

**REVISION DZ**

DO NOT SCALE FROM THIS PRINT

- NOTES:
- ① 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.

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

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

LEAD STYLE

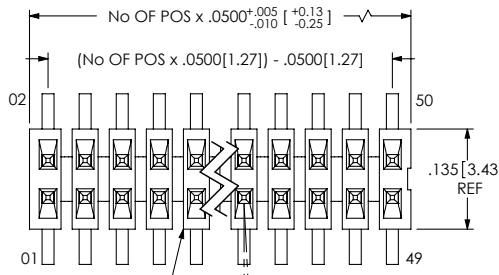
- 01: .120 [3.05]
- 02: .075 [1.91]
- 03: .065 [1.65]
- 04: .150 [3.81]
- 05: .170 [4.32]
- 14: .150 [3.81]

(NOT AVAILABLE WITH  
-SM, -FM, -LM PLATING OPTIONS)

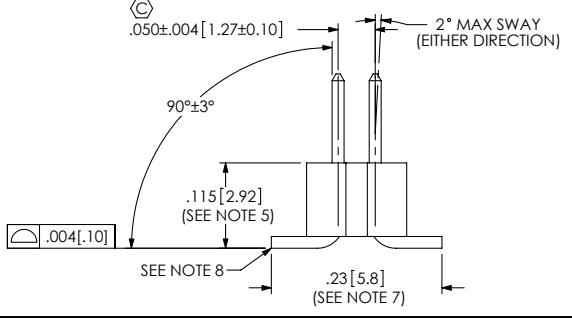
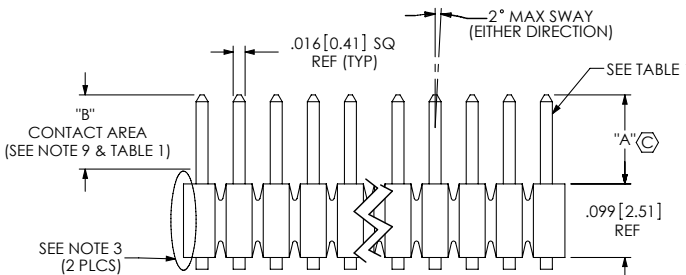
- OPTIONS **DZ**
- P: PICK & PLACE PAD (4 POS MIN) (SEE FIG 11, SHT 4 & TABLE 5)
  - TR: TAPE & REEL PACKAGING
  - ES: END SHROUDS (SEE FIG 6, SHT 3) (MOLDED IN 5 POS MIN; -02 & -03 LEAD STYLE ONLY) (SNAP SHROUDS 9 POS MIN; -02 & -03 LEAD STYLE ONLY) (MUST USE FTSH-50-D)
  - EJ: EJECTOR SHROUDS (SEE 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) (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

PLATING SPECIFICATION  
(VALUES GIVEN ARE IN MICRO INCHES)

- L: LIGHT SELECTIVE, 10 Au / 40 MIN Ni ON CONTACT AREA, MATTE TIN ON TAIL
- F: FLASH SELECTIVE, 3 Au / 40 MIN Ni ON CONTACT AREA, MATTE TIN ON TAIL
- S: SELECTIVE, 30 Au / 40 MIN Ni ON CONTACT AREA, MATTE TIN ON TAIL
- H: HEAVY GOLD, 30 Au / 40 Ni ON CONTACT AREA, 3 Au / 40 Ni ON TAIL
- SM: HEAVY SELECTIVE GOLD, 30 Au / 40 MIN Ni ON CONTACT AREA, MATTE TIN ON TAIL
- LM: LIGHT SELECTIVE GOLD, 10 Au / 40 MIN Ni ON CONTACT AREA, MATTE TIN ON TAIL
- FM: FLASH SELECTIVE GOLD, 3 Au / 40 MIN Ni ON CONTACT AREA, MATTE TIN ON TAIL
- LTL: LIGHT GOLD, 10 Au / 40 MIN Ni ON CONTACT AREA, 90 / 10 ± 5% TIN LEAD ON TAIL



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



PATENT NUMBERS  
5713755 / 5961339

FIG 1  
FTSH-1XX-XX-XXX-DV SHOWN **DZ**  
(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-1S15-03-XXX	T-1S40-03-XX-2	T-1S40-03-XX-3
-02	.075 [1.91]	.070 [1.78]	T-1S15-03-XXX	T-1S15-03-XXX	NOT AVAILABLE
-03	.065 [1.65]	.070 [1.78]	T-1S15-03-XXX	T-1S15-03-XXX	NOT AVAILABLE
-04	.150 [3.81]	.070 [1.78]	T-1S15-03-XXX	T-1S15-03-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

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE:

DECIMALS ANGLES  
 .XX: ± 0.1 [3] 1°  
 .XXX: ± 0.005 [0.13]  
 .XXXX: ± 0.010 [0.25]

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

SHEET SCALE: 5:1

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

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**REVISION DZ**

**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)

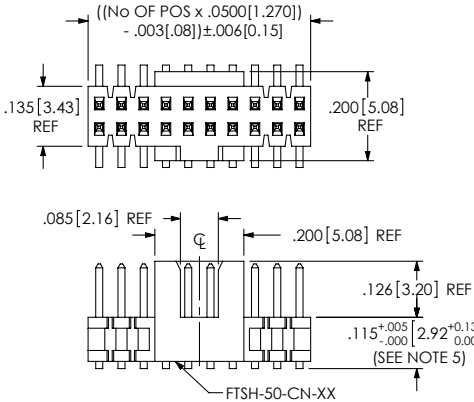
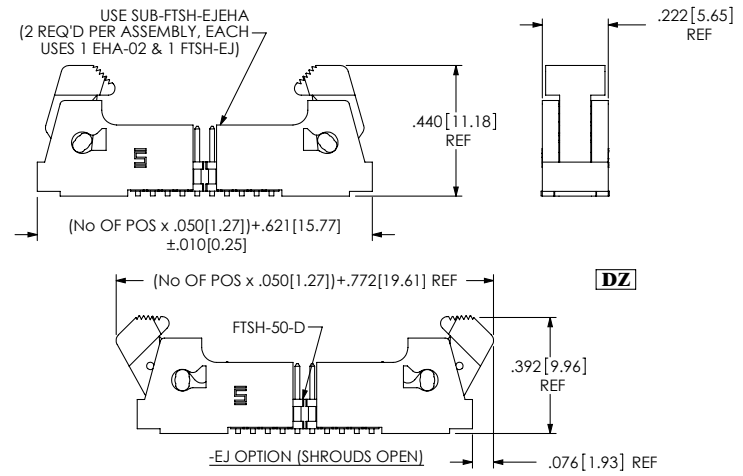
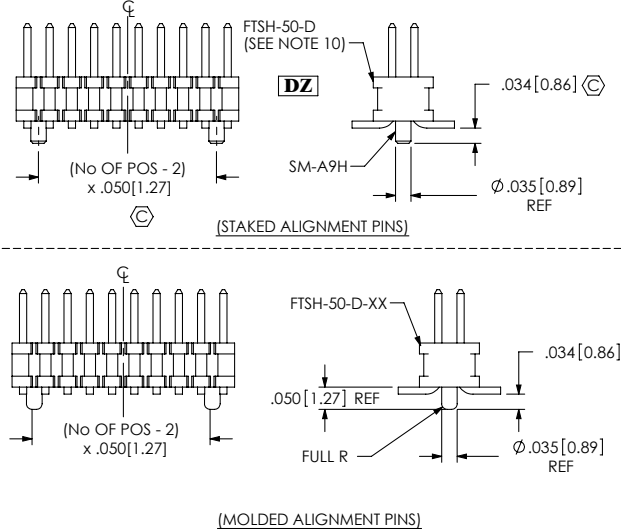


TABLE 3		
No OF POS	BODY	No OF PARTS PER FULL STRIP
-05	FTSH-50-CN-05	10
-06	FTSH-50-CN-06	8
-07	FTSH-50-CN-07	7
-08	FTSH-50-CN-08	6
-09	FTSH-50-CN-09	5
-10	FTSH-50-CN-10	5
-11	FTSH-50-CN-11	4
-12	FTSH-50-CN-12	4
-13	FTSH-50-CN-13	3
-14	FTSH-50-CN-14	3
-15	FTSH-50-CN-15	3
-16	FTSH-50-CN-16	3
-17	FTSH-50-CN-17	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

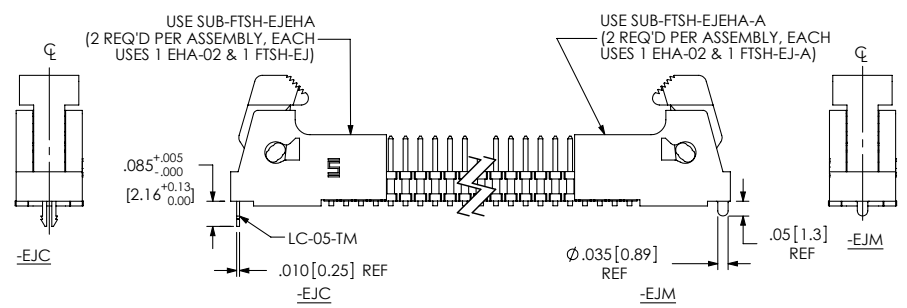
**FIG 4**  
SCALE 2 : 1  
-EJ OPTION  
(DIFFERENT AS SHOWN, OTHERWISE SAME AS FIG 1)  
(-01 LEAD STYLE ONLY)



**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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SHEET SCALE: 3:1



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

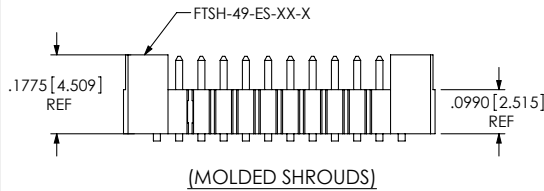
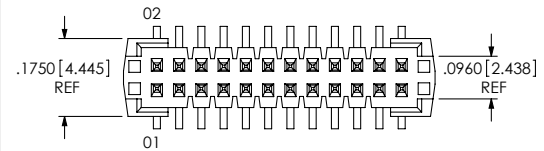
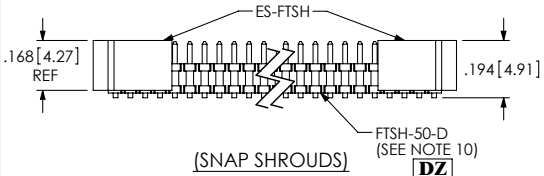
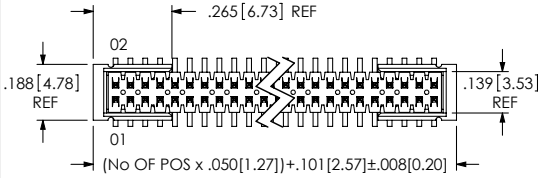
DWG. NO.  
**FTSH-1XX-XX-XXX-DV-XXX**

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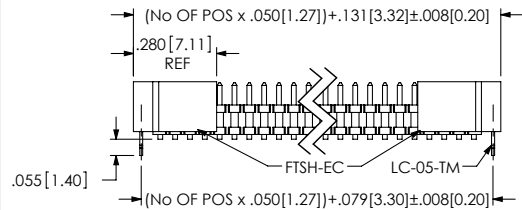
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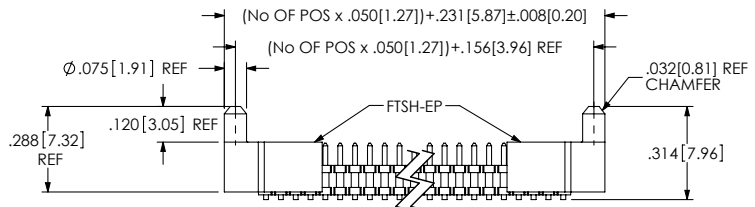
**FIG 6**  
-ES OPTION  
(DIFFERENT AS SHOWN, OTHERWISE SAME AS FIG 1)  
(USE -.02 OR -.03 LEAD STYLE ONLY)  
(9 POS MIN FOR SNAP SHROUDS)  
(5 POS MIN FOR MOLDED SHROUDS)



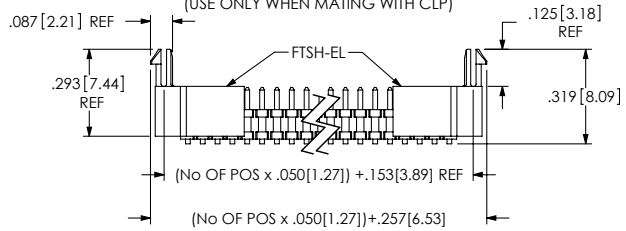
**FIG 7**  
-EC OPTION  
(DIFFERENT AS SHOWN, OTHERWISE SAME AS FIG 6)



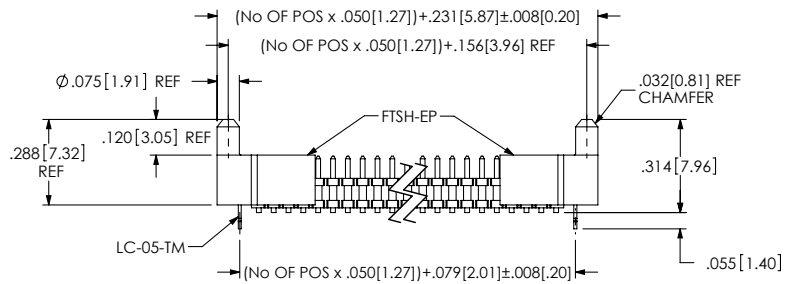
**FIG 8**  
-EP OPTION  
(DIFFERENT AS SHOWN, OTHERWISE SAME AS FIG 6)  
(USE ONLY WHEN MATING WITH CLP)



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

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

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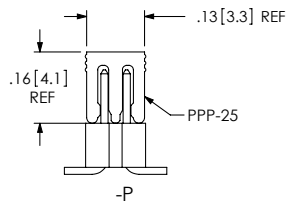
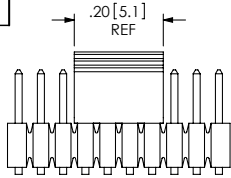
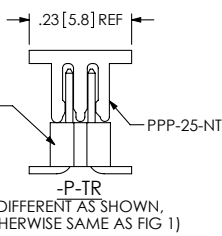


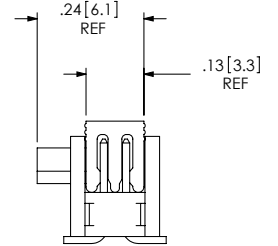
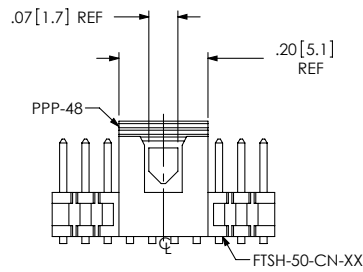
FIG 11  
P OPTION  
(DIFFERENT AS SHOWN,  
OTHERWISE SAME AS FIG 1)



**DZ**

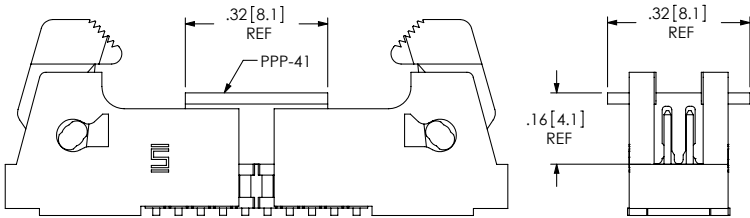
(DIFFERENT AS SHOWN,  
OTHERWISE SAME AS FIG 1)

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



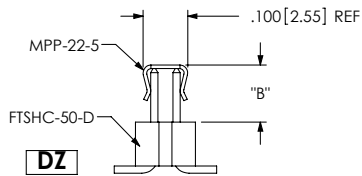
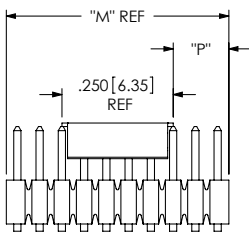
-K-P-TR  
(DIFFERENT AS SHOWN,  
OTHERWISE SAME AS FIG 2)

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-48	5
-K-EJ	PPP-48	10



-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



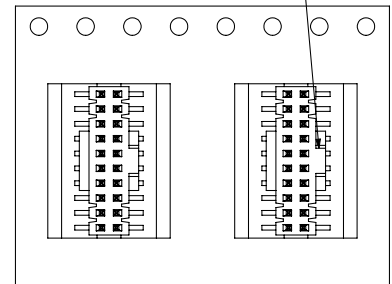
**DZ**

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

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

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



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

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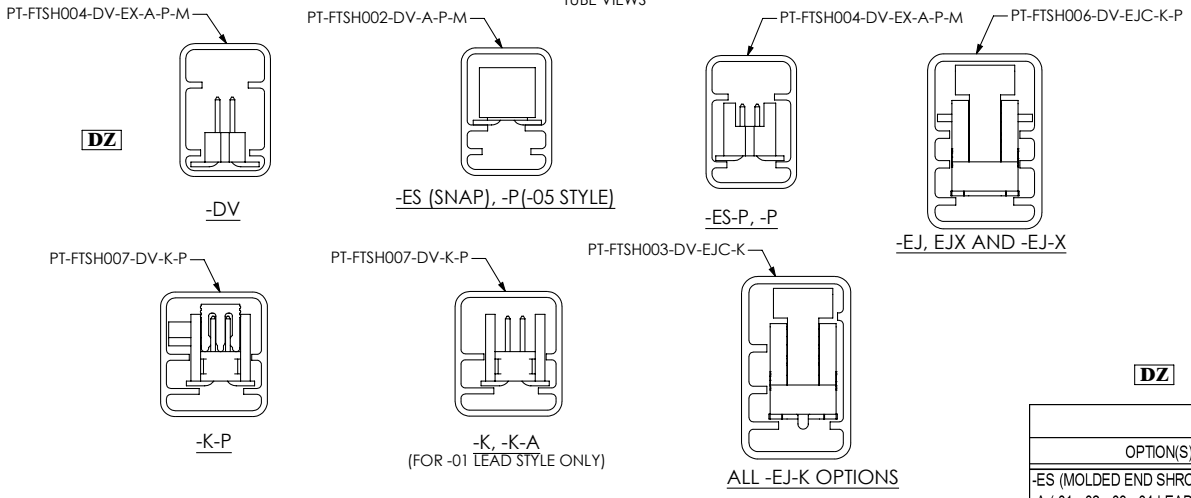
DESCRIPTION:  
.050 x .050 CL DOUBLE VERTICAL SMT TERMINAL STRIP

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

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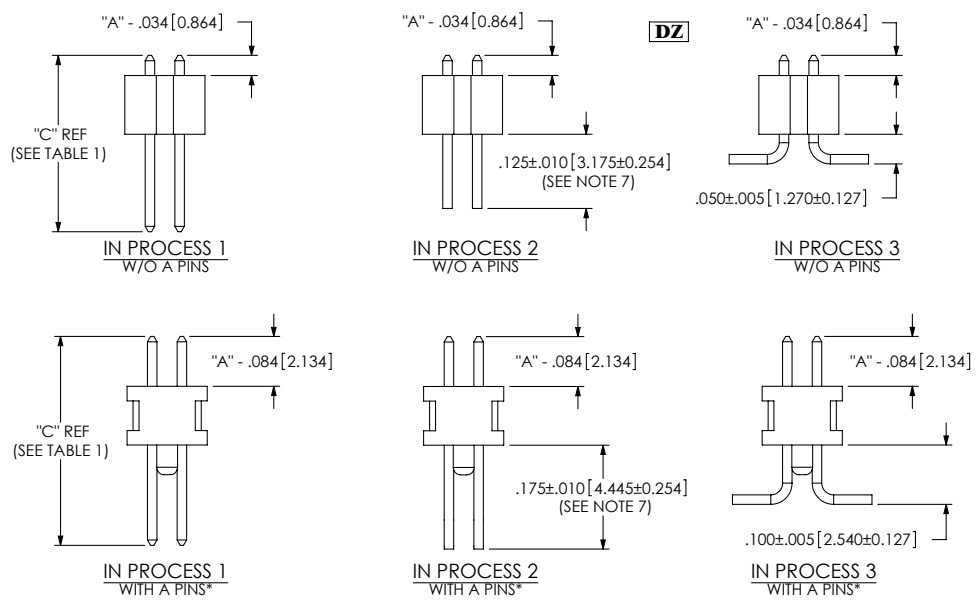
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**FIG 13  
TUBE VIEWS**



**DZ**

TABLE 2		
OPTION(S)	PACKAGING TUBE	TUBE PLUG
-ES (MOLDED END SHROUDS ONLY) -A (-01, -02, -03, -04 LEAD STYLES) -A-P (-01, -02, -03, -04 LEAD STYLES) -ES-P (-02, -03 LEAD STYLES) -ES (-02 LEAD STYLE)	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 (-03, -04 LEAD STYLES) -ES-P (-04 LEAD STYLE) -EC, -EC-P, -EL-P -ES-A, -ES-A-P -EP, -EP-A, EP-P, -EP-A-P -EPC, -EPC-D, -EPC-P -EL, -EL-A, -EL-A-P NONE, -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, -EJC	PT-FTSH006-DV-EJC-K-P	TP-03



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

**IN-PROCESS VIEWS ARE FOR HANDFILL ONLY**

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