

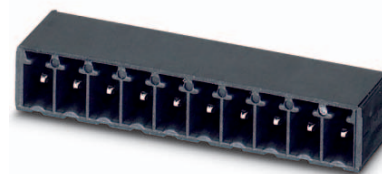
Data sheet

2018-03-08
Product version 00
Document revision 0

Order No.: 1788521

Type: MC 1,5/ 3-G-3,5 P26 THR

Header, Reflow/wave soldering



The figure shows a 10-position version of the product

1 Main features



- | | | | |
|-------------------------|---------------------|------------------------|---------------------|
| • No. of pos. | 3 | • Nominal current | 8 A |
| • Nominal cross section | 1.5 mm ² | • Nominal voltage | 160 V |
| • Color | black | • Connection direction | 0 ° |
| • Pitch | 3.5 mm | • Type of packaging | packed in cardboard |
| • Mounting type | THR soldering | | |

2 Your advantages

- ✓ Designed for integration into the SMT soldering process
- ✓ Maximum flexibility when it comes to device design – one header for connectors with different connection technologies



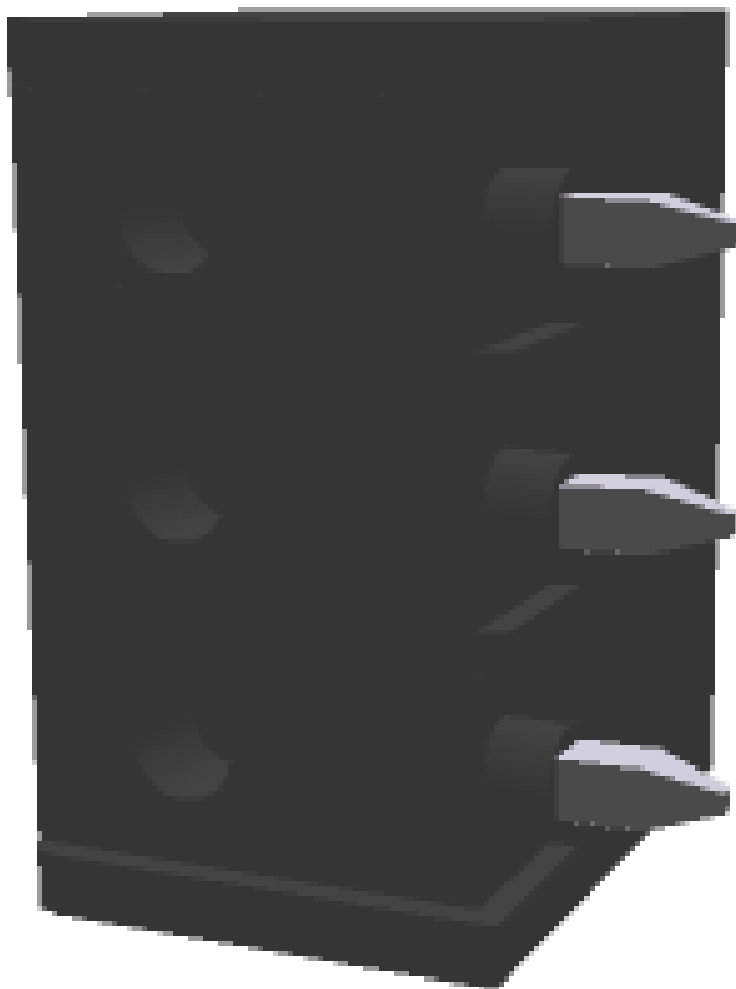
Make sure you always use the latest documentation.
It can be downloaded at: phoenixcontact.net/product/1788521

1788521 MC 1,5/ 3-G-3,5 P26 THR**3 Table of contents**

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1788521 MC 1,5/ 3-G-3,5 P26 THR

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



1788521 MC 1,5/ 3-G-3,5 P26 THR**5 item properties**

Order No.	1788521
Type	MC 1,5/ 3-G-3,5 P26 THR
Type of contact	Male connector
Range of articles	MC 1,5/..-G-THR
Pitch	3.5 mm
Number of positions	3
Locking	without
Mounting type	THR soldering
Pin layout	Linear pinning

5.1 Material data

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	Ni 1 µm ... 3 µm , Sn 3 µm ... 5 µm	
Soldering area surface	Ni 1 µm ... 3 µm , Sn 3 µm ... 5 µm	
Surface characteristics	Tin-plated	
Insulating material data	Housing	Housing
Insulating material	LCP	
CTI according to IEC 60112	225	
Flammability rating according to UL 94	V0	
Color	black (9005)	

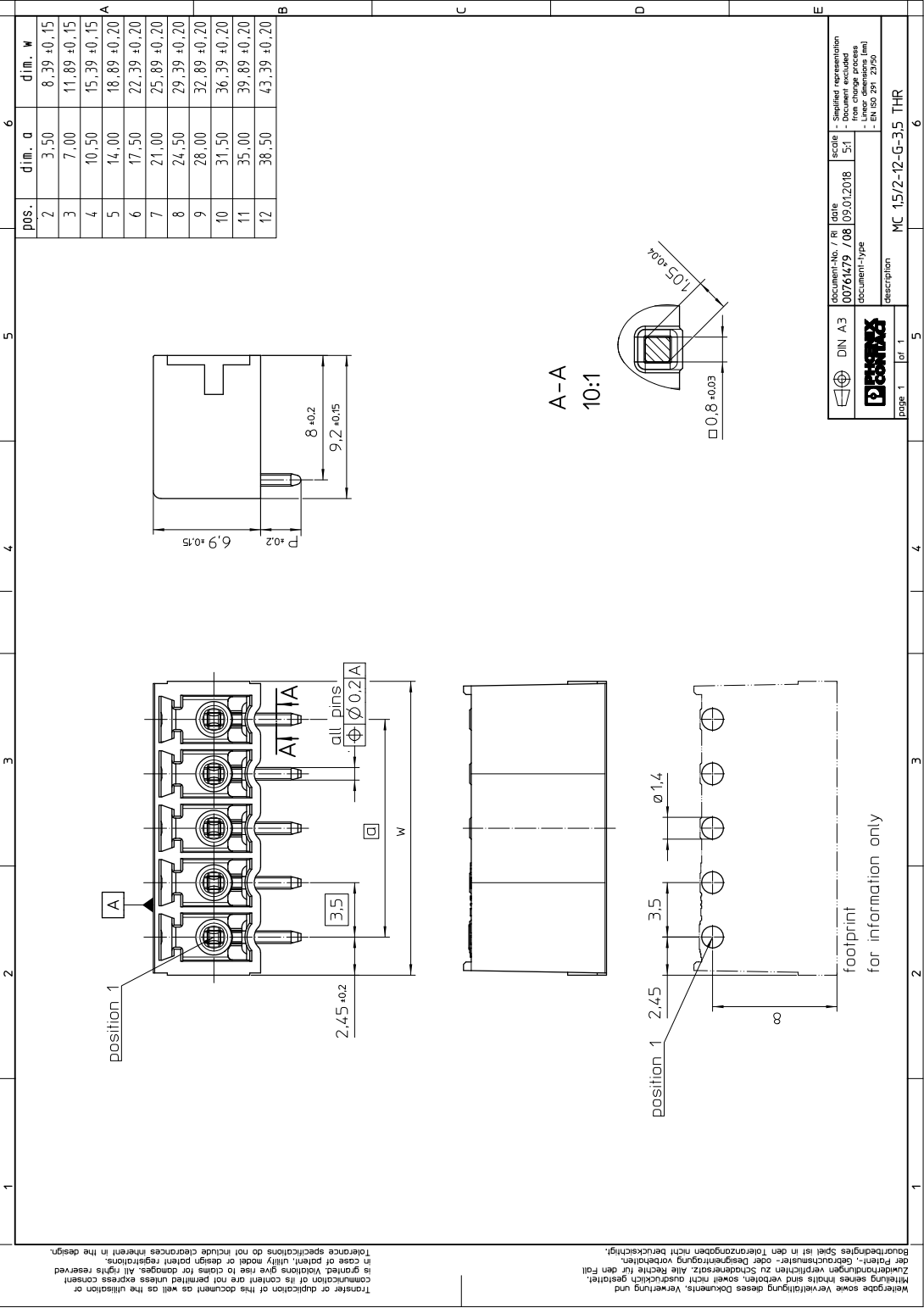
6 Dimensions**6.1 Dimensions for the product**

Length	9.2 mm
Width	11.89 mm
Height (without solder pin)	6.9 mm
Total height	9.5 mm
Solder pin [P]	2.6 mm
Dimension a	7 mm

6.2 Dimensions for PCB design

Hole diameter	1.4 mm
Pin dimensions	0,8 x 0,8

7 Series drawing



1788521 MC 1,5/ 3-G-3,5 P26 THR**8 Packaging information**

Type of packaging	packed in cardboard
Pieces per package	50

9 Application**9.1 Processing notes**

Process	Reflow/wave soldering
Specification	Following IPC/JEDEC J-STD-020E:2014-12
Specification	Following IEC 61760-1:2006-04
Specification	Following IEC 60068-2-58:2015-03
Moisture Sensitive Level	MSL 1
Classification temperature T_c	max. 260 °C
Solder cycles in the reflow	3
swash circumference	see dimensional drawing

9.2 Temperature limit values

Ambient temperature (storage/transport)	-40 °C ... 70 °C
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-40 °C (dependent on the derating curve)

1788521 MC 1,5/ 3-G-3,5 P26 THR**10 Mechanical tests****Mechanical test group A**

Specification	IEC 61984:2008-10
Visual examination	Test passed
Specification	IEC 60512-1-1:2002-02
Dimensional test	Test passed
Specification	IEC 60512-1-2:2002-02
Resistance of marking	Test passed
Specification	IEC 60068-2-70:1995-12
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.	5 N
Polarization and coding	Test passed
Specification	IEC 60512-13-5:2006-02
Test force	20 N
Contact retention in insert	Test passed
Specification	IEC 60512-15-1:2008-05
Test force per pos.	20 N

1788521 MC 1,5/ 3-G-3,5 P26 THR**11 Electrical tests****11.1 Electrical data**

Rated current / conductor cross section	8 A / 1.5 mm ²
Rated insulation voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Contact resistance	1.3 mΩ
Degree of pollution	2

11.2 Air and creepage distances

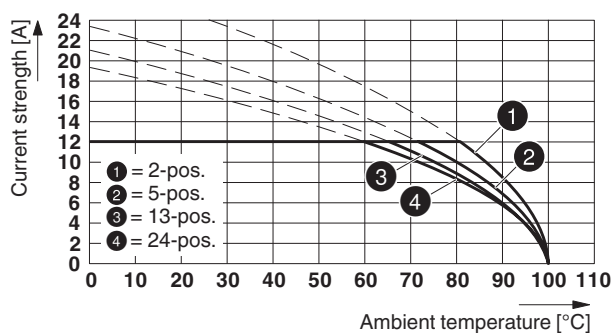
Component	Header		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	IIIa		
Comparative tracking index (IEC 60112:2003-01)	CTI 225		
Rated insulation voltage	160 V	160 V	250 V
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	1.5 mm	1.5 mm	1.5 mm
Minimum value of the creepage path requirement in acc. with table	2.5 mm	1.6 mm	2.5 mm

1788521 MC 1,5/ 3-G-3,5 P26 THR

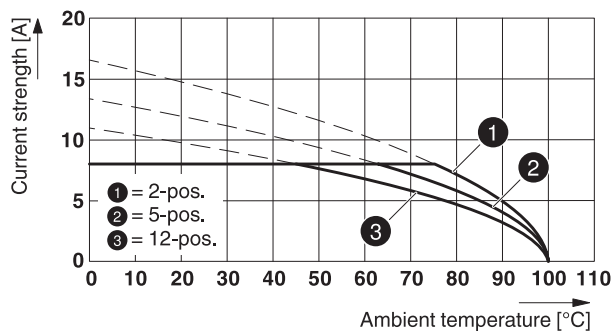
12 Current carrying capacity/derating curves

Specification	IEC 61984:2008-10
Note	Representation based on IEC 60512-5-2:2002-02
Reduction factor	0.8
Number of positions	See diagram
Conductor cross section	1.5 mm ²
Note	

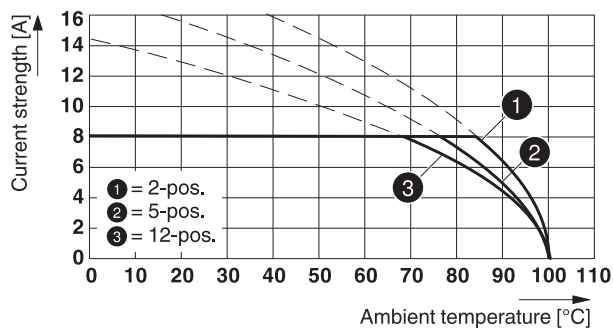
Type: MC 1,5/...-ST(F)-3,5 with MC 1,5/...-G(F)-3,5 P... THR



Type: MCVR 1,5/...-ST-3,5 with MC 1,5/...-G-3,5 P...THR



Type: FMC 1,5/...-ST-3,5 with MC 1,5/...-G-3,5 P26 THR



1788521 MC 1,5/ 3-G-3,5 P26 THR**13 Environmental and durability tests****13.1 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 - 60.1 Hz)
Acceleration	5 g (60.1 - 150 Hz)
Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis

14 Classification for connectors

Specification	IEC 61984:2008-10
Main features	Connectors without switching capacity (COC)
Construction form	Fixed connectors
Strain relief elements	without strain relief
Protection against electric shock	Not encapsulated - touch-proof when inserted
Protection class	
Protective conductor	without PE
Lock	no

15 Approvals**VDE Gutachten mit Fertigungsüberwachung** mm²/AWG/kcmil

Voltage	160 V			
Current	8 A			

cULus Recognized

Use group	B	D		
mm ² /AWG/kcmil				
Voltage	300 V	300 V		
Current	8 A	8 A		

IECEE CB Scheme

mm ² /AWG/kcmil				
Voltage	160 V			
Current	8 A			

EAC

1788521 MC 1,5/ 3-G-3,5 P26 THR**16 Commercial Data**

Order No.	1788521
Type	MC 1,5/ 3-G-3,5 P26 THR
Pieces per package	50
Net weight	0.918 g
GTIN	4046356611657
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

17 corresponding plugs

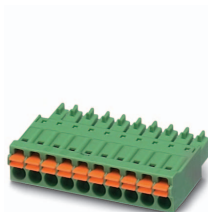
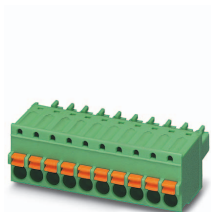
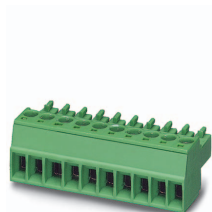
Order No.	Type
1769061	MC 1,5/ 3-ST-3,5 GY7035
1772621	TFMC 1,5/ 3-ST-3,5
1840379	MC 1,5/ 3-ST-3,5
1862865	MCVW 1,5/ 3-ST-3,5
1863165	MCVR 1,5/ 3-ST-3,5
1939921	FK-MCP 1,5/ 3-ST-3,5
1952270	FMC 1,5/ 3-ST-3,5

18 Accessories

Description	Order No.	Type
	1841161	MC 1,5/10-LWL 1,5-3,5
	1841187	MC 1,5/10-LWL 2,3-3,5
	1841200	MC 1,5/10-LWL 4-3,5

1788521 MC 1,5/ 3-G-3,5 P26 THR

19 Combination tests

**MC 1,5/-G-THR****MC 1,5/-ST****MCVR 1,5/-ST****FK-MCP 1,5/-ST****FMC 1,5/-ST****Mechanical tests (A)**

Insertion/withdrawal force per position	approx. 8 N / 5 N	approx. 8 N / 6 N	approx. 12 N / 9 N	approx. 8 N / 6 N
Polarization when inserted Requirement >20 N	Test passed	Test passed	Test passed	Test passed
Contact holder in insert Requirements >20 N	Test passed	Test passed	Test passed	Test passed

Durability tests (B)

Contact resistance R_1	1.3 mΩ	3.6 mΩ	1.6 mΩ	2 mΩ
Insertion/withdrawal cycles	25	25	25	
Contact resistance R_2	1.3 mΩ	3.7 mΩ	1.6 mΩ	
Rated impulse voltage at sea level Voltage waveform $\geq (1.2/50 \mu s)$	2.95 kV	2.95 kV	2.95 kV	2.95 kV
Power-frequency withstand voltage Voltage waveform $\geq (50/60 \text{ Hz})$	1.39 kV	1.39 kV	1.39 kV	1.39 kV
Insulation resistance Requirements > 5 MΩ	> 4 TΩ	> 0.5 TΩ	> 0.2 TΩ	

Thermal tests (C)

Tested number of positions	20	12	12	12
Tested conductor cross section	1.5 mm ²	1.5 mm ²	1.5 mm ²	0.5 mm ²
Test current	8 A	8 A	8 A	8 A
Upper limiting temperature Requirements < 100°C	Test passed	Test passed	Test passed	Test passed

Climatic tests (D)

Test sequence 1: low temperature storage	-40 °C/2 h	-40 °C/2 h	-40 °C/2 h	-40 °C/2 h
Test sequence 2: heat storage	100 °C/168 h	100 °C/168 h	100 °C/168 h	100 °C/168 h
Test sequence 3: noxious gas storage (ISO 6988)	0.2 dm ³ SO ₂ on 300 dm ³ / 40 °C/1 cycle	0.2 dm ³ SO ₂ on 300 dm ³ / 40 °C/1 cycle	0.2 dm ³ SO ₂ on 300 dm ³ / 40 °C/1 cycle	0.2 dm ³ SO ₂ on 300 dm ³ / 40 °C/1 cycle
Rated impulse voltage at sea level Voltage waveform $\geq (1.2/50 \mu s)$	2.95 kV	2.95 kV	2.95 kV	2.95 kV
Power-frequency withstand voltage Voltage waveform $\geq (50/60 \text{ Hz})$	1.39 kV	1.39 kV	1.39 kV	1.39 kV

Environmental and endurance tests (E)

Specification	IEC 61984:2008-10	IEC 61984:2008-10	IEC 61984:2008-10	
Degree of protection	Finger safety with IP20 test finger	Finger safety with IP20 test finger	Finger safety with IP20 test finger	Finger safety with IP20 test finger