

REVISION EQ

DO NOT SCALE FROM THIS PRINT

NOTES:

- ⊙ REPRESENTS A CRITICAL DIMENSION.
- PARTS MAY BE CUT TO POSITION.
- MAXIMUM CUT FLASH: .010 [0.25]
- MINIMUM PUSHOUT FORCE: 1.0 LB.
- MEASURED AT BEND RADIUS, NOT AT END OF PIN.
- TUBE ONLY -04 THROUGH -50 POSITIONS (SEE TABLE 2).
- SHEAR TAILS TO DIMENSION SHOWN.
- MAXIMUM BURR ALLOWANCE: .003 [0.08]
- GOLD PLATING TO BE ON POST, TIN PLATING TO BE ON TAIL.
- FILL WITH ALIGNMENT PIN HOLES TO TAIL SIDE.
- DUE TO THE HIGH AMOUNT OF INSERTION FORCE NEEDED, LOCKING CLIPS ARE NOT COMPATIBLE WITH AUTO PLACEMENT. SAMTEC RECOMMENDS MANUAL PLACEMENT FOR ALL ASSEMBLIES WITH LOCKING CLIPS.
- VOIDS MAY OR MAY NOT BE PRESENT ON POSITIONS 5 THRU 8 AND CAN BE MIXED WITHIN AN ORDER.
- ON LEAD STYLES -01 THROUGH -04 THE T-1S15-03 CAN BE SUBSTITUTED FOR T-1S15-14.

FTSH-1XX-XX-XXX-DV-XXX

No OF POSITIONS
-02 THRU -50
(PER ROW)

LEAD STYLE

- 01: .120 [3.05]
 - 02: .075 [1.91]
 - 03: .065 [1.65]
 - 04: .150 [3.81]
 - 05: .170 [4.32]
 - 14: .150 [3.81]
- (NOT AVAILABLE WITH
-SM, FM, LM PLATING OPTIONS)

PLATING SPECIFICATION

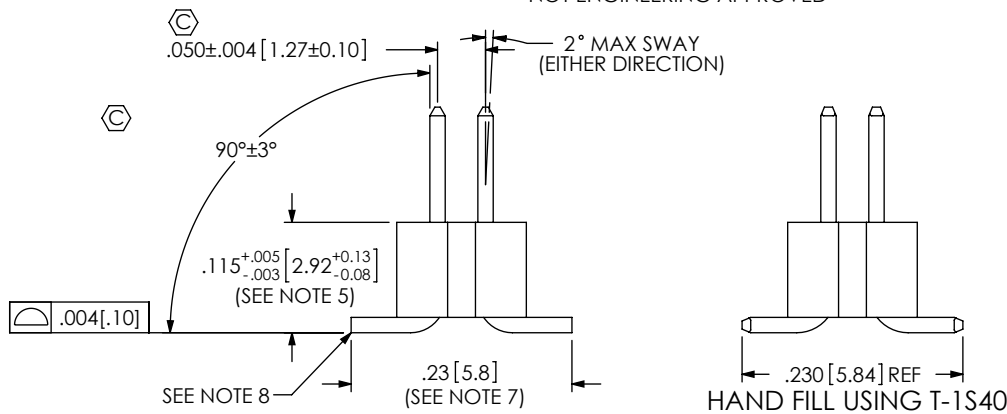
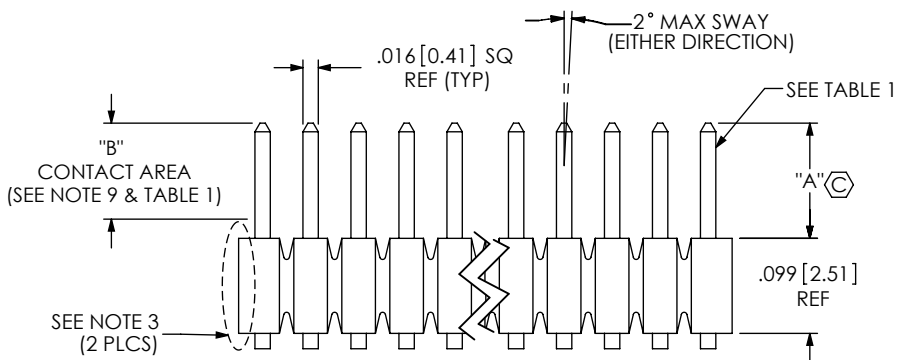
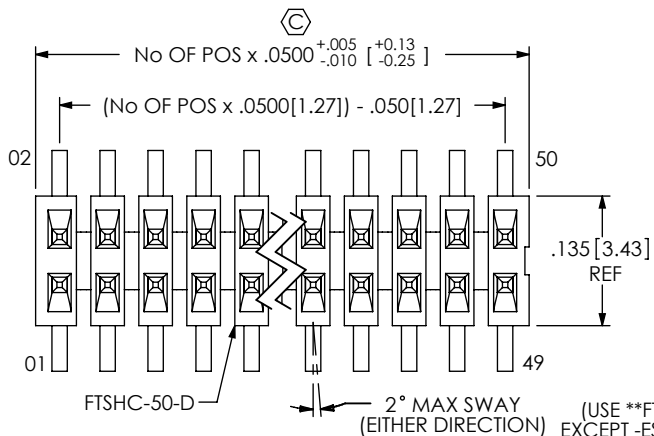
- L: 10μ" SELECTIVE GOLD IN CONTACT AREA, MATTE TIN ON TAIL
- F: 3μ" SELECTIVE GOLD IN CONTACT AREA, MATTE TIN ON TAIL
- S: 30μ" SELECTIVE GOLD IN CONTACT AREA, MATTE TIN ON TAIL
- H: 30μ" GOLD IN CONTACT AREA, 3μ" GOLD ON TAIL
- LM: 10μ" SELECTIVE GOLD IN CONTACT AREA, MATTE TIN ON TAIL
- FM: 3μ" SELECTIVE GOLD IN CONTACT AREA, MATTE TIN ON TAIL
- SM: 30μ" SELECTIVE GOLD IN CONTACT AREA, MATTE TIN ON TAIL
- LTL: 10μ" SELECTIVE GOLD IN CONTACT AREA, TIN/LEAD (90/10+/-5%) TAIL
- G: 10μ" GOLD IN CONTACT AREA, 3μ" GOLD ON TAIL

TAIL OPTION

- DV: DOUBLE VERTICAL
- (USE **FTSH-1XX-XX-XXX-DV FOR ALL OPTIONS EXCEPT -ES, -EJ, -EJM, -EJC, -EP, -EL, -EPC, -A, THEN USE FTSH-50-D AND BUILD PER PRINT)
** = SEE FTSH-1XX-XX-XXX-DX-XX PRINT FOR DETAILS

OPTIONS

- P: PICK & PLACE PAD (4 POS MIN) (SEE FIG 11, SHT 4 & TABLE 5)
 - TR: TAPE & REEL PACKAGING
 - ES: END SHROUDS (SEE FIG 6, SHT 3) (MOLDED IN 5 POS MIN; -02 & -03 LEAD STYLE ONLY) (SNAP SHROUDS 9 POS MIN; -02 & -03 LEAD STYLE ONLY) (MUST USE FTSH-50-D)
 - EJ: EJECTOR SHROUDS: SEE FIG 4, SHT 2) (10 POS MIN; -01 LEAD STYLE ONLY) (MUST USE FTSH-50-D)
 - EJM: EJECTOR SHROUDS WITH MOLDED ALIGNMENT PIN (SEE FIG 5, SHT 2; 10 POS MIN; -01 LEAD STYLE ONLY) (NOT VALID WITH -A OPTION) (MUST USE FTSH-50-D)
 - EJC: EJECTOR SHROUDS WITH LOCKING CLIP (SEE FIG 5, SHT 2 & NOTE 11) (10 POS MIN; -01 LEAD STYLE ONLY; NOT VALID WITH -A OPTION) (MUST USE FTSH-50-D)
 - EC: LOCKING CLIP (SEE FIG 7, SHT 3 & NOTE 11) (9 POS MIN; -02 & -03 LEAD STYLE ONLY) (MUST USE FTSH-50-D)
 - EP: GUIDE POST (SEE FIG 8, SHT 3; 9 POS MIN; -02 & -03 LEAD STYLE ONLY) (USE ONLY WHEN MATING WITH CLP) (MUST USE FTSH-50-D)
 - EL: BOARD LOCK (SEE FIG 9, SHT 3) (9 POS MIN; -02 & -03 LEAD STYLE ONLY) (USE ONLY WHEN MATING WITH CLP) (MUST USE FTSH-50-D)
 - EPC: GUIDE POST & LOCKING CLIP (SEE FIG 10, SHT 3 & NOTE 11; USE ONLY WHEN MATING WITH CLP) (9 POS MIN; -02 & -03 LEAD STYLE ONLY; NOT VALID WITH -A OPTION) (MUST USE FTSH-50-D)
 - A: ALIGNMENT PIN (MOLDED OR STAKED; SEE FIG 3, SHT 2) (MOLDED: 3 POS MIN; STAKED: 6 POS MIN) (SAMTEC DISCRETION ON WHICH -A PIN USED) (MUST USE FTSH-50-D)
 - K: KEYING OPTION FOR MATING WITH FFSD (SEE TABLE 3, SHT 2; 05 THRU 25 AVAILABLE AS STANDARD) (POSITION 13, 17, 20 & 25 AVAILABLE WITH -EJ OPTION) (LEAD STYLE -01 ONLY, SEE FIG 2, SHT 2 & NOTE 12) (ALIGNMENT PIN AVAILABLE WITH -K OPTION BUT MUST BE MOLDED) (MUST USE FTSH-XX-CN-XX)
 - *-M: METAL PICK & PLACE PAD (5 POS MIN; USE MPP-22-5) (SEE FIG 12, SHT 4; NOT AVAILABLE WITH -K OPTION)
- * = NOT ENGINEERING APPROVED



PATENT NUMBERS
5713755 / 5961339

FIG 1
FTSH-1XX-XX-XXX-DV SHOWN
(SEE FTSH-1XX-XX-XXX-DX-XX PRINT FOR DETAILS)

TABLE 1

LEAD STYLE	"A"	"B" REF	AUTOMATED BKT	HAND FILL	MICRO HEADER
-01	.120 [3.05]	.070 [1.78]	* T-1S15-14-XXX	T-1S40-03-XX-2	T-1S40-03-XX-3
-02	.075 [1.91]	.070 [1.78]	* T-1S15-14-XXX	* T-1S15-14-XXX	NOT AVAILABLE
-03	.065 [1.65]	.070 [1.78]	* T-1S15-14-XXX	* T-1S15-14-XXX	NOT AVAILABLE
-04	.150 [3.81]	.070 [1.78]	* T-1S15-14-XXX	* T-1S15-14-XXX	NOT AVAILABLE
-05	.170 [4.32]	.070 [1.78]	T-1S15-03-XXX	T-1S15-03-XXX	NOT AVAILABLE
* -14	.150 [3.81]	.135 [3.43]	T-1S15-63-XXX	T-1S15-63-XXX	NOT AVAILABLE

* = SEE NOTE 13

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
DECIMALS ANGLES
.XX: ±.01 [0.3] 1°
.XXX: ±.005 [0.13]
.XXXX: ±.0010 [0.25]

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MATERIAL: DO NOT SCALE DRAWING SHEET SCALE: 5:1
INSULATOR: LCP UL 94 VO
TERMINAL: PHOSPHOR BRONZE

DESCRIPTION:
.050 x .050 CL DOUBLE VERTICAL SMT TERMINAL STRIP

DWG. NO.
FTSH-1XX-XX-XXX-DV-XXX

BY: PURVIS 10/12/1995 SHEET 1 OF 5



520 PARK EAST BLVD, NEW ALBANY, IN 47150
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FIG 2

-K OPTION
 (LEAD STYLE -01 ONLY)
 (DIFFERENT AS SHOWN, OTHERWISE SAME AS FIG 1)
 (POSITION 13, 17, 20 & 25 AVAILABLE WITH
 -EJ OPTION)

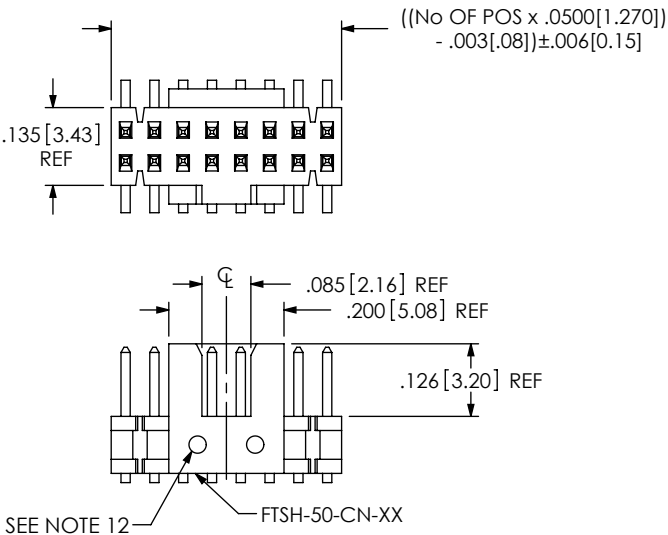


TABLE 3		
No OF POS	BODY	No OF PARTS PER FULL STRIP
-05	FTSH-50-CN-05	10
-06	FTSH-50-CN-06	8
-07	FTSH-50-CN-07	7
-08	FTSH-50-CN-08	6
-09	FTSH-50-CN-09	5
-10	FTSH-50-CN-10	5
-11	FTSH-50-CN-11	4
-12	FTSH-50-CN-12	4
-13	FTSH-50-CN-13	3
-14	FTSH-50-CN-14	3
-15	FTSH-50-CN-15	3
-16	FTSH-50-CN-16	3
-17	FTSH-50-CN-17	2
-18	FTSH-50-CN-18	2
-19	FTSH-50-CN-19	2
-20	FTSH-50-CN-20	2
-21	FTSH-50-CN-21	2
-22	FTSH-50-CN-22	2
-23	FTSH-50-CN-23	2
-24	FTSH-50-CN-24	2
-25	FTSH-50-CN-25	2

FIG 4
 SCALE 2 : 1
 -EJ OPTION
 (DIFFERENT AS SHOWN, OTHERWISE SAME AS FIG 1)
 (-01 LEAD STYLE ONLY)

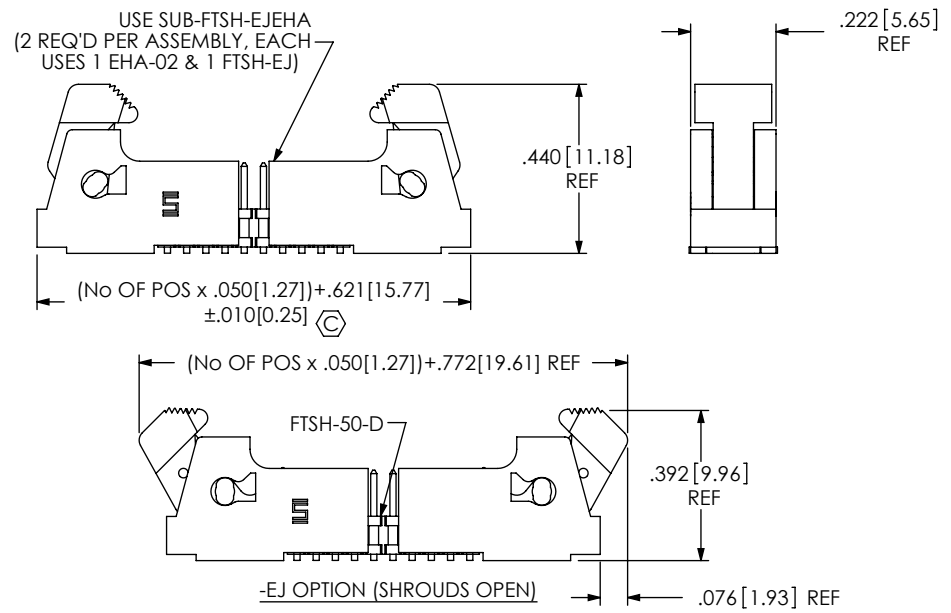


FIG 3

-A OPTION
 (DIFFERENT AS SHOWN, OTHERWISE SAME AS FIG 1)
 (6 POSITION MINIMUM FOR STAKED ALIGNMENT PINS)
 (3 POSITION MINIMUM FOR MOLDED ALIGNMENT PINS)

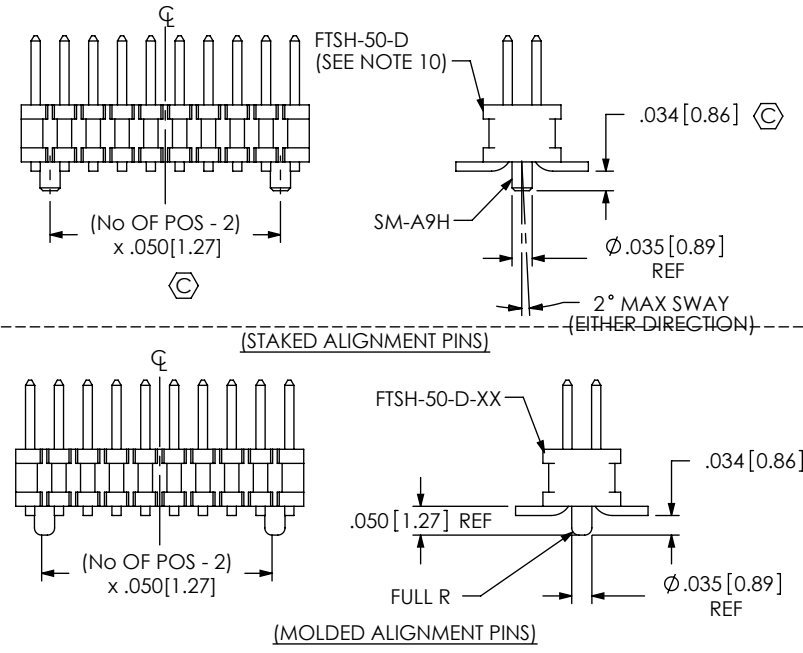
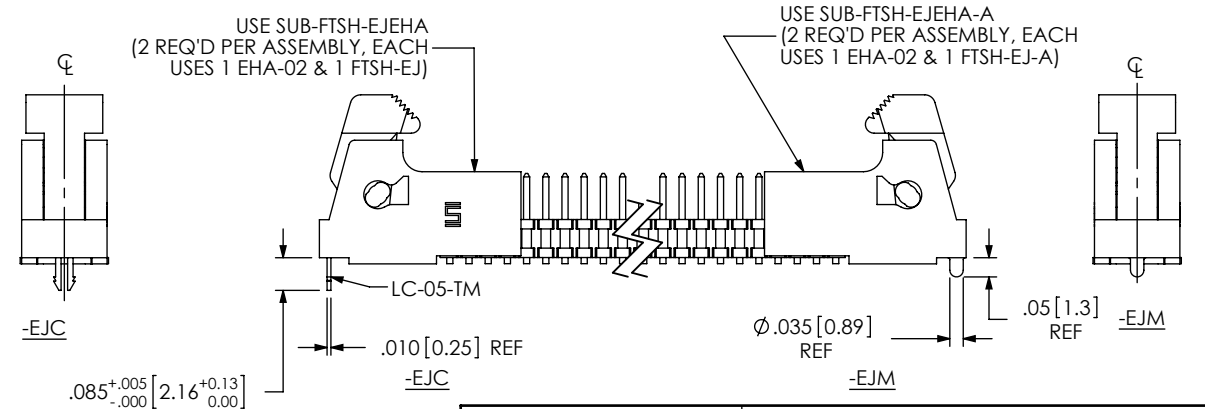


FIG 5
 SCALE 2 : 1
 -EJC & -EJM OPTIONS
 (DIFFERENT AS SHOWN, OTHERWISE SAME AS FIG 4)
 (-01 LEAD STYLE ONLY)



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DESCRIPTION:
 .050 x .050 CL DOUBLE VERTICAL SMT TERMINAL STRIP
 DWG. NO.
FTSH-1XX-XX-XXX-DV-XXX
 BY: PURVIS 10/12/1995 SHEET 2 OF 5

FIG 6
 -ES OPTION
 (DIFFERENT AS SHOWN, OTHERWISE SAME AS FIG 1)
 (USE -02 OR -03 LEAD STYLE ONLY)
 (9 POS MIN FOR SNAP SHROUDS)
 (5 POS MIN FOR MOLDED SHROUDS)

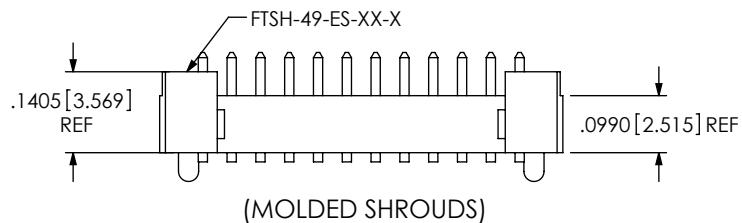
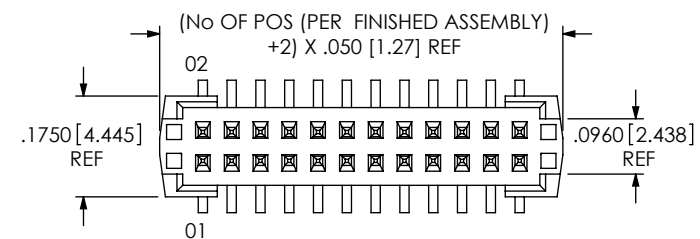
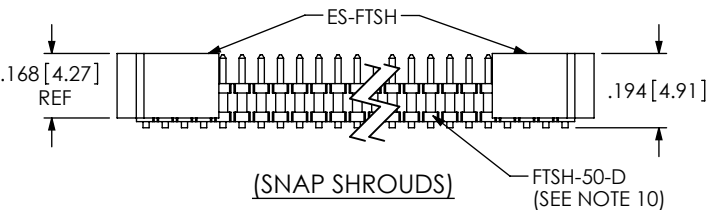
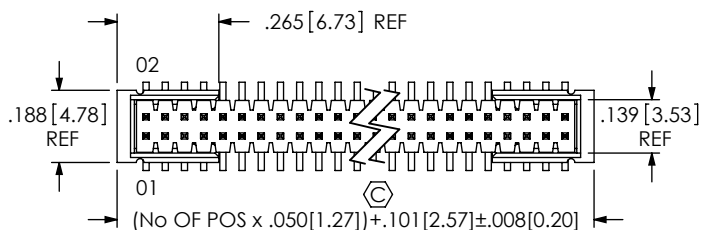
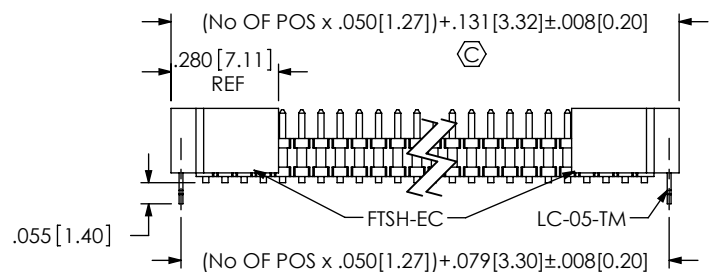


FIG 7
 -EC OPTION
 (DIFFERENT AS SHOWN, OTHERWISE SAME AS FIG 6)



F:\DWG\MISC\MKTG\FTSH-1XX-XX-XXX-DV-XXX-MKT.SLDDRW

FIG 8
 -EP OPTION
 (DIFFERENT AS SHOWN, OTHERWISE SAME AS FIG 6)
 (USE ONLY WHEN MATING WITH CLP)

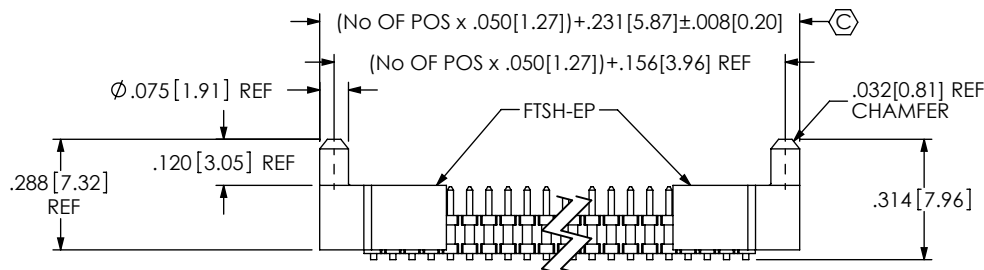


FIG 9
 -EL OPTION
 (DIFFERENT AS SHOWN, OTHERWISE SAME AS FIG 6)
 (USE ONLY WHEN MATING WITH CLP)

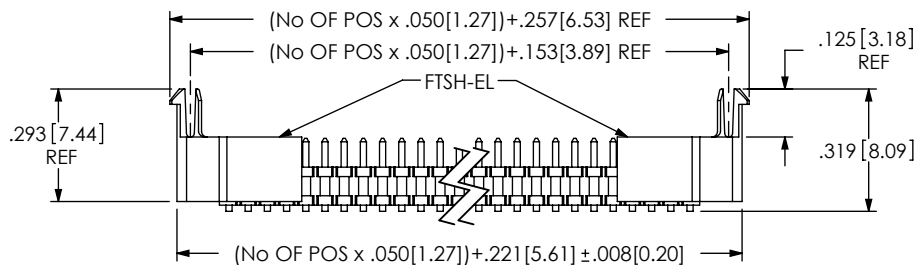
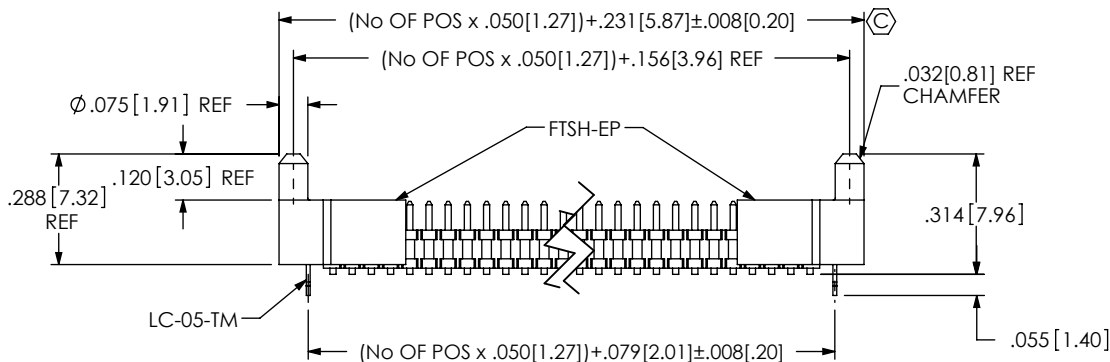


FIG 10
 -EPC OPTION
 (DIFFERENT AS SHOWN, OTHERWISE SAME AS FIG 6)
 (USE ONLY WHEN MATING WITH CLP)



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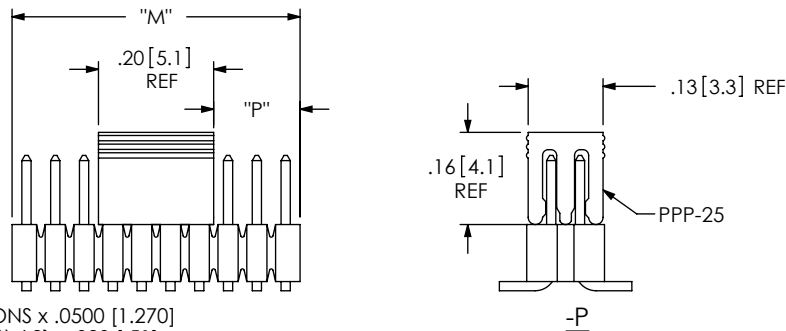
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DESCRIPTION:
 .050 x .050 CL DOUBLE VERTICAL SMT TERMINAL STRIP

DWG. NO.
FTSH-1XX-XX-XXX-DV-XXX

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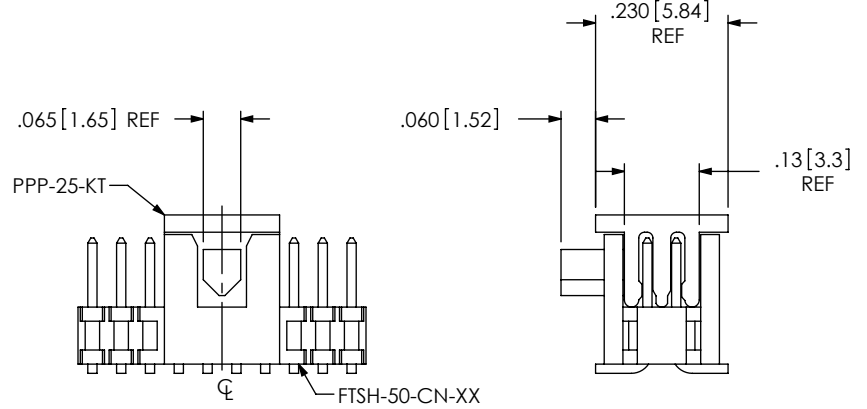
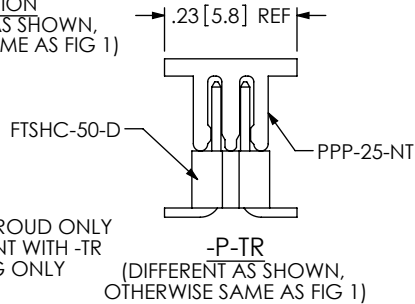


"M" = No OF POSITIONS x .0500 [1.270]
 "P" = {("M" -.200 [508]) / 2} ±.020 [.51]

FIG 11
 -P OPTION
 (DIFFERENT AS SHOWN,
 OTHERWISE SAME AS FIG 1)

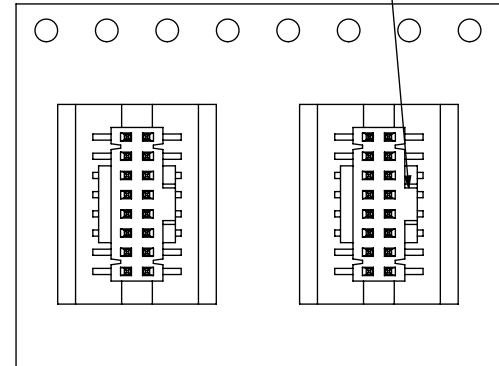
TABLE 5		
OPTION(S)	PAD	MIN. POS
NONE, -A	PPP-25**	4
-EJ, -EJC, -EJM	PPP-41	10
-ES, -EC, -EP, -EL	PPP-25**	9
-EPC	PPP-25**	5*
-K	PPP-25-KT	5
-K-EJ	PPP-25-KT	10

*MOLDED SHROUD ONLY
 ** USE PPP-25-NT WITH -TR
 PACKAGING ONLY

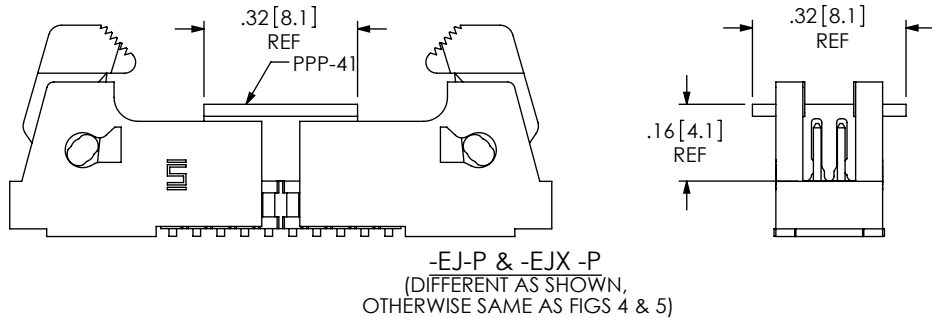


-K-P-TR
 (DIFFERENT AS SHOWN,
 OTHERWISE SAME AS FIG 2)

NOTE: TAPE & REEL ORIENTATION:
 POLARIZATION NOTCH TO THE RIGHT

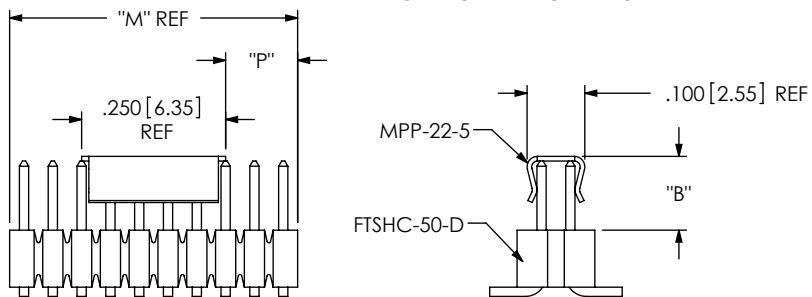


TAPE & REEL VIEW
 USER DIRECTION OF UN-REELING →
 POCKET NOT DETAILED



-EJ-P & -EJX -P
 (DIFFERENT AS SHOWN,
 OTHERWISE SAME AS FIGS 4 & 5)

FIG 12
 *-M: METAL PICK & PLACE PAD
 (DIFFERENT AS SHOWN, OTHERWISE SAME AS FIG 1)
 (NOT AVAILABLE WITH -K OPTION)(5 POS MIN)
 * = NOT ENGINEERING APPROVED



"M" = No OF POSITIONS x .0500 [1.270]
 "P" = {("M" -.250 [6.35]) / 2} ± .020 [0.51]

TABLE 4	
LEAD STYLE	"B" REF
-01	.125 [3.18]
-02	.080 [2.03]
-03	.070 [1.78]
-04	.155 [3.94]
-14	.155 [3.94]

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FTSH-1XX-XX-XXX-DV-XXX

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FIG 13
TUBE VIEWS

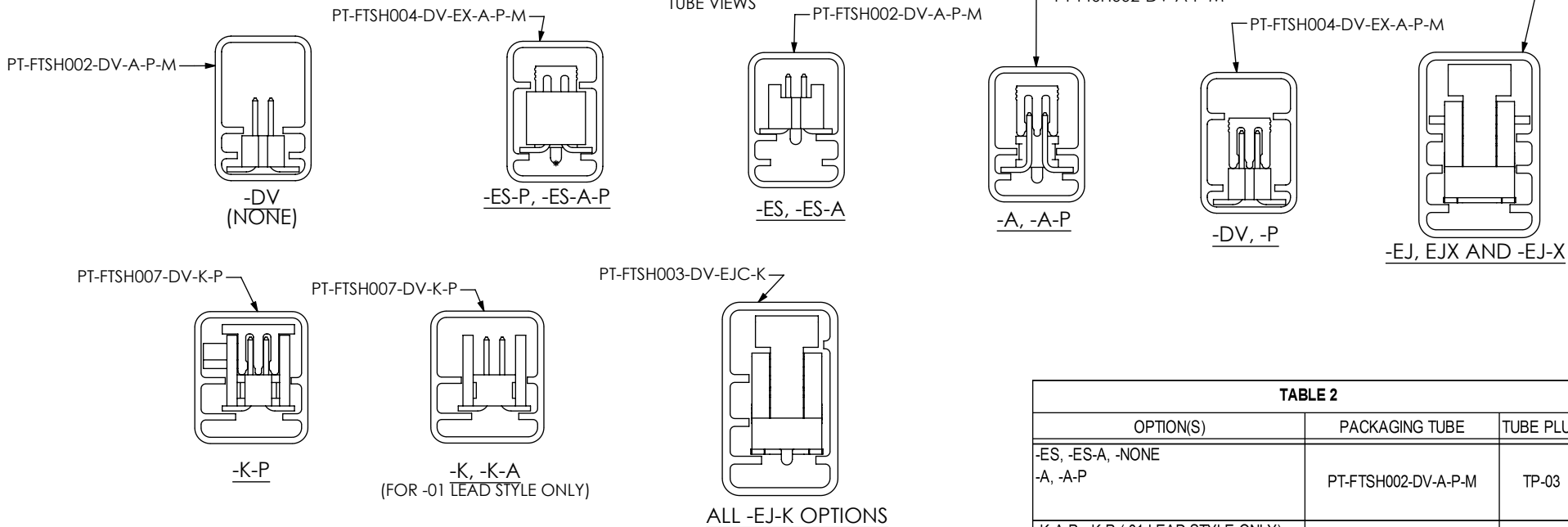
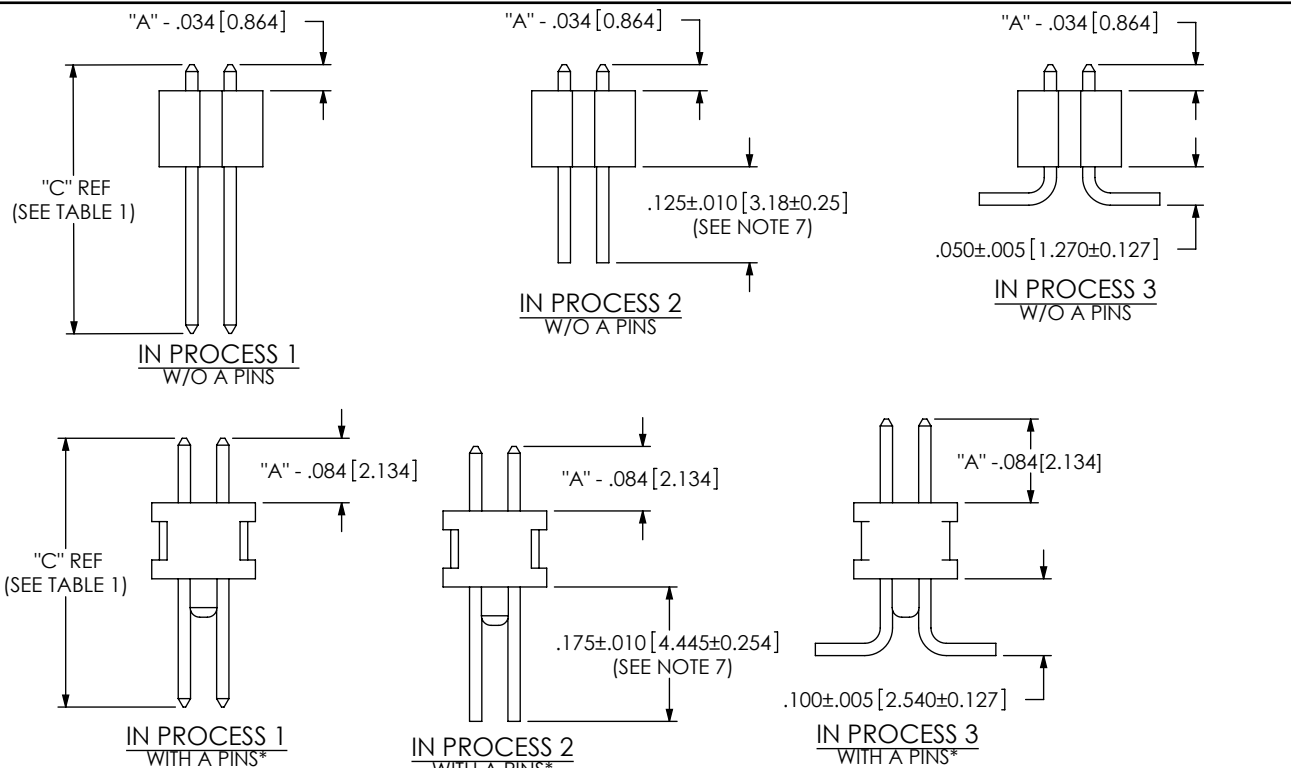


TABLE 2		
OPTION(S)	PACKAGING TUBE	TUBE PLUG
-ES, -ES-A, -NONE -A, -A-P	PT-FTSH002-DV-A-P-M	TP-03
-K-A-P, -K-P (-01 LEAD STYLE ONLY) -K-P (-04 LEAD STYLE ONLY) -K, -K-A (FOR -01 LEAD STYLE ONLY)	PT-FTSH007-DV-K-P	TP-09
-ES-P, -ES-A-P -EC, -EC-P, -EL-P -EP, -EP-A, EP-P, -EP-A-P -EPC, -EPC-D, -EPC-P -EL, -EL-A, -EL-A-P -P (ALL LEAD STYLES)	PT-FTSH004-DV-EX-A-P-M	TP-03
-EJ-K, -EJ-K-P -EJ-K-A, -EJ-K-A-P	PT-FTSH003-DV-EJC-K	TP-03
-EJ, -EJ-P, -EJ-A-P, -EJ-A, -EJ-M, -EJ-C	PT-FTSH006-DV-EJC-K-P	TP-03



* = FOR -01, -04, -05 AND -14 LEAD STYLES ONLY

IN-PROCESS VIEWS ARE FOR HANDFILL ONLY

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FTSH-1XX-XX-XXX-DV-XXX

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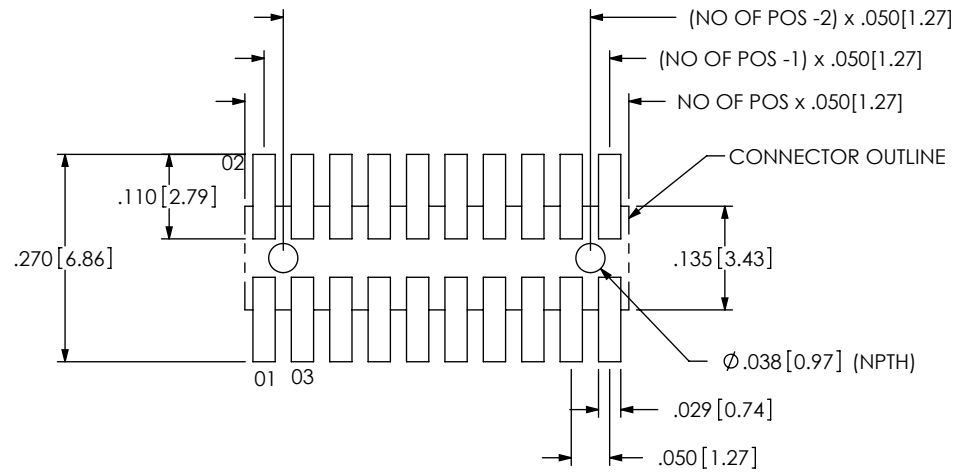


FIG 1
 FTSH-1XX-XX-XXX-DV-A
 ALL DIMENSIONS ARE SYMMETRIC ABOUT THE CENTERLINE.

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NOTES:
1. STENCIL TO BE .0060[.152] THICK.

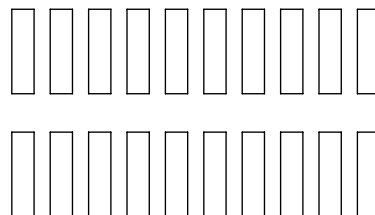


FIG 2
FTSH-1XX-XX-XXX-DV-A
(SAME AS FIG 1, DIFFERENT AS SHOWN)

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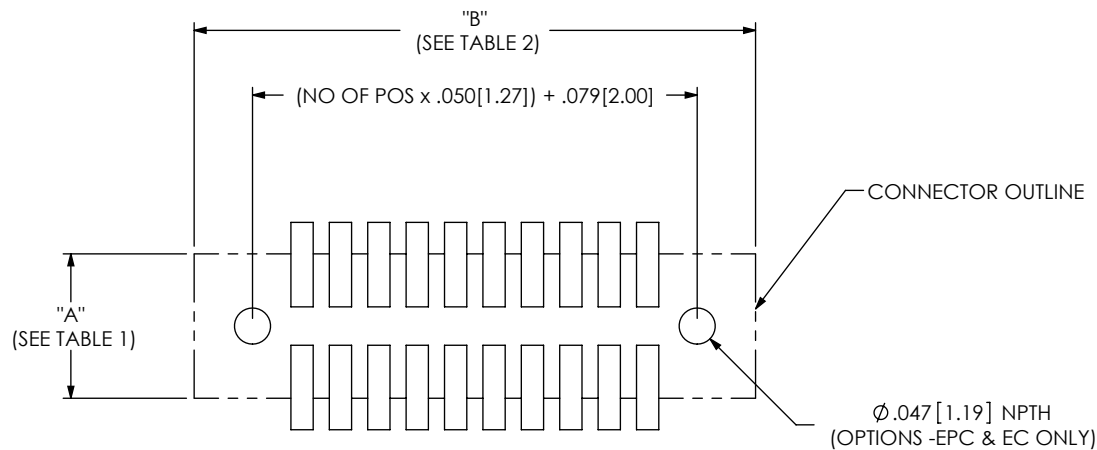


FIG 3
 FTSH-1XX-XX-XXX-DV-EPC/EC/ES
 SAME AS FIG 1, DIFFERENT AS SHOWN
 ALL DIMENSIONS ARE SYMMETRIC ABOUT THE CENTERLINE.

TABLE 1	
SHROUD TYPE	"A"
SNAP SHROUD	.188[4.78]
MOLDED SHROUD	.175[4.45]

TABLE 2	
OPTION	"B"
-EPC	$\text{NO OF POS} \times .050[1.27] + .231[5.87]$
-EC	$\text{NO OF POS} \times .050[1.27] + .131[3.32]$
-ES	$\text{NO OF POS} \times .050[1.27] + .101[2.57]$

F

F:\DWG\MISC\Mktg\Footprint\FTSH-1XX-XX-XXX-DV-XXX-FOOTPRINT.SLDDRW

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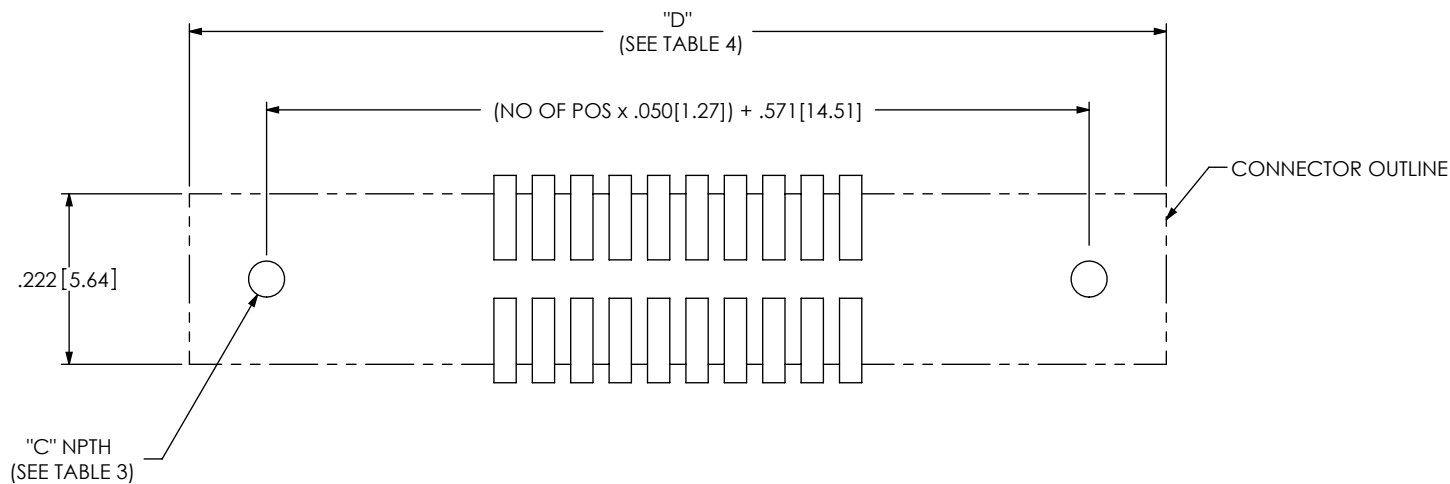


FIG 4
 FTSH-1XX-XX-XXX-DV-EJX
 SAME AS FIG 1, DIFFERENT AS SHOWN
 ALL DIMENSIONS ARE SYMMETRIC ABOUT THE CENTERLINE.

TABLE 3	
OPTION	"C"
-EJM	.010[0.25]
-EJC	.035[.089]

TABLE 4	
SHROUD POSITION	"D"
SHROUD OPEN	NO OF POS x .050[1.27] + .772[19.61]
SHROUD CLOSED	NO OF POS x .050[1.27] + .621[15.77]

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