



**THE DATASHEET OF  
TFM-120-12-S-D-A**



# RUGGED TIGER EYE™ SYSTEMS

(1.27 mm) .050" PITCH

MAX  
**3.7**  
A m p s

**8**  
G b p s

## FEATURES & BENEFITS

- Screw down, locking clip, friction latching and weld tab ruggedizing options
- Shrouded, polarized and keyed
- Surface mount or through-hole tails
- High-density, four row design (FOLC/MOLC Series)
- Discrete wire assemblies available in single or double row, 28 and 30 AWG PVC or \*Teflon™ Fluoropolymer (See pages 238-239). Contact [asp@samtec.com](mailto:asp@samtec.com) for custom solutions.
- Cable components (ISDF/CC03) and tooling available: [samtec.com/tooling](http://samtec.com/tooling)
- Severe Environment Testing qualified (SFM/TFM); aligns with MIL-DTL-55302. Visit [samtec.com/set](http://samtec.com/set)

\*Teflon™ is a trademark of The Chemours Company FC, LLC used under license by Samtec.

## KEY SPECIFICATIONS

SERIES	STACK HEIGHTS	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	MAX. CYCLES	LEAD-FREE SOLDERABLE
SFM/TFM	6 to 12 mm	Black LCP	BeCu (SFM) Phosphor Bronze (TFM)	Au or Sn over 50 μ" (1.27 μm) Ni	-55 °C to +125 °C	3.7A per pin (2 pins powered)	275 VAC	10,000 with 30 μ" (0.76 μm) Au	Yes
SFC/TFM	6 to 12 mm	Black LCP	Phosphor Bronze	Au or Sn over 50 μ" (1.27 μm) Ni	-55 °C to +125 °C	3.1 A per pin (2 pins powered)	350 VAC	(Call Samtec for E.L.P.™ plating option)	Yes

**TIGER™  
EYE**  
CONTACT



IDC cable assemblies with rugged strain relief (FFSD/FFMD, FFTP/FMTP)



Locking for increased unmating force (SFML/TFML)

**(1.27 mm) .050" • SMT/THROUGH-HOLE HEADER**

SERIES	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OPTIONS
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**TFM**  
= Standard

**TFML**  
= Locking (-01 & -02 lead style only)

**03, 04, 06, 08**  
(TFM -01 & -02 only)

**05, 07, 10, 15, 20, 25, 30, 35, 40, 45, 50**  
(Standard sizes)

Specify **LEAD STYLE** from chart

**-L**  
= 15 μm (0.38 μm)  
Gold on post, Matte Tin on tail (Call Samtec for E.L.P.™ plating option)

**-S**  
= Single Row (TFM only)

**-D**  
= Double Row

**-DH\***  
= Double Horizontal (TFM lead style -02 only) (05 thru 50 positions only) (-TR or -FR option only available)

Specify only -RA, -RE1 or -RE2

**-RA**  
= Right-angle (Lead style -01 only)

**-RE1**  
= Right-angle Elevated for (1.60 mm) .062" PCB (Requires TFM lead style -01, -D row and -WT)

**-RE2**  
= Right-angle Elevated for (2.36 mm) .093" PCB (Requires TFM lead style -01, -D row and -WT)

Specify only -A, -LC, -DS or -WT  
Not available with -RA, -RE1 and -RE2 unless otherwise noted.

**-A**  
= Alignment Pin

**-LC**  
= Locking Clip (Manual Placement required)

**-DS**  
= Dual Screw Down for (1.60 mm) .062" PCB (05, 07, 10, 15, 20, 25, 30, 35, 40 positions only) (TFM lead styles -01 and -02 only) (Requires -D row option) (Mates with SFM-DS option and SFSD/SFSDT -SS and -DS option only) (Not available with -A, -LC, -WT, -K, -P, -XR)

**-WT**  
= Weld Tab (TFM lead styles -01 and -02 only) (Required callout for -RE1 & -RE2) (Mates to SFSS/SFSD -SR and -DR option only) (05, 07, 10, 15, 20, 25, 30, 35, 40, 45, 50 positions only)

SMT lead styles only  
Specify only -K or -P

**-K**  
= Polyimide Film Pick & Place Pad

**-P**  
= Plastic Pick & Place Pad (5 positions min.) (Not available with 5 position with -WT)

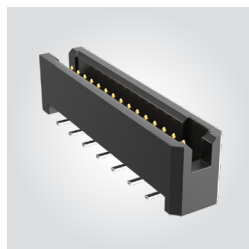
Specify -TR or -FR last (Not available with -DS)

**-TR**  
= Tape & Reel

**-FR**  
= Full Reel Tape & Reel (must order max. quantity per reel; contact Samtec for quantity breaks)

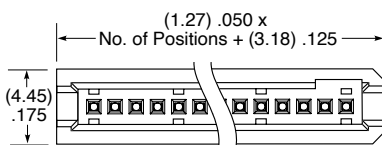
**TFM**

**Board Mates:** SFM, SFMC  
**Cable Mates:** SFSD, SFSS

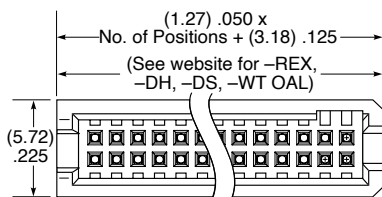


**TFML**

**Board Mates:** SFML  
**Cable Mates:** SFSD, TFSD (-T end option)



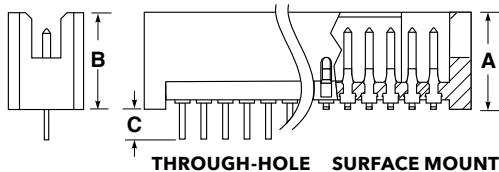
**SINGLE ROW**



**DOUBLE ROW**

MATED HEIGHTS*		
LEAD STYLE (SMT)		MATED HEIGHT*
TFM	SFM	
-02	-02	(6.35) .250
-12		(8.13) .320
-22		(9.91) .390
-32		(11.81) .465
LEAD STYLE (T/H)		MATED HEIGHT*
TFM	SFM	
-01	-01	(5.97) .235
-03		(5.97) .235
-11		(7.75) .305
-13		(7.75) .305
-21		(9.53) .375
-23		(9.53) .375
-31		(11.43) .450

\*Processing conditions will affect mated height.



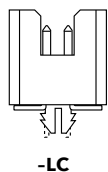
**THROUGH-HOLE SURFACE MOUNT**

LEAD STYLE (SMT)	A
-02	(5.72) .225
-12*	(7.49) .295
-22*	(9.27) .365
-32*	(11.18) .440

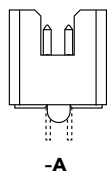
\* N/A with 07, -DH or -S row option

LEAD STYLE (T/H)	B	C
-01	(5.59) .220	(1.97) .078
-03*	(5.59) .220	(2.77) .109
-11*	(7.37) .290	(1.97) .078
-13*	(7.37) .290	(2.77) .109
-21*	(9.14) .360	(1.97) .078
-23*	(9.14) .360	(2.77) .109
-31*	(11.05) .435	(1.97) .078

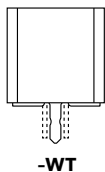
\* Not Available with 07 or -S row option



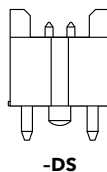
**-LC**



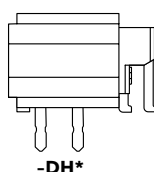
**-A**



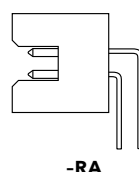
**-WT**



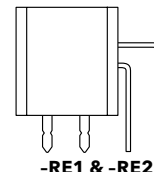
**-DS**



**-DH\***



**-RA**



**-RE1 & -RE2**

**Notes:**


Severe Environment Testing qualified (TFM); aligns with MIL-DTL-55302. Visit [samtec.com/set](http://samtec.com/set)

Some lengths, styles and options are non-standard, non-returnable.

View complete specifications at: [samtec.com?TFM](http://samtec.com?TFM) & [samtec.com?TFML](http://samtec.com?TFML)

## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

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 [Samtec Inc. Information](#)

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