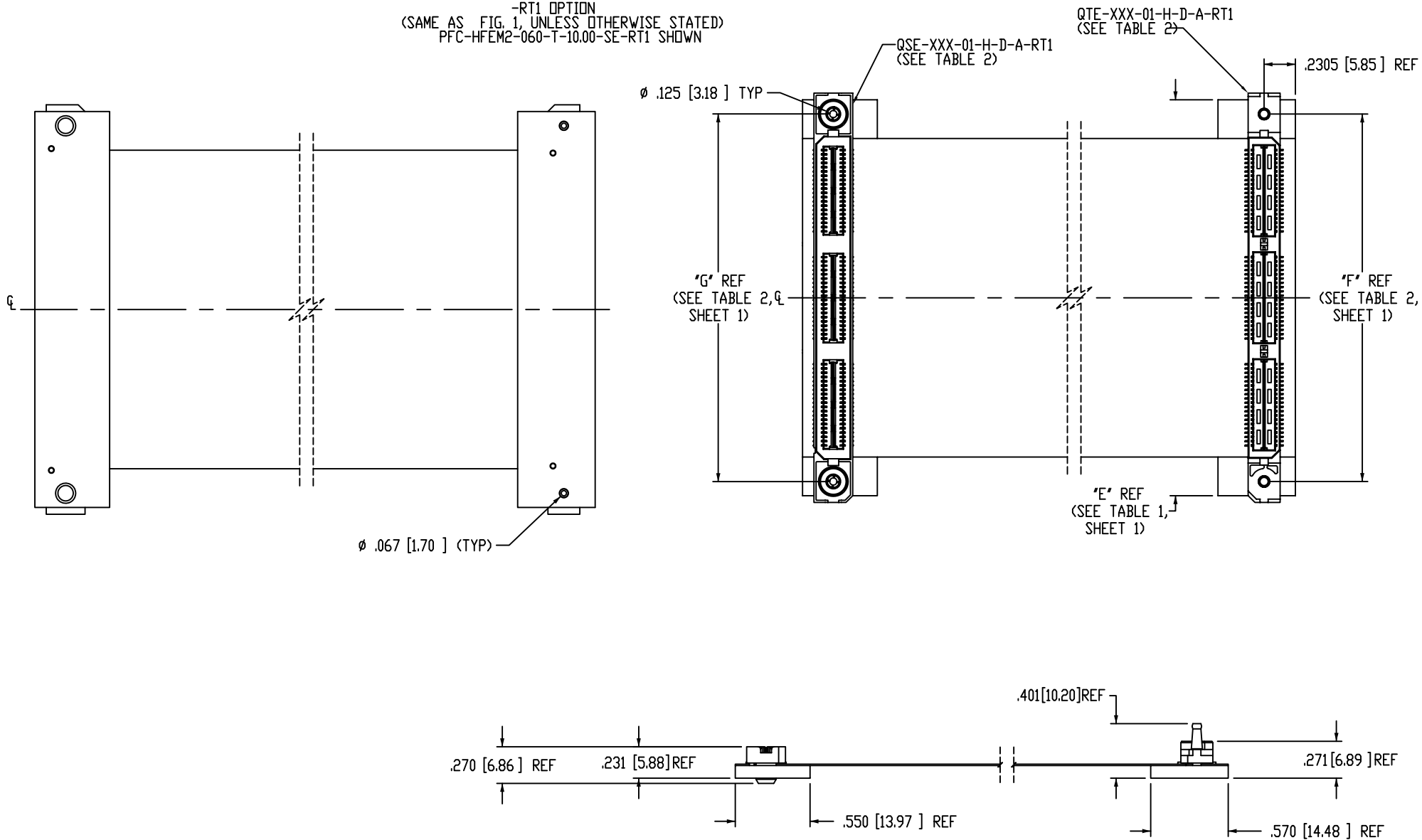
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PFC FLEXIBLE CIRCUITS
11 CANADIAN ROAD UNIT 7 SCARBOROUGH, ONTARIO
PHONE: 416-750-8433 FAX: 416-750-0016
e-Mail: sales@pfcflex.com

DO NOT SCALE DRAWING
SHEET SCALE: 1:1

DESCRIPTION:
HIGH SPEED FLEX 0.8mm ASSEMBLY
DWG. NO.
PFC-HFEM2-XXX-T-XX.XX-SE-XXX
BY: PFC 07/10/2012 SHEET 4 OF 6

FIG. 3
 -RT1 OPTION
 (SAME AS FIG. 1, UNLESS OTHERWISE STATED)
 PFC-HFEM2-060-T-10.00-SE-RT1 SHOWN



<p>PROPRIETARY NOTE THIS DOCUMENT CONTAINS INFORMATION CONFIDENTIAL AND PROPRIETARY TO PFC FLEXIBLE CIRCUITS AND SHALL NOT BE REPRODUCED OR TRANSFERRED TO OTHER DOCUMENTS 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</p> <p>DO NOT SCALE DRAWING</p> <p>SHEET SCALE: 1:1</p>	<p>PFC FLEXIBLE CIRCUITS</p> <p>11 CANADIAN ROAD UNIT 7 SCARBOROUGH, ONTARIO PHONE: 416-750-8433 FAX: 416-750-0016 e-Mail sales@pfcflex.com</p>	
	<p>DESCRIPTION: HIGH SPEED FLEX 0.8mm ASSEMBLY</p>	
	<p>DWG. NO. PFC-HFEM2-XXX-T-XX.XX-SE-XXX</p>	
	<p>BY: PFC</p>	<p>07/10/2012</p>

HFEM2-SE

-20 Shown. -40 and -60 repeat same pattern.

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

PROPRIETARY NOTE

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PURPOSE OTHER THAN THAT WHICH IT WAS
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-SE-XXX

BY: PFC 07/10/2012 SHEET 6 OF 6