

Data sheet

2024-07-01
Product version 00
Document revision 03

Item No.: 1753161

Type: CCDN 2,5/ 5-G1-5,08 P26 THR

PCB headers, Reflow/wave soldering



The figure shows a 10-pos. version with 20 contacts

1 Main features



- | | | | |
|-------------------------|--------------------------------|------------------------|---------------------|
| • No. of pos. | 5 | • Nominal current | 12 A |
| • Nominal cross section | 2.5 mm ² | • Nominal voltage | 320 V |
| • Color | black (RAL 9005) | • Connection direction | 0 ° |
| • Pitch | 5.08 mm | • Type of packaging | packed in cardboard |
| • Mounting type | THR soldering / wave soldering | | |

2 Your advantages

- ✓ Designed for integration into the SMT soldering process
- ✓ Conductor connection on several levels enables higher contact density



Make sure you always use the latest documentation.
It can be downloaded at: phoenixcontact.com/product/1753161

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



1753161 CCDN 2,5/ 5-G1-5,08 P26 THR**5 General Technical Data****5.1 item properties**

Item no.	1753161
Type	CCDN 2,5/ 5-G1-5,08 P26 THR
Product line	COMBICON Connectors M
Connector system	COMBICON MSTB 2,5
Product type	PCB headers
Contact connection type	Pin
Range of articles	CCDN 2,5/...-G1-THR
Pitch	5.08 mm
Number of positions	5
Number of rows	2
Number of connections	10
Number of potentials	10
Connection direction of the connector to the PCB	0 °
Pin layout	Linear pinning
Solder pins per potential	1
Type	Component suitable for through hole reflow

1753161 CCDN 2,5/ 5-G1-5,08 P26 THR**6 Mounting****6.1 Flange mounting**

Type of locking	without
Mounting flange	without

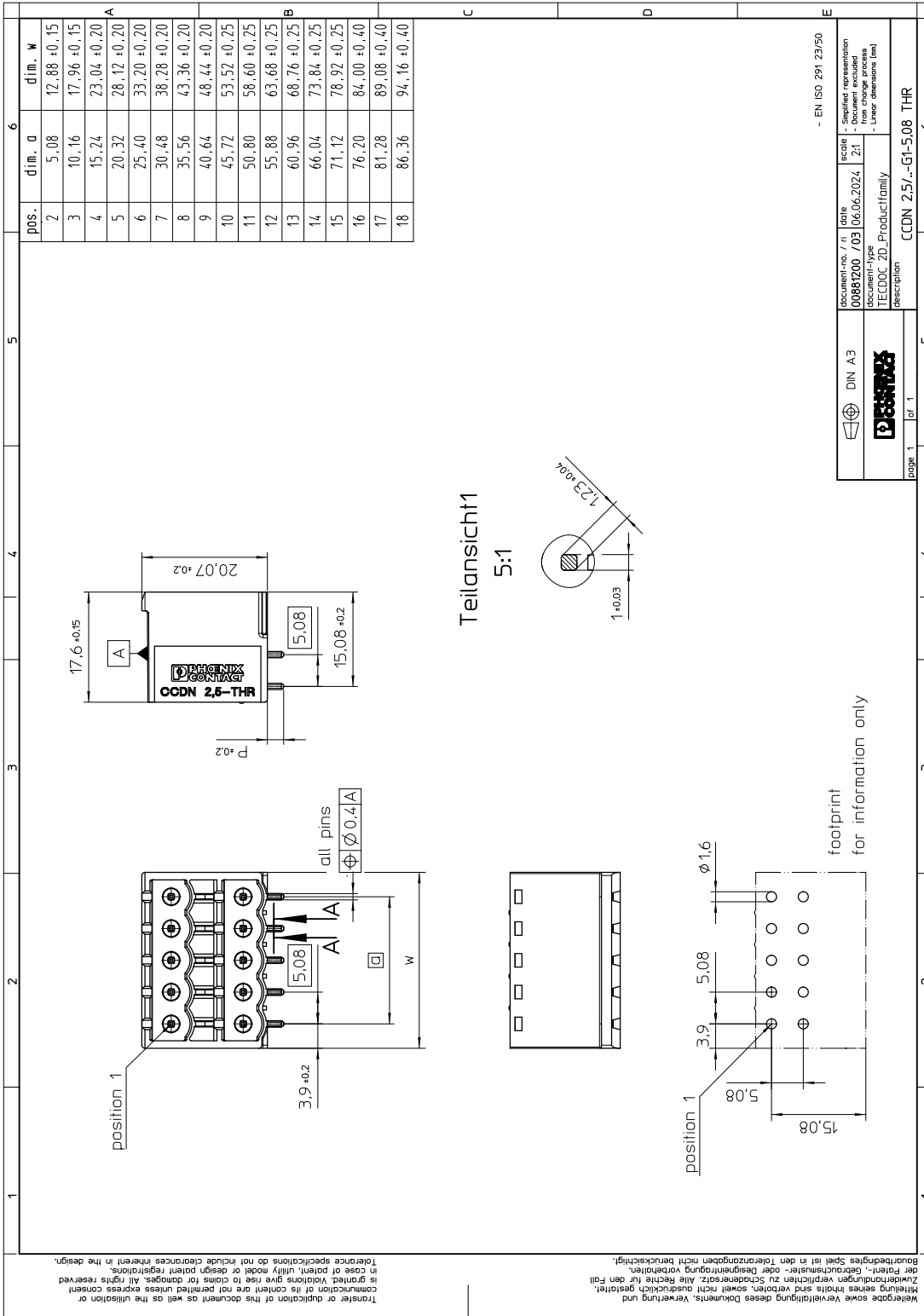
7 Material properties**7.1 Material of metal parts**

Note	WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Surface contact area	Nickel (1 - 3 µm Ni) , Tin (3 - 5 µm Sn)
Soldering area surface	Nickel (1 - 3 µm Ni) , Tin (3 - 5 µm Sn)
Surface characteristics	Tin-plated
Insulating material data	Housing
Color	black (RAL 9005)
Insulating material	LCP
Insulating material group	IIIa
CTI according to IEC 60112	175
Flammability rating according to UL 94	V0

1753161 CCDN 2,5/ 5-G1-5,08 P26 THR**8 Dimensions****8.1 Dimensions for the product**

Length	17.6 mm
Width	28.12 mm
Height (without solder pin)	20.07 mm
Total height	22.67 mm
Solder pin [P]	2.6 mm

9 Series drawing



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1753161 CCDN 2,5/ 5-G1-5,08 P26 THR**10 Product notes****10.1 General information**

Notes on operation

In accordance with IEC 61984, COMBICON connectors have no switching power (COC). During designated use, they must not be plugged in or disconnected when carrying voltage or under load.

11 Application**12 Packaging specifications**

Type of packaging packed in cardboard

Packing unit 50

12.1 Processing notes

Process Reflow/wave soldering

Specification IPC/JEDEC J-STD-020D.1:2008-03 (following)

Specification IEC 61760-1:2006-04 (following)

Specification IEC 60068-2-58:2005-02 (following)

Moisture Sensitive Level MSL 1

Classification temperature T_c max. 260 °C

Solder cycles in the reflow 3

swash circumference see dimensional drawing

12.2 Temperature limit values

Ambient temperature (storage/transport) -40 °C ... 70 °C

Relative humidity (storage/transport) 30 % ... 70 %

Ambient temperature (assembly) -5 °C ... 100 °C

Ambient temperature (operation) -40 °C ... 100 °C (dependent on the derating curve)

1753161 CCDN 2,5/ 5-G1-5,08 P26 THR**13 Mechanical tests****13.1 Visual examination**

Specification	IEC 61984:2008-10
Visual examination	Test passed
Specification	IEC 60512-1-1:2002-02

13.2 Dimensional test

Dimensional test	Test passed
Specification	IEC 60512-1-2:2002-02

13.3 Resistance of marking

Resistance of marking	Test passed
Specification	IEC 60068-2-70:1995-12

13.4 Polarization and coding

Polarization and coding	Test passed
Specification	IEC 60512-13-5:2006-02
Test force	20 N

13.5 Contact retention in insert

Contact holder in insert Requirements >20 N	Test passed
Specification	IEC 60512-15-1:2008-05

1753161 CCDN 2,5/ 5-G1-5,08 P26 THR**14 Insertion and withdrawal forces**

Insertion and withdrawal force	Test passed
Specification	IEC 60512-13-2:2006-02
No. of cycles	25
Insertion strength per pos. approx.	8 N
Withdraw strength per pos. approx.	6 N

1753161 CCDN 2,5/ 5-G1-5,08 P26 THR**15 Electrical tests**

Rated current / conductor cross section	12 A / 2.5 mm ²
Rated insulation voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
Contact resistance	1.1 mΩ
Degree of pollution	2

1753161 CCDN 2,5/ 5-G1-5,08 P26 THR**16 Air and creepage distances**

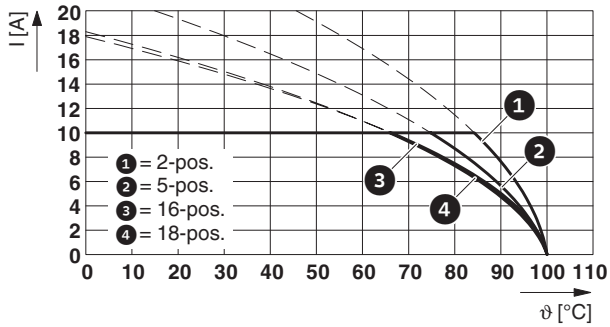
Component	PCB headers		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	IIIa		
Comparative tracking index (IEC 60112)	CTI 175		
Rated insulation voltage	250 V	320 V	400 V
Rated surge voltage	4 kV	4 kV	4 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	3 mm	3 mm	3 mm
Minimum value of the creepage path requirement in acc. with table	4 mm	3.2 mm	4 mm

1753161 CCDN 2,5/ 5-G1-5,08 P26 THR

17 Current carrying capacity/derating curves

Specification	IEC 61984:2008-10
Note	Representation based on IEC 60512-5-2:2002-02
Note	For number of positions, see diagram
Reduction factor	0.8
Conductor cross section	2.5 mm ²

Type: FKCN 2,5/...-ST-5,08 with CCDN 2,5/...-G1-5,08 P...THR



1753161 CCDN 2,5/ 5-G1-5,08 P26 THR**18 Environmental and durability tests****18.1 Vibration test**

Specification	IEC 60068-2-6:2007-12
Result	Test passed
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 Hz ... 60.1 Hz)
Acceleration	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis
Note	



18.2 Insulation resistance

Specification	IEC 60512-3-1:2002-02
Result	Test passed
Insulation resistance, neighboring positions	> 5 MΩ

19 Data transmission

1753161 CCDN 2,5/ 5-G1-5,08 P26 THR

20 Approvals / Certificates

cULus Recognized 	Voltage [V]	Current [A]	Cross section [AWG]	Cross section [mm ²]
Usegroup B				
	300 V	10 A	-	-
Usegroup D				
	300 V	10 A	-	-
VDE Gutachten mit Fertigungsüberwachung 	Voltage [V]	Current [A]	Cross section [AWG]	Cross section [mm ²]
	400 V	12 A	-	-

1753161 CCDN 2,5/ 5-G1-5,08 P26 THR**21 Commercial Data**

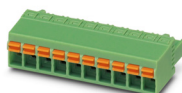
Item no.	1753161
Type	CCDN 2,5/ 5-G1-5,08 P26 THR
Packing unit	50
Net weight	7 g
GTIN	4046356324106
	Information that applies locally, see link on page 1

22 corresponding plugs

Item no.	Type
1754597	FKCN 2,5/ 5-ST-5,08

1753161 CCDN 2,5/ 5-G1-5,08 P26 THR

23 Combination tests

**CCDN 2,5/..-G1-THR**

IEC 61984

FKCN 2,5/..-ST

IEC 61984

Mechanical tests (A)

Insertion/withdrawal force per position approx. 8 N / 6 N

Polarization when inserted
Requirement >20 N Test passedContact holder in insert
Requirements >20 N Test passed**Durability tests (B)**Contact resistance R_1 1st level 1.1 m Ω Contact resistance R_1 2nd level 1.4 m Ω

Insertion/withdrawal cycles 25

Contact resistance R_2 1.1 m Ω Rated impulse voltage at sea level
Voltage waveform \geq (1.2/50 μ s) 4.8 kVPower-frequency withstand voltage
Voltage waveform \geq (50/60 Hz) 2.21 kVInsulation resistance
Requirements > 5 M Ω > 5 M Ω **Thermal tests (C)**

Tested number of positions 18

Tested conductor cross section 2.5 mm²

Test current 10 A

Upper limiting temperature
Requirements < 100°C Test passed**Climatic tests (D)**

Test sequence 1: low temperature storage -40 °C/2 h

Test sequence 2: heat storage 100 °C/168 h

Test sequence 3: noxious gas storage 0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycleRated impulse voltage at sea level
Voltage waveform \geq (1.2/50 μ s) 4.8 kVPower-frequency withstand voltage
Voltage waveform \geq (50/60 Hz) 2.21 kV**Environmental and endurance tests (E)**

Specification IEC 61984:2008-10

Degree of protection Finger safety with IP20
test finger