

# Data sheet

Order No.: 1714915

Type: FP 1,27/ 20-MH

SMD male connector, Reflow soldering



The figure shows a 12-pos. version with 12 contacts

## 1 Main features



• No. of pos.	20	• Nominal current	1.4 A
• Test voltage	500 V AC	• Mounting type	SMD soldering
• Color	black (9005)	• Connection direction	0 °
• Pitch	1.27 mm	• Type of packaging	32 mm wide tape

## 2 Your advantages

- ✓ Gold-plated contacts ensure transfer quality remains stable over the long term
- ✓ Compact, high-position board-to-board or wire-to-board connectors for space-saving device designs
- ✓ Stacked, coplanar or orthogonal PCB connections enable maximum flexibility in the device
- ✓ Male and female connectors of different height can be combined – for individual PCB spacing of 8 mm ... 13.8 mm



Make sure you always use the latest documentation.

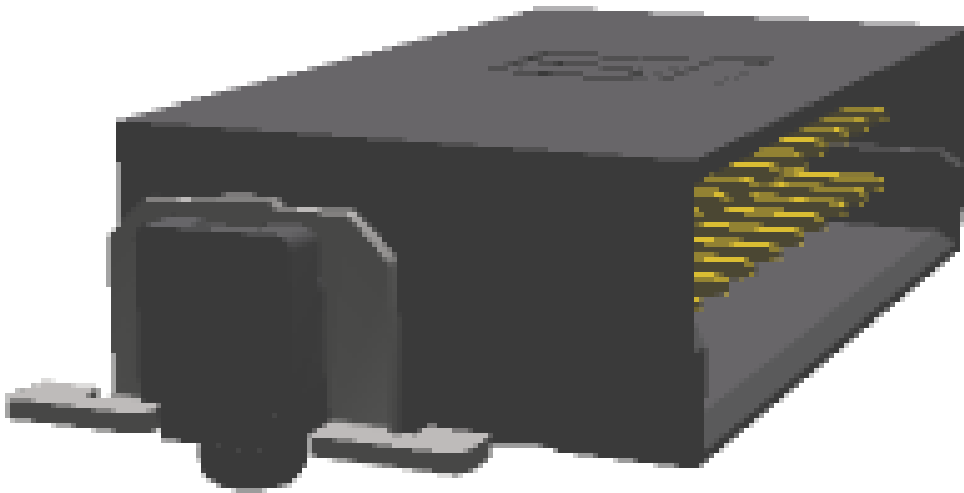
It can be downloaded at: [phoenixcontact.net/product/1714915](https://phoenixcontact.net/product/1714915)

**3 Table of contents**

1	Main features.....	1
2	Your advantages .....	1
3	Table of contents .....	2
4	3D model in PDF can be activated (Acrobat Reader only).....	3
5	General Technical Data .....	4
	5.1 item properties .....	4
	5.2 Material data .....	4
6	Dimensions.....	5
	6.1 Dimensions for the product .....	5
	6.2 Dimensions for the application .....	5
7	Series drawing.....	6
8	Packaging information .....	7
9	Blister drawing.....	8
10	Application.....	9
	10.1 Temperature limit values .....	9
11	General tests .....	10
	11.1 Specification.....	10
12	Mechanical tests.....	11
	12.1 Insertion and withdrawal force per contact .....	11
	12.2 Service life .....	11
13	Electrical tests .....	12
	13.1 Electrical data .....	12
	13.2 Air and creepage distances .....	12
14	Current carrying capacity/derating curves .....	13
	14.1 Insulation resistance.....	13
	14.2 forward resistance .....	13
	14.3 Vibration test .....	13
15	Approvals .....	13
16	Commercial Data.....	14
17	Combination tests.....	15

1714915 FP 1,27/ 20-MH

4 3D model in PDF can be activated (Acrobat Reader only)



**1714915 FP 1,27/ 20-MH****5 General Technical Data****5.1 item properties**

Order No.	1714915
Type	FP 1,27/ 20-MH
Plug-in system	Fine Pitch 1,27 mm
Product type	SMD male connector
Type of contact	Male connector
Range of articles	FP 1,27/...-MH
Pitch	1.27 mm
Range of positions	12...80
Number of positions	20
Number of levels	2
Number of potentials	20
Type of locking	without
Mounting type	SMD soldering
Connection direction of the connector to the PCB	0 °
Pin layout	Linear pad geometry

**5.2 Material data**

<b>Material of metal parts</b>	
Note	WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Surface contact area	Nickel (Ni), Palladium nickel (PdNi) , Gold (Au)
Surface characteristics	Selective coating
<b>Insulating material data</b>	
Insulating material	LCP
Insulating material group	IIIa
CTI according to IEC 60112	175
Flammability rating according to UL 94	V0
Color	black (9005)

**1714915 FP 1,27/ 20-MH****6 Dimensions****6.1 Dimensions for the product**

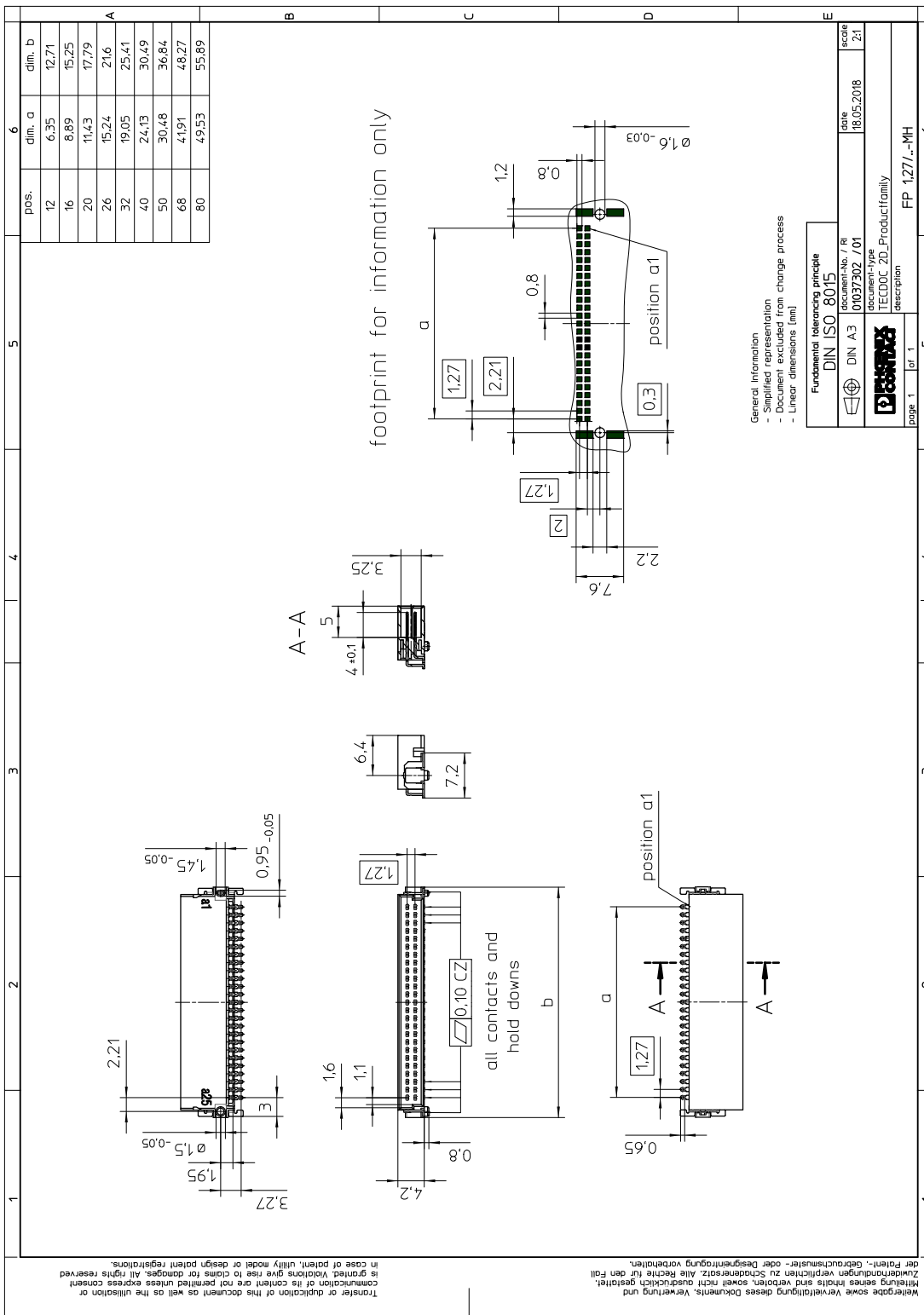
Length	7.2 mm
Width	17.79 mm
Total height	5 mm
Height	4.2 mm
Positioning pin geometry	ø 1.5-0.05 mm, Length of positioning pin: 0.75 mm
Coplanarity	≤ 0.1 mm

**6.2 Dimensions for the application**

Contact cover	0.9 mm
Overlap length	1.5 mm
Medium offset	± 0.7 mm in longitudinal and transverse direction
Angular tolerance	± 4 ° in longitudinal direction
Angular tolerance	± 2 ° in transverse direction

1714915 FP 1,27/ 20-MH

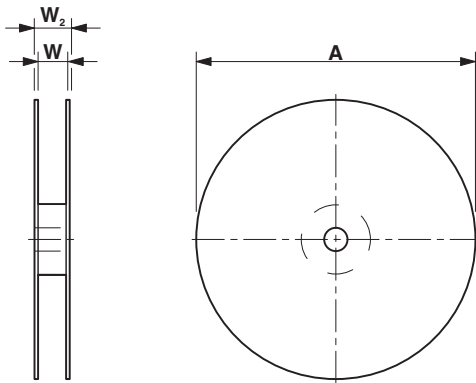
7 Series drawing



## 1714915 FP 1,27/ 20-MH

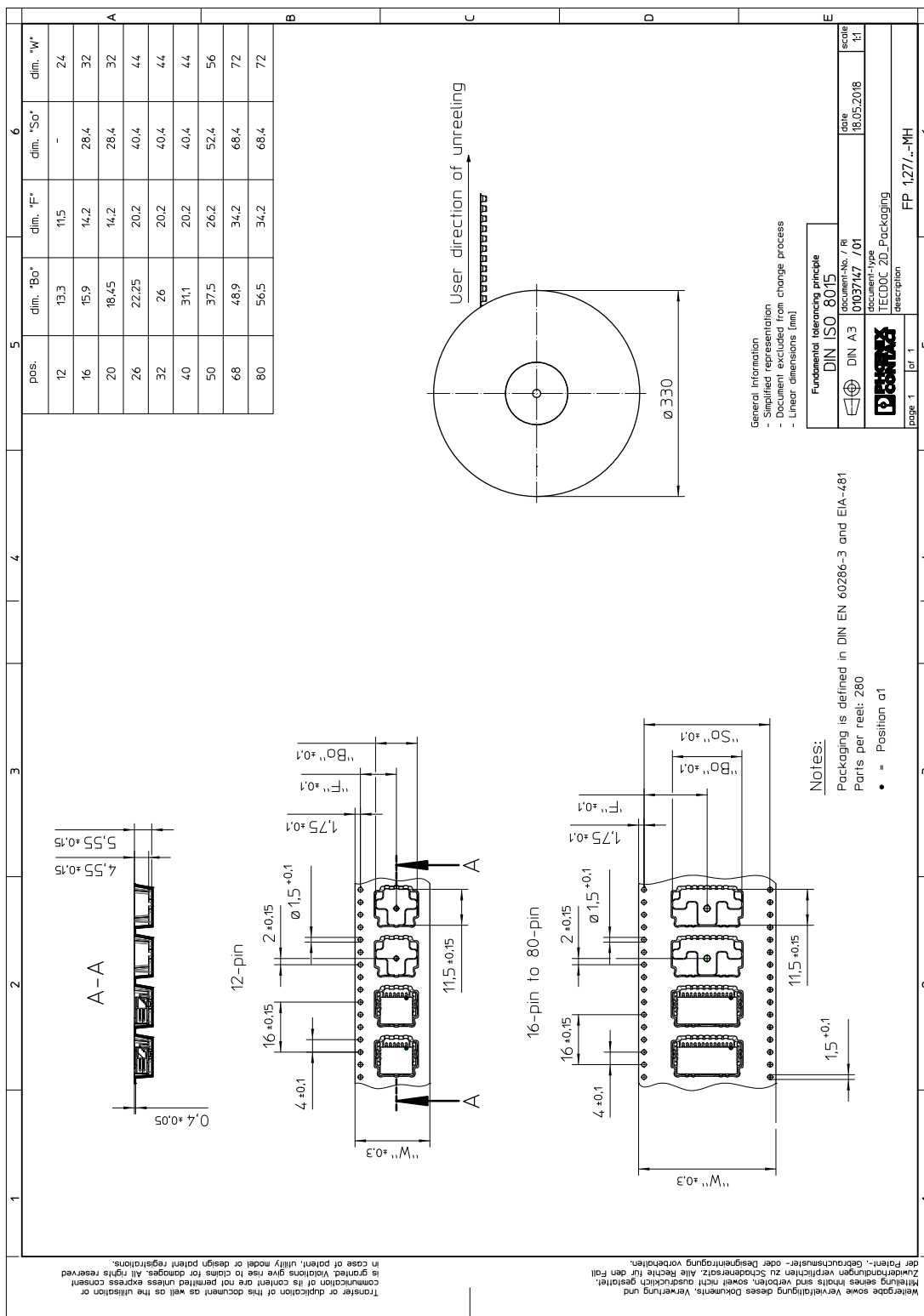
## 8 Packaging information

Type of packaging	32 mm wide tape
Note on packaging	Tape-on-reel packaging in accordance with standard DIN EN 60286-3 and EIA-481
Pieces per package	560
Outer packaging type	Transparent-Bag
[W] tape width	32 mm
[A] coil diameter	330 mm
[W2] coil overall dimension	38.4 mm
Number of products per coil	560



1714915 FP 1,27/ 20-MH

9 Blister drawing



General Information  
 - Simplified representation  
 - Document excluded from change process  
 - Linear dimensions (mm)

Fundamental tolerancing principle  
**DIN ISO 8015**

document-no. / ri	date	scale
DIN A3 / 0103747 701	18.05.2018	1:1
document-type	description	
TECDOC 2D_Packaging	FP 1,27/...MH	

page 1 of 1

Notes:  
 Packaging is defined in DIN EN 60286-3 and EIA-481  
 Parts per reel: 280  
 • = Position at



## 10 Application

### 10.1 Temperature limit values

Ambient temperature (storage/transport)	-40 °C ... 70 °C
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-55 °C ... 125 °C

## 1714915 FP 1,27/ 20-MH

---

# 11 General tests

## 11.1 Specification

Brief description

Board-to-board connectors

**1714915 FP 1,27/ 20-MH****12 Mechanical tests****12.1 Insertion and withdrawal force per contact**

Insertion and withdrawal force per contact	approx. 0.5 N
--	---------------

**12.2 Service life**

Specification	IEC 60512-9-1:2010-03 (following)
Service life	500 Insertion/withdrawal cycles, Performance level 1

**1714915 FP 1,27/ 20-MH****13 Electrical tests****13.1 Electrical data**

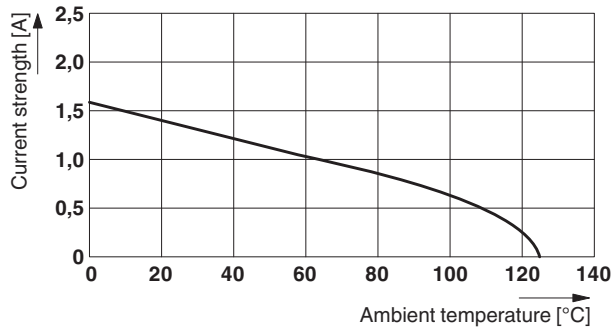
Nominal current at 20 °C	1.4 A IEC 60512-5-2:2002-02 (50-pos.)
Test voltage	500 V AC IEC 60512-4-1:2003

**13.2 Air and creepage distances**

Minimum value for clearance and creepage distance	0.4 mm
---	--------

**1714915 FP 1,27/ 20-MH****14 Current carrying capacity/derating curves**

Specification	IEC 60512-5-2:2002-02
Note	Representation based on IEC 60512-5-2:2002-02
Reduction factor	0.8
Number of positions	See diagram

**Type: FP 1,27/...-FH with FP 1,27/...-MH****14.1 Insulation resistance**


Insulation resistance	$\geq 10 \text{ G}\Omega$ , (IEC 60512-3-1:2002-02)
-----------------------	---

**14.2 forward resistance**

Contact resistance	$\leq 25 \text{ m}\Omega$ , (IEC 60512-2-1:2002-02)
--------------------	---

**14.3 Vibration test**

Specification	IEC 60068-2-6:2007-12
Result	Test passed
Frequency	10 - 2000 - 10 Hz
Sweep speed	1 octave/min
Amplitude	1.5 mm (10 - 60.1 Hz)
Acceleration	20g (60.1 - 2000 Hz)
Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis
Note	

**15 Approvals**cULus Recognized 

## 1714915 FP 1,27/ 20-MH

### 16 Commercial Data

Order No.	1714915
Type	FP 1,27/ 20-MH
Pieces per package	560
Net weight	1.544 g
GTIN	4055626402932
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

## 1714915 FP 1,27/ 20-MH

## 17 Combination tests

**FP 1,27/...-MH****FP 1,27/...-FH****FP 1,27/...-FWL****Mechanical tests**

Insertion/withdrawal force per position

approx. 0.5 N / 0.5 N

approx. 0.5 N / 0.5 N

**Durability tests**Contact resistance  $R_1$ 25 m $\Omega$ 10 m $\Omega$ 

Insertion/withdrawal cycles

500

500

Contact resistance  $R_2$ 25 m $\Omega$ 10 m $\Omega$ 

Test voltage

500 V AC

500 V AC

**Thermal tests**

Tested number of positions

50

50

Test current

1.4 A

1.4 A