

(1.27 mm) .050"

# SMT & THROUGH-HOLE HEADER

## SPECIFICATIONS

For complete specifications and recommended PCB layouts see [www.samtec.com?TFM](http://www.samtec.com?TFM) or [www.samtec.com?TFML](http://www.samtec.com?TFML)

**Insulator Material:**  
Black Liquid Crystal Polymer  
**Terminal Material:**  
Phosphor Bronze  
**Plating:**  
Au or Sn over 50  $\mu$ " (1.27  $\mu$ m) Ni

**Current Rating (TFM/SFM):**  
3.2 A per pin  
(2 pins powered)  
**Voltage Rating:**  
250 VAC mated with SFM  
**Operating Temp Range:**  
-55 °C to +125 °C  
**RoHS Compliant:**  
Yes

## PROCESSING

**Lead-Free Solderable:**  
Yes

**SMT Lead Coplanarity:**  
(0.10 mm) .004" max (05-25)  
(0.15 mm) .006" max (30-50)\*  
\*(.004" stencil solution may be available; contact [IPG@samtec.com](mailto:IPG@samtec.com))

## RECOGNITIONS

For complete scope of recognitions see [www.samtec.com/quality](http://www.samtec.com/quality)



FILE NO. E115194

## MATED HEIGHTS

| LEAD STYLE |     | MATED HEIGHT* |
|------------|-----|---------------|
| TFM        | SFM |               |
| – 02       | –02 | (6.35) .250   |
| – 12       |     | (8.13) .320   |
| – 22       |     | (9.91) .390   |
| – 32       |     | (11.81) .465  |
| LEAD STYLE |     | 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.

**Note:**  
Some sizes, styles and options are non-standard, non-returnable.

**TFM Board Mates:**

SFM, SFMC

**TFM Cable Mates:**

SFSD

**TFML Board Mates:**

SFML

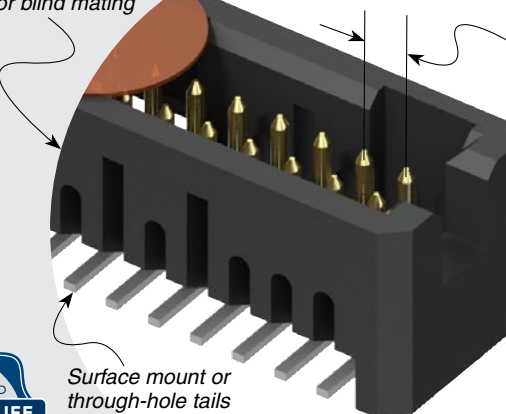
**TFM-DH Board Mates:**

SFM (-DH), SFMC

**TFM-DH Cable Mates:**

SFSDX (-S, -D, -SR, -DR)

Shrouded body for blind mating



(1.27 mm x 1.27 mm)  
.050" x .050"  
micro pitch

Surface mount or through-hole tails

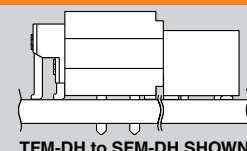


## HIGH-SPEED CHANNEL PERFORMANCE

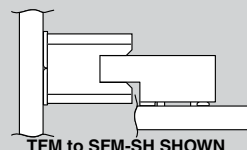
Rating based on Samtec reference channel. For full SI performance data visit [Samtec.com](http://Samtec.com) or contact [SIG@samtec.com](mailto:SIG@samtec.com)

8  
Gbps

## APPLICATIONS



TFM-DH to SFM-DH SHOWN



TFM to SFM-SH SHOWN

TYPE STRIP

1

NO. PINS PER ROW

LEAD STYLE

PLATING OPTION

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

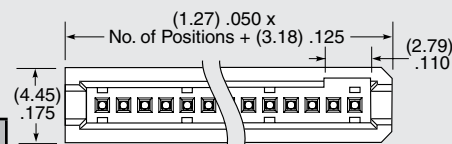
-L  
= 15  $\mu$ " (0.38  $\mu$ m)  
Gold on post,  
Matte Tin on tail  
(Call Samtec for  
E.L.P.™ plating option)

## OTHER SOLUTIONS

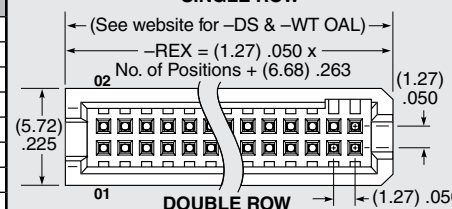
- Lower cost plating options. See TFC Series.

| 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 |

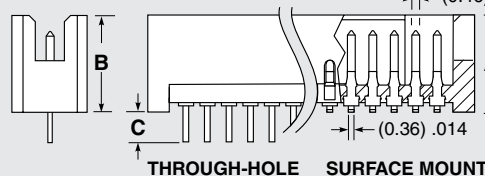
\* Not Available with 07 or -S row option



SINGLE ROW



DOUBLE ROW

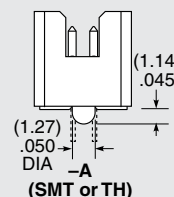


THROUGH-HOLE

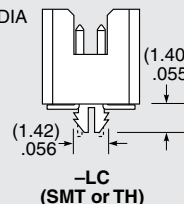
SURFACE MOUNT

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

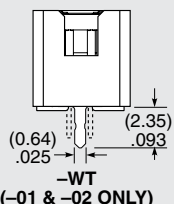
\* N/A with 07, -DH or -S row option



(SMT or TH)



-LC  
(SMT or TH)



-WT  
(-01 & -02 ONLY)

Due to technical progress, all designs, specifications and components are subject to change without notice.

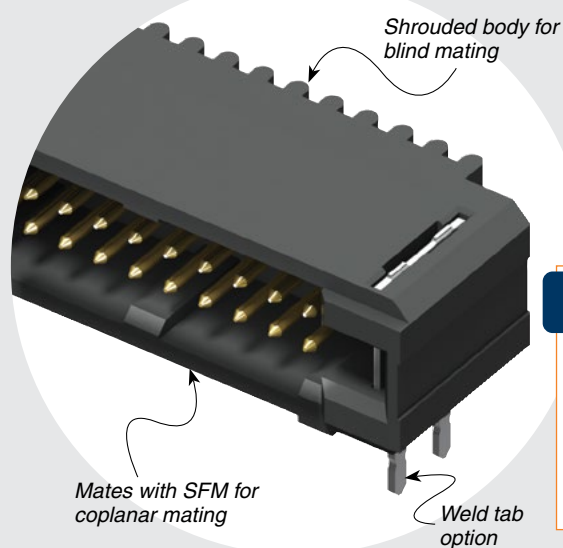
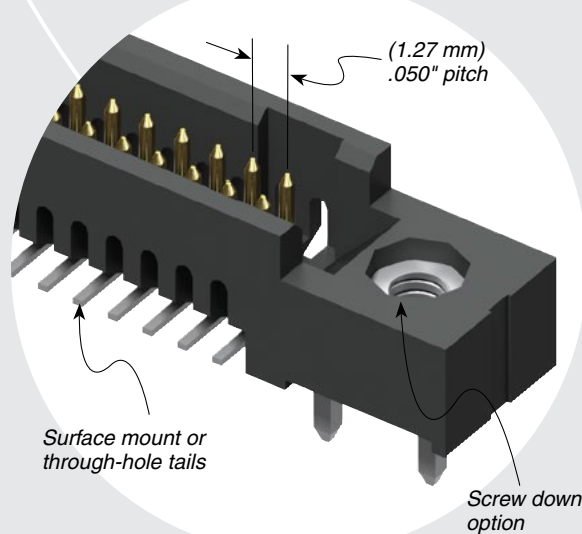
[WWW.SAMTEC.COM](http://WWW.SAMTEC.COM)

All parts within this catalog are built to Samtec's specifications.

Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.



## TFM, TFML SERIES



**RUGGEDIZED**  
BY SAMTEC

- Passes 10 Year MFG
- Locking option
- Locking clip option
- Weld tab option
- Screw down option

### ROW OPTION

**-S**

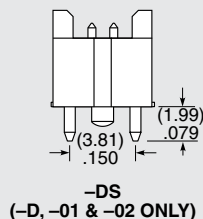
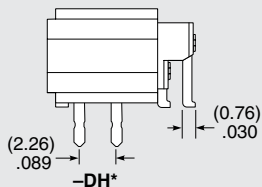
= Single Row  
(TFM only)

**-D**

= Double Row

**-DH\***

= Double Horizontal  
(TFM lead style -02 only)  
(05 thru 50 positions only)  
(-TR option only available)



### OPTION

Specify only -RA, -RE1 or -RE2

**-RA**

= Right-angle  
(Lead style -01 only)

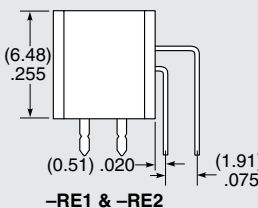
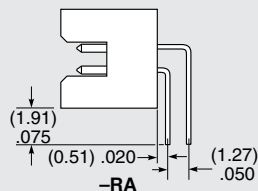
**-RE1**

= Right-angle Elevated for (1.58 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)

**Note:** The recommended -REX PCB board layout is different from the -RA. Contact IPG@samtec.com before designing your board for specifications.



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, -TR)

**-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)

**\* Note:**  
Weld tab is standard on -DH option.  
No need to specify -WT.

SMT lead styles only  
Specify only -K or -P

**-K**

= Polyimide Film Pick & Place Pad

**-P**

= Plastic Pick & Place Pad  
(5 positions minimum)  
(Not available with  
5 position with -WT)

Specify -TR last

**-TR**

= Tape & Reel  
(Not available with -DS)

### ALSO AVAILABLE (MOQ Required)

- Solder nail option
- Other sizes
- Other platings

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