

REVISION FG

DO NOT SCALE FROM THIS PRINT

NOTES:

1.  $\text{\textcircled{C}}$  REPRESENTS A CRITICAL DIMENSION.
2. PARTS MAY BE CUT TO POSITION.
3. MAXIMUM CUT FLASH: .015[0.38]. LOOSE FLASH MUST BE REMOVED.
4. MINIMUM PUSHOUT FORCE: 1.0 LB.
5. MEASURED AT BEND RADIUS, NOT AT END OF PIN.
6. TUBE ONLY -04 THROUGH -50 POSITIONS (SEE TABLE 2).
7. SHEAR TAILS TO DIMENSION SHOWN.
8. MAXIMUM BURR ALLOWANCE: .003 [0.08]
9. GOLD PLATING TO BE ON POST, TIN PLATING TO BE ON TAIL.
10. FILL WITH ALIGNMENT PIN HOLES TO TAIL SIDE.
11. 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.
12. VOIDS MAY OR MAY NOT BE PRESENT ON POSITIONS 5 THRU 8 AND CAN BE MIXED WITHIN AN ORDER.
13. ON LEAD STYLES -02 THROUGH -03 THE T-1S15-18-XXX CAN BE SUBSTITUTED FOR T-1S15-16-XXX.
14. ON LEAD STYLES -01 AND -04, T-1S15-17 CAN BE SUBSTITUTED FOR T-1S15-15-XXX.
15. NO TIN PLATING ALLOWED ON THE POST FOR LEAD STYLES -01, -02, -03 & -04 IN COMBINATION WITH THE T-1S15-XX-XXX TERMINAL.

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

No OF POSITIONS

-02 THRU -50 (PER ROW)

LEAD STYLE

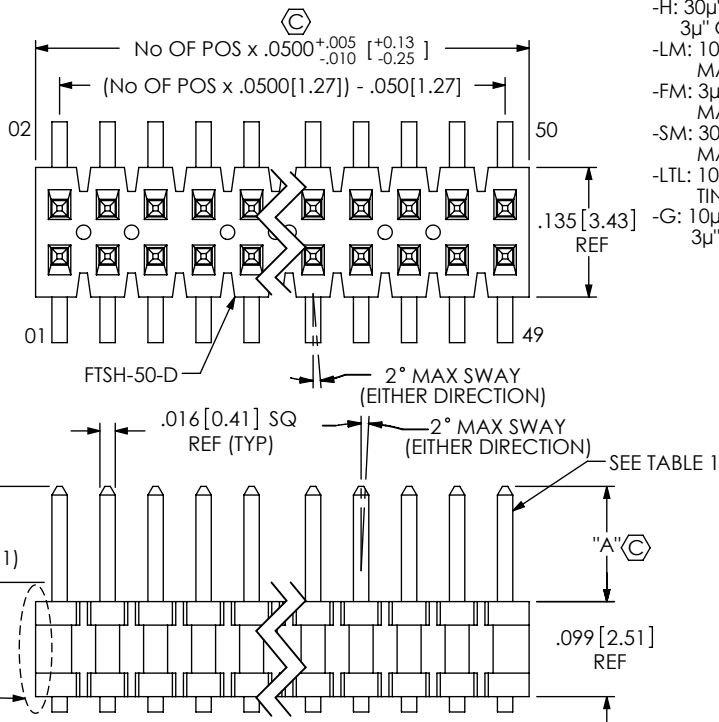
- 01: .120 [3.05]
- 02: .075 [1.91]
- 03: .065 [1.65]
- 04: .150 [3.81]
- 05: .170 [4.32]
- 14: .150 [3.81] [NOT AVAILABLE WITH -SM, FM, LM PLATING OPTIONS]

PLATING SPECIFICATION

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

OPTIONS

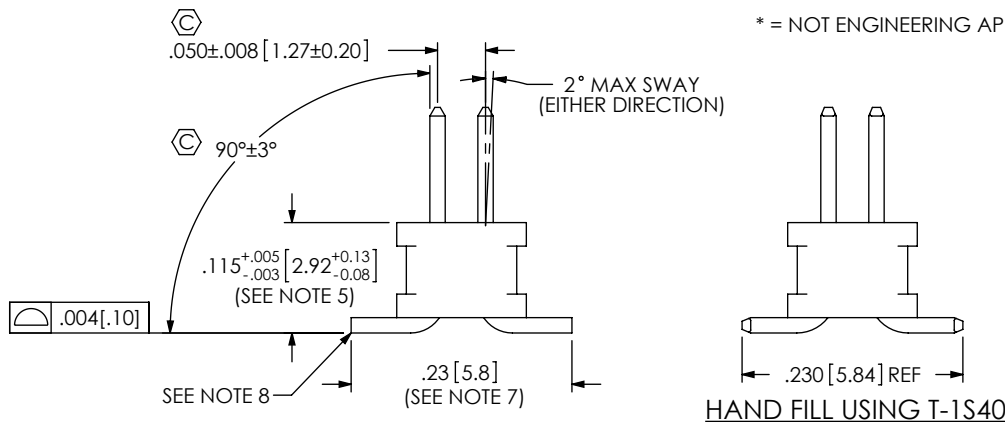
- P: PICK & PLACE PAD (4 POS MIN) (SEE FIG 11, SHT 4 & TABLE 5)
- TR: TAPE & REEL PACKAGING
- ES: END SHROUDS (SEE FIG 6, SHT 3) (MOLDED IN 5 POS MIN; -02 & -03 LEAD STYLE ONLY) (SNAP SHROUDS 9 POS MIN; -02 & -03 LEAD STYLE ONLY)
- EJ: EJECTOR SHROUDS: SEE FIG 4, SHT 2) (10 POS MIN; -01 LEAD STYLE ONLY)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



TAIL OPTION  
-DV: DOUBLE VERTICAL

POLARIZING OPTION  
XXX INDICATES POSITION TO BE OMITTED (NOT AVAILABLE WITH EXX OPTIONS) (ONLY AVAILABLE WITH -F, -FM, -L, -LM PLATING OPTIONS)

\* = NOT ENGINEERING APPROVED



PATENT NUMBERS  
5713755 / 5961339

FIG 1  
FTSH-1XX-XX-XXX-DV SHOWN

HAND FILL USING T-1S40

TABLE 1

| LEAD STYLE | "A"         | "B" REF     | AUTOMATED BKT     | "C" (OAL)   | HAND FILL         | "C" (OAL)   | MICRO HEADER   |
|------------|-------------|-------------|-------------------|-------------|-------------------|-------------|----------------|
| -01        | .120 [3.05] | .070 [1.78] | *** T-1S15-15-XXX | .675[17.15] | T-1S40-03-XX-2    | .309[7.85]  | T-1S40-03-XX-3 |
| -02        | .075 [1.91] | .050 [1.27] | * T-1S15-16-XXX   | .675[17.15] | * T-1S15-18-XXX   | .800[20.32] | NOT AVAILABLE  |
| -03        | .065 [1.65] | .050 [1.27] | ** T-1S15-16-XXX  | .675[17.15] | * T-1S15-18-XXX   | .800[20.32] | NOT AVAILABLE  |
| -04        | .150 [3.81] | .070 [1.78] | ** T-1S15-15-XXX  | .675[17.15] | *** T-1S15-17-XXX | .800[20.32] | NOT AVAILABLE  |
| -05        | .170 [4.32] | .070 [1.78] | T-1S15-03-XXX     | .800[20.32] | T-1S15-03-XXX     | .800[20.32] | NOT AVAILABLE  |
| -14        | .150 [3.81] | .135 [3.43] | T-1S15-63-XXX     | .800[20.32] | T-1S15-63-XXX     | .800[20.32] | NOT AVAILABLE  |

\* = SEE NOTE 13  
\*\*\* = SEE NOTE 14

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.  
TOLERANCES ARE:  
DECIMALS ANGLES  
.XX: ±.01 [.3] 1°  
.XXX: ±.005 [.13]  
.XXXX: ±.0010 [.025]

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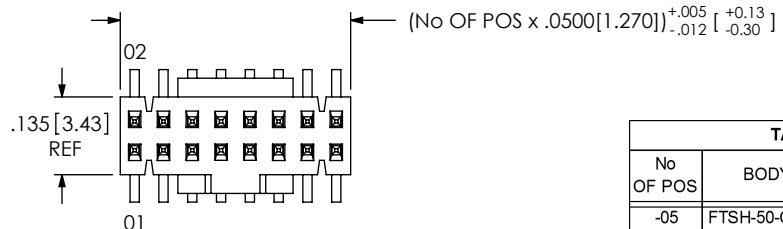
MATERIAL: DO NOT SCALE DRAWING SHEET SCALE: 5:1  
INSULATOR: LCP UL 94 VO  
TERMINAL: PHOSPHOR BRONZE

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

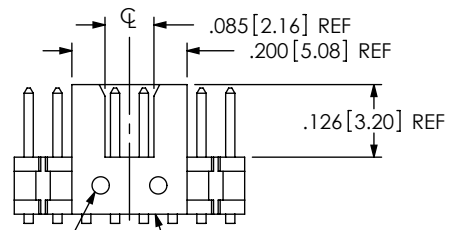
DWG. NO.  
FTSH-1XX-XX-XXX-DV-XXX-XXX

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01



SEE NOTE 12

FTSH-50-CN-XX-X  
OR FTSHC-50-CN-XX-X

FIG 2

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

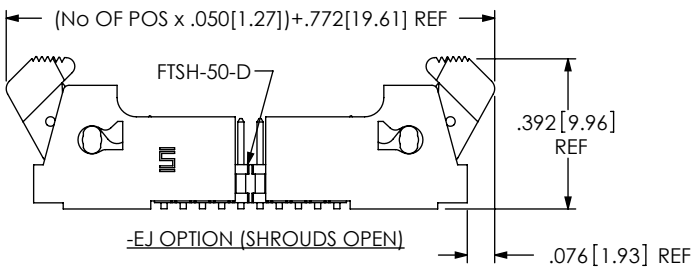
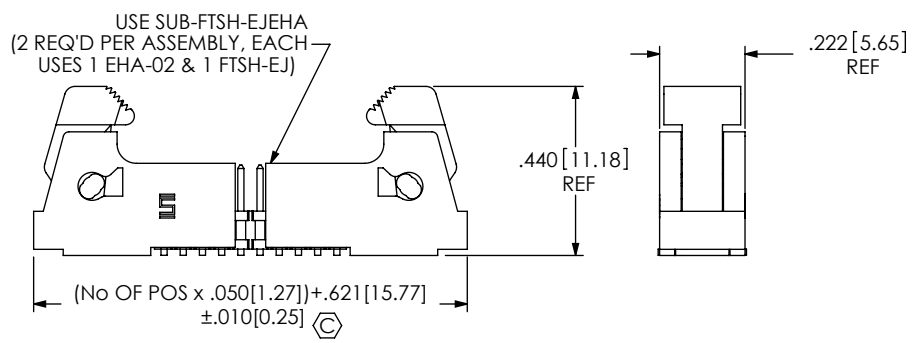


FIG 4

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

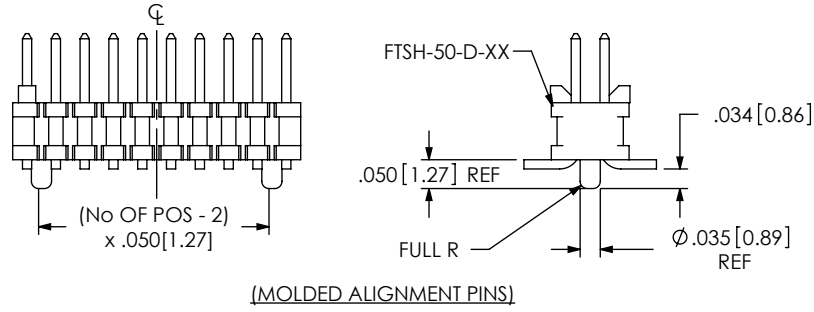
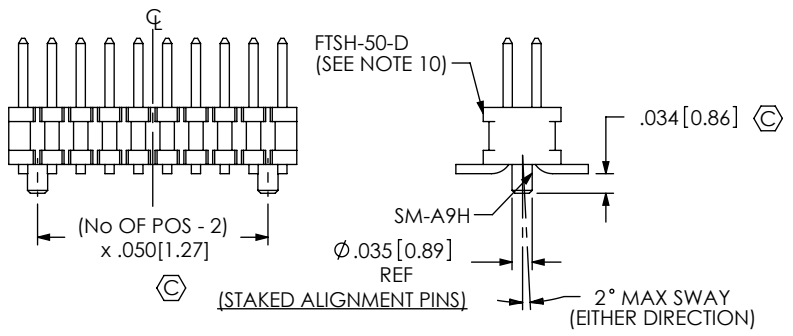


FIG 3

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

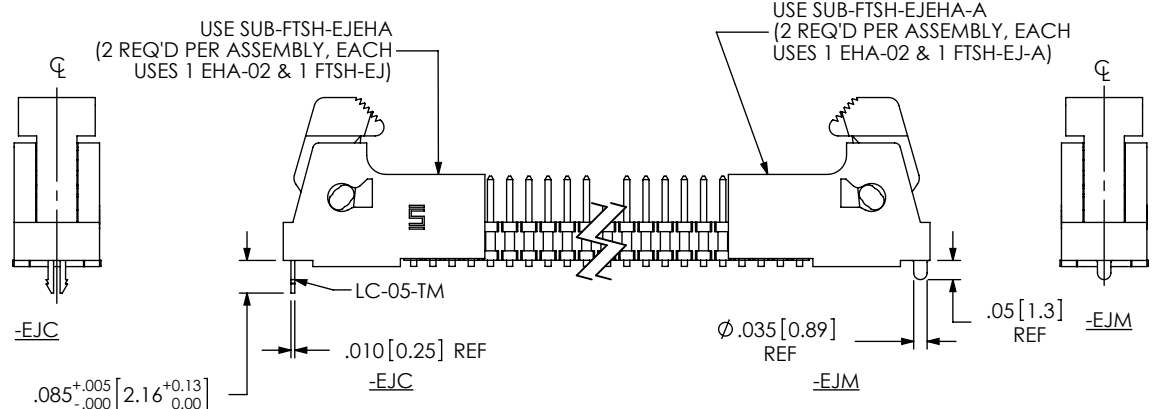


FIG 5

-EJC & -EJM OPTIONS  
(DIFFERENT AS SHOWN, OTHERWISE SAME AS FIG 4)  
(-01 LEAD STYLE ONLY)

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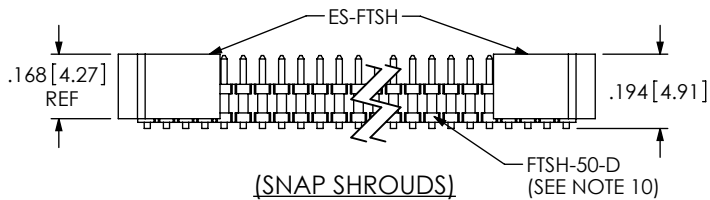
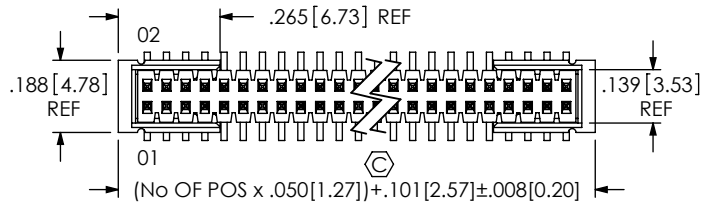
SHEET SCALE: 3:1

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

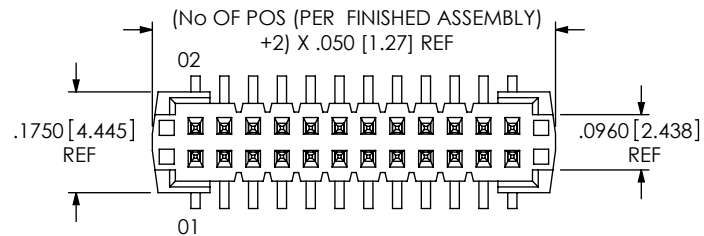
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**FTSH-1XX-XX-XXX-DV-XXX-XXX**

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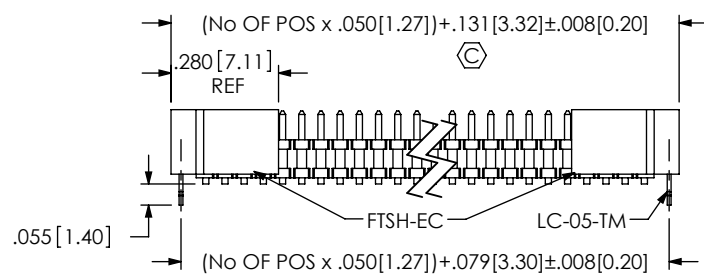


(SNAP SHROUDS)

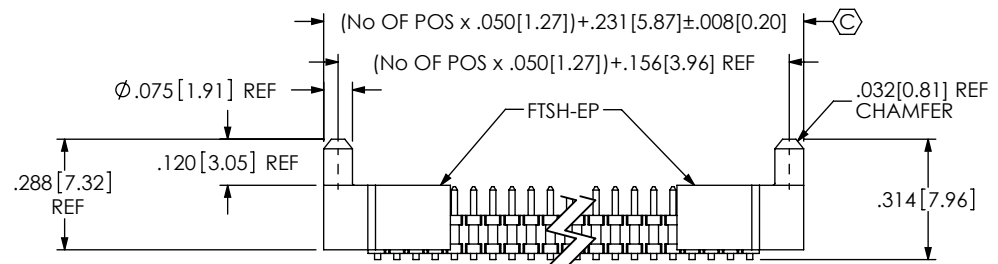


(MOLDED SHROUDS)

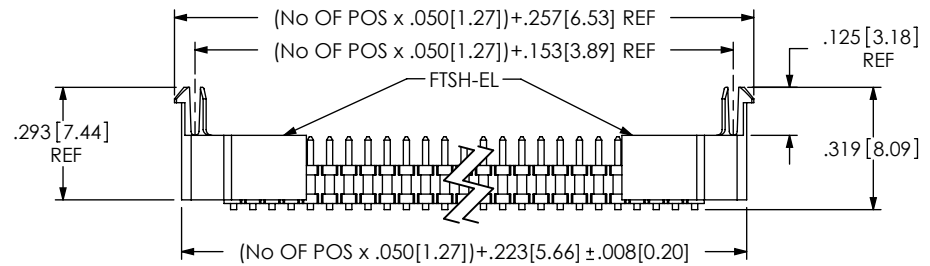
**FIG 6**  
-ES OPTION  
(DIFFERENT AS SHOWN, OTHERWISE SAME AS FIG 1)  
(USE -02 OR -03 LEAD STYLE ONLY)  
(9 POS MIN FOR SNAP SHROUDS)  
(5 POS MIN FOR MOLDED SHROUDS)



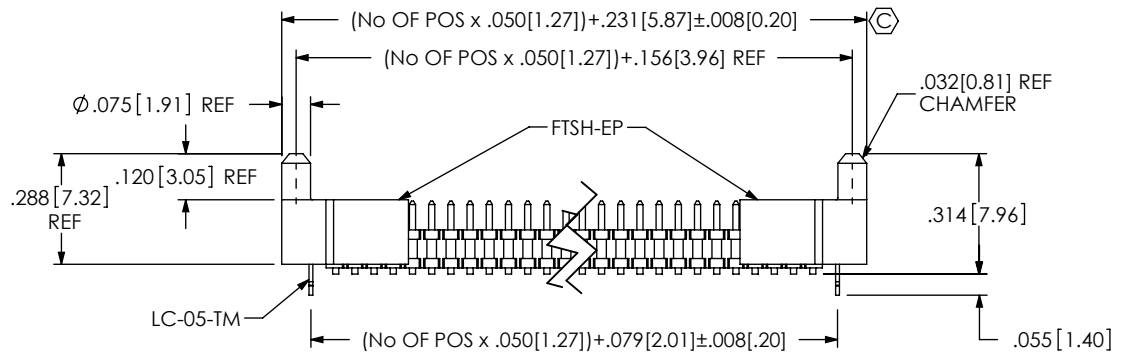
**FIG 7**  
-EC OPTION  
(DIFFERENT AS SHOWN, OTHERWISE SAME AS FIG 6)



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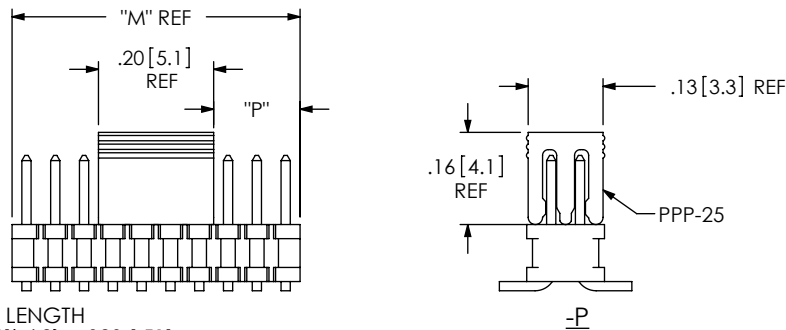
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DESCRIPTION:  
.050 x .050 CL DOUBLE VERTICAL SMT TERMINAL STRIP

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

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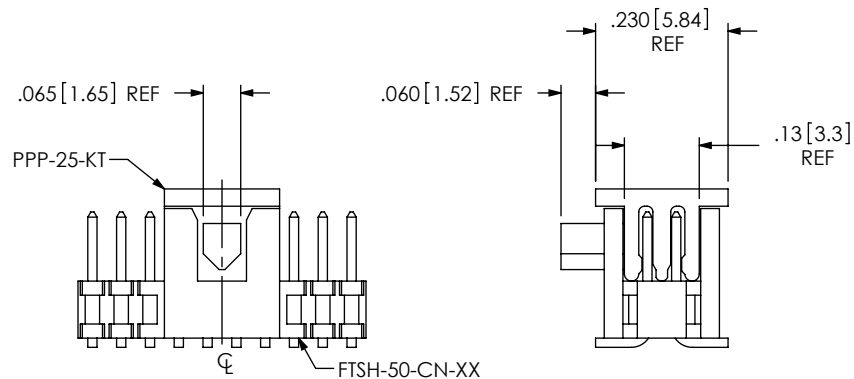
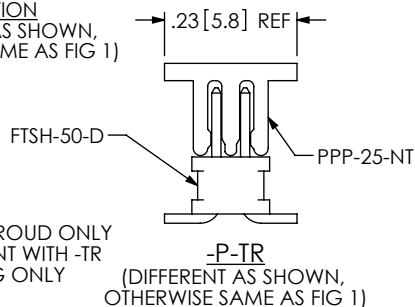


"M" REF = OVERALL LENGTH  
 "P" =  $\{("M" - .200 [508]) / 2\} \pm .020 [51]$

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

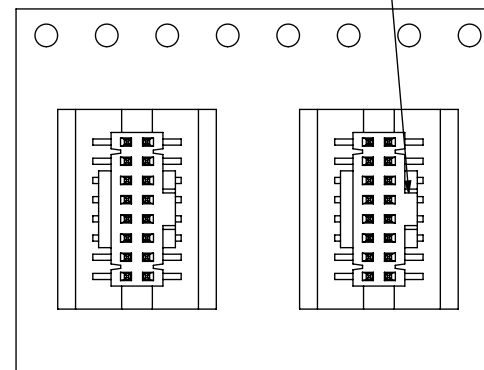
| TABLE 5            |           |          |
|--------------------|-----------|----------|
| OPTION(S)          | PAD       | MIN. POS |
| NONE, -A           | PPP-25**  | 4        |
| -EJ, -EJC, -EJM    | PPP-41    | 10       |
| -ES, -EC, -EP, -EL | PPP-25**  | 9        |
| -EPC               | PPP-25**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

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

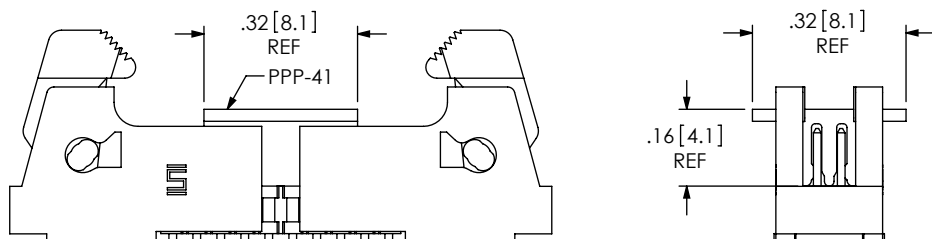


-K-P-TR  
 (DIFFERENT AS SHOWN,  
 OTHERWISE SAME AS FIG 2)

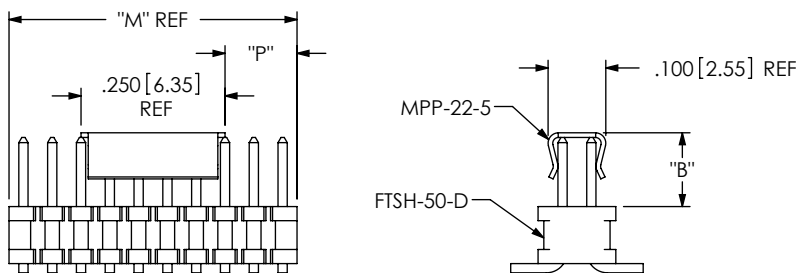
NOTE: TAPE & REEL ORIENTATION:  
 POLARIZATION NOTCH TO THE RIGHT



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



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



"M" REF = OVERALL LENGTH  
 "P" =  $\{("M" - .250 [6.35]) / 2\} \pm .020 [0.51]$

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

| 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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 .050 x .050 CL DOUBLE VERTICAL SMT TERMINAL STRIP

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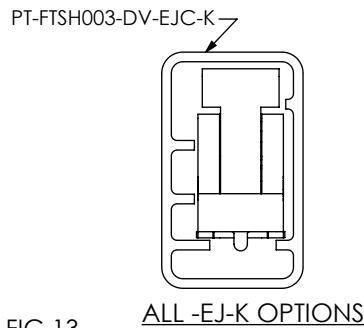
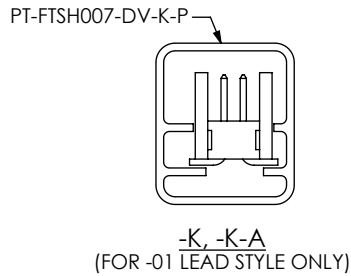
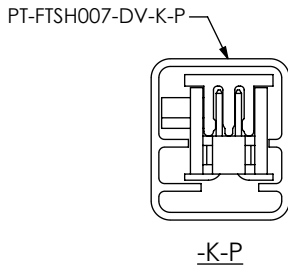
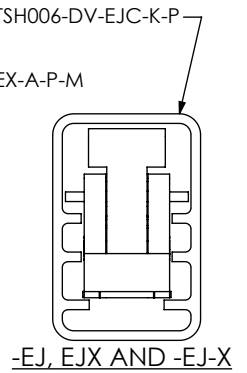
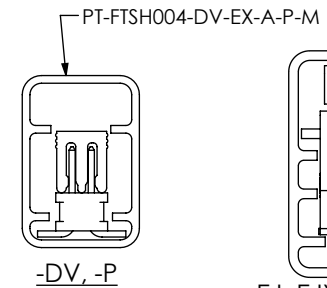
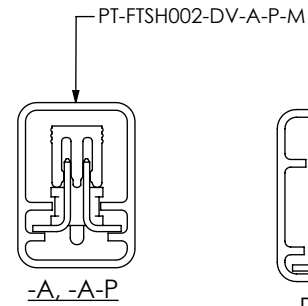
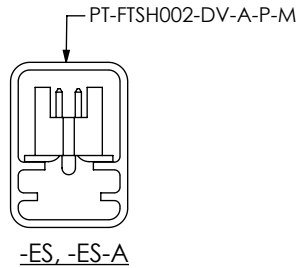
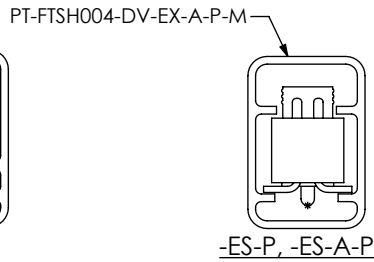
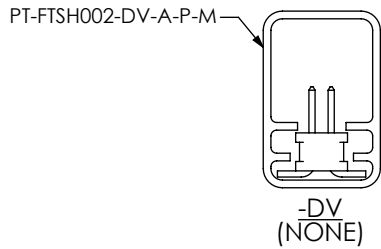
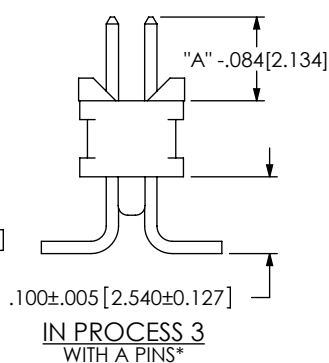
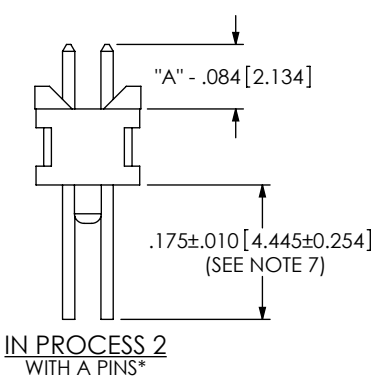
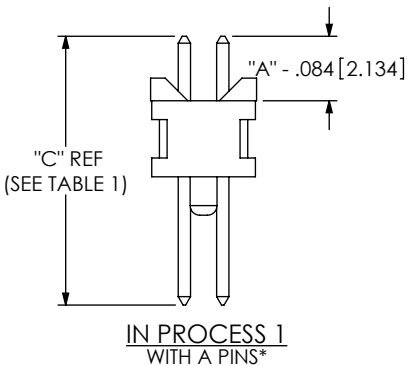
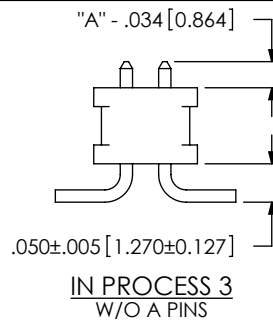
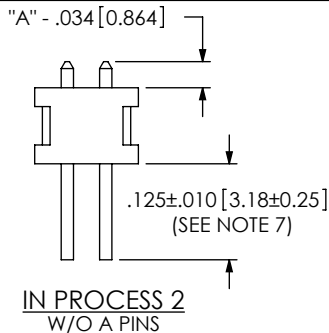
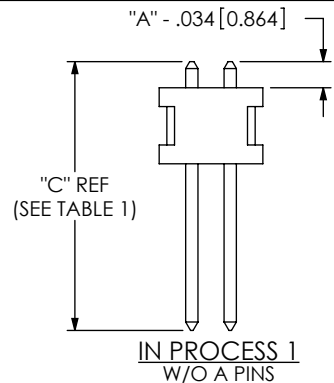


FIG 13  
TUBE VIEWS

| OPTION(S)   | PACKAGING TUBE         | TUBE PLUG |
|---|------------------------|-----------|
| -ES, -ES-A, -NONE<br>-A, -A-P   | PT-FTSH002-DV-A-P-M    | TP-03     |
| -K-A-P, -K-P (-01 LEAD STYLE ONLY)<br>-K-P (-04 LEAD STYLE ONLY)<br>-K, -K-A (FOR -01 LEAD STYLE ONLY)                                  | PT-FTSH007-DV-K-P      | TP-09     |
| -ES-P, -ES-A-P<br>-EC, -EC-P, -EL-P<br>-EP, -EP-A, EP-P, -EP-A-P<br>-EPC, -EPC-D, -EPC-P<br>-EL, -EL-A, -EL-A-P<br>-P (ALL LEAD STYLES) | PT-FTSH004-DV-EX-A-P-M | TP-03     |
| -EJ-K, -EJ-K-P<br>-EJ-K-A, -EJ-K-A-P  | PT-FTSH003-DV-EJC-K    | TP-03     |
| -EJ, -EJ-P, -EJ-A-P, -EJ-A, -EJ-M, -EJC   | 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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DESCRIPTION:  
.050 x .050 CL DOUBLE VERTICAL SMT TERMINAL STRIP

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

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