

# P-SMP



P-SMP coaxial connectors from Rosenberger combine the advantages of SMP connectors – minimum board-to-board spaces – and of SMA connectors – high performance and high power rating. Minimum board-to-board distances from 12.6 mm can be realized by using bullets of different lengths, yet P-SMP connectors are designed for high power loads and operate at frequencies up to 10 GHz.

P-SMP – Power SMP – RF coaxial connectors have been designed for applications up to 200 W @ 2.2 GHz continuous power, e.g. board-to-board connections in base stations, or board-to-cable connections in power amplifier filter units.

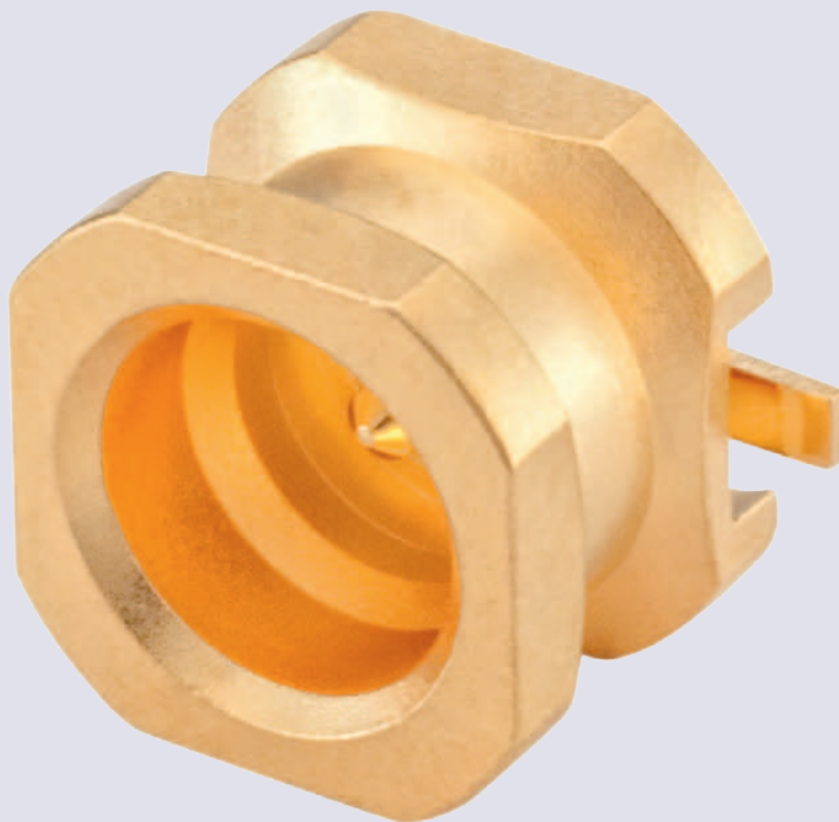
PCB connectors – SMD and also pin-in-paste types - are available as limited detent or smooth bore types.

P-SMP-Koaxial-Steckverbinder von Rosenberger verbinden die Vorteile der Serien SMP – geringstmögliche Leiterplattenabstände – und SMA – hohe Leistung – miteinander. Durch Verwendung von Bullets sind minimale Leiterplattenabstände ab 12,6 mm möglich, gleichzeitig sind P-SMP-Steckverbinder bei hohen Leistungen bis in einen hohen Frequenzbereich bis 10 GHz belastbar.

Die Serie P-SMP - Power SMP - ist konzipiert für Anwendungen, bei denen Dauerleistungen bis 200 W @ 2.2 GHz gefordert sind, z. B. Board-to-Board-Steckverbindungen in Basisstationen oder Übergänge von Leiterplatte auf Kabel in Leistungsverstärker-Filterverbindungen.

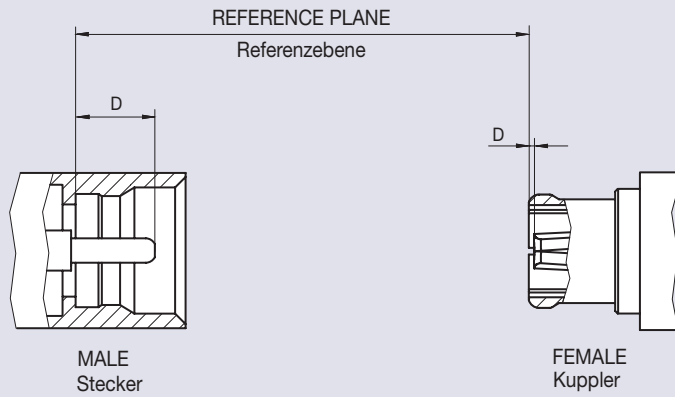
PCB-Typen – SMD- und Pin-in-paste-Bauformen – sind als Limited detent- und Smooth bore-Ausführungen erhältlich.

# P-SMP



## Interface Dimensions P-SMP

Code 119



D	Male   Stecker				Female   Kuppler	
	Smooth bore		Limited detent		min.	max.
	min.	max.	min.	max.		
	1.90	2.16	1.90	2.16	0.00	0.20

Dimensions in mm

### Features

- ▶ Interface according to Rosenberger P-SMP series
- ▶ Frequency range DC to 10 GHz
- ▶ Return loss (cable connector straight)  $\geq 32$  dB (typ.)
- ▶ Power handling (continuous) 200 W @ 2.2. GHz
- ▶ Impedance 50  $\Omega$
- ▶ Minimum board-to-board distance  $\geq 12.6$  mm
- ▶ Axial misalignment  $\pm 1$  mm
- ▶ Radial misalignment 4°
- ▶ Snap-on coupling

### Product Range

- ▶ Cable connectors
- ▶ Panel connectors
- ▶ PCB connectors (SMD versions)
- ▶ Adaptors

## Technical Data P-SMP

Code 119

Applicable standards   Anwendbare Normen	
Interface according to   Interface gemäß	Rosenberger P-SMP
Electrical data   Elektrische Daten	
Impedance   Wellenwiderstand	50 Ω
Frequency range   Frequenzbereich	DC to 10 GHz
Return loss (cable connector straight)   Rückflusdämpfung (Kabelsteckverbinder gerade)	≥ 32 dB @ DC to 3 GHz ≥ 26 dB @ 3 GHz to 6 GHz
Insertion loss   Dämpfung	≤ 0.03 x √f (GHz) dB
Insulation resistance   Isolationswiderstand	≥ 5 GΩ
Center contact resistance   Übergangswiderstand Innenleiter	≤ 3 mΩ
Outer contact resistance   Übergangswiderstand Außenleiter	≤ 2 mΩ
Test voltage   Prüfspannung	1000 V rms
Working voltage   Betriebsspannung	480 V rms
Power handling   Leistungsbelastbarkeit	200 W @ 2.2 GHz
Contact current   Kontaktstrombelastbarkeit	≤ 15 A DC
RF leakage - Interface   Schirmdämpfung	≥ 75 dB @ DC to 4 GHz
Intermodulation 3rd order   Intermodulation 3. Ordnung	≤ -160 dBc (2 x 43 dBm)
Mechanical data   Mechanische Daten	
Mating cycles   Steckzyklen	Full detent: ≥ 100 Limited detent: ≥ 100 Smooth bore, Catchers mitt: ≥ 1000
Center contact captivation   Innenleiter Haltekraft	axial: ≥ 7 N
Engagement force   Steckkraft	Full detent: ≤ 68 N Limited detent: ≤ 45 N Smooth bore, Catchers mitt: ≤ 10 N
Disengagement force   Ziehkraft	Full detent: ≥ 25 N Limited detent: ≥ 15 N Smooth bore, Catchers mitt: ≥ 2.2 N
Axial misalignment   Axialer Toleranzausgleich	± 1 mm
Radial misalignment   Radialer Toleranzausgleich	4°
Board-to-board distance (min.)   Board-to-board Abstand (min.)	12.6 mm (solder paste thickness not included)
Environmental data   Umweltdaten	
Temperature range   Temperaturbereich	-65 °C to +165 °C
Thermal shock   Temperaturzyklen	IEC 60169-1, Sub-clause 16.4 (-65 °C to +165 °C)
Climatic category   Klimakategorie	IEC 60169-1, Sub-clause 18 (+165 °C, 1000 hours)
Vibration   Vibration	IEC 60068-2-64 random
Shock   Schock	IEC 60068-2-27 (50g, 11 ms, half-sine)
Max. soldering temperature (PCB connectors)   Max. Löttemperatur (Leiterplattensteckverbinder)	IEC 61760-1, +260 °C for 10 sec.
Materials   Materialien	
Spring loaded contact parts   Federnde Kontaktteile	CuBe, Au / white bronze plating
Center contact   Innenleiter	CuZn, Au plating
Outer contact   Außenleiter	CuZn, Au / white bronze plating
Crimping ferrule   Crimphülse	Cu, Au / white bronze plating
Dielectric   Dielektrikum	PTFE / PEEK / LCP


Rosenberger connectors generally fulfill the indicated technical data. Individual values of connectors may deviate depending upon application, design, type of cable, assembly method and workmanship. Data sheets for particular products can be downloaded on our website or can be provided on request from your Rosenberger sales partner.

Rosenberger-Steckverbinder erfüllen grundsätzlich die hier angegebenen technischen Daten. Je nach Anwendung, Bauart, Kabeltyp, Montageart und -ausführung können einzelne Werte der Steckverbinder hiervon abweichen. Datenblätter zu einzelnen Produkten können Sie von unserer Website herunterladen oder auf Anfrage von Ihrem Rosenberger-Ansprechpartner erhalten.

## Cable Connectors - Semi-Rigid Cables


### Straight Jack, solder

Semi-Rigid Cables

Rosenberger No.	Order No.	Sales Unit	Packaging	Cable Group	
119 K 101-272 N5	209499	50	standard	72	

### Right Angle Jack, solder


Semi-Rigid Cables

Rosenberger No.	Order No.	Sales Unit	Packaging	Cable Group	
119 K 207-272 N5	192163	50	standard	72	

## Cable Connectors - Flexible Cables

### Right Angle Jack, solder crimp



Flexible Cables

Rosenberger No.	Order No.	Sales Unit	Packaging	Cable Group	
119 K 207-303 N5	230112	100	standard	03	

Panel Connectors - Coaxial End

Panel Plug, hexagonal flange

Coaxial End

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
119 S 601-500 N5	211831	100	blister	Limited detent Panel feed through	
119 S 641-500 N5	192149	100	blister	Smooth bore Panel feed through	
119 S 64A-500 N5	226839	100	blister	Smooth bore Panel feed through	

P-SMP

## PCB Connectors - SMD


### Straight Plug, PCB

SMD

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks		
119 S 101-40M L5	203484	100	blister	Limited detent		
119 S 141-40M L5	208246	50	blister	Smooth bore		
119 S 104-40M L5	272600	1000	tape & reel	Limited detent		
	219742	100	blister			
119 S 144-40M L5	272603	1000	tape & reel	Smooth bore		
	222421	50	blister			
119 S 147-40M L5	235584	100	blister	Smooth bore		
119 S 102-40M L5	210504	50	blister	Limited detent pin-in-paste		
119 S 142-40M L5	211102	50	blister	Smooth bore pin-in-paste		
119 S 103-40M L5	234202	800	tape & reel	Limited detent pin-in-paste		
	211279	100	blister			
119 S 143-40M L5	216358	50	blister	Smooth bore pin-in-paste		
119 S 10B-40M L5	226203	100	blister	Limited detent pin-in-paste		
	283674	850	tape & reel			
119 S 14N-40M L5	277820	100	blister	Smooth bore pin-in-paste capture range Ø10.9 mm		
	283676	450	tape & reel			

## Right Angle Plug, PCB


SMD

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
119 S 202-40M L5	208115	100	blister	Limited detent	
119 S 242-40M L5	209500	50	blister	Smooth bore	

## PCB Connectors - Solder Pin

### Straight Plug, PCB


Solder Pin

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
119 S 102-400 L5	219502	100	blister	Limited detent	



## Adaptors

### Bullets P-SMP female-female


Rosenberger No.	Order No.	Sales Unit	Packaging	Board-to-Board Distance <sup>1) 3)</sup>	Bullet Length <sup>2)</sup>	
119 K 101-K00 N5	190567	100	standard	13.60 mm ± 1 mm	10.00 mm	
119 K 111-K00 N5	214907	100	standard	21.15 mm ± 1 mm	17.55 mm	
119 K 109-K00 N5	242900	100	standard	23.30 mm ± 1 mm	19.70 mm	
119 K 106-K00 N5	225967	100	standard	24.25 mm ± 1 mm	20.65 mm	
119 K 107-K00 N5	227162	100	standard	27.40 mm ± 1 mm	23.80 mm	
119 K 108-K00 N5	272599	50	standard	34.80 mm ± 1 mm	31.20 mm	
119 K 104-K00 N5	201517	50	standard	37.50 mm ± 1 mm	33.90 mm	
119 K 112-K00 N5	248549	100	standard	41.60 mm ± 1 mm	38.00 mm	

1) When standard SMD-connectors are applied (e.g. 119 S 101-400, 119 S 142-40M, ...).

2) Bullets with other lengths on request.

3) Solder paste thickness not included.


### Adaptors P-SMP - RPC-3.50

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	Return Loss	
03 K 719-S60 S3	223497	1	standard	RPC-3.50 female - P-SMP male full detent 2-hole flange floating test adaptor	≥ 35 dB @ DC to 4 GHz ≥ 26 dB @ 4 GHz to 10 GHz	

## Adaptors P-SMP - SMA

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	Return Loss	
119 S 132-S00 S5	197285	1	standard	P-SMP male - SMA male		
119 S 132-K00 S5	210521	1	standard	P-SMP male - SMA female		
119 K 132-S00 L5	197683	1	standard	P-SMP female - SMA male		
119 K 132-K00 L5	210505	1	standard	P-SMP female - SMA female		
119 K 732-K0B S5	226655	1	standard	P-SMP female - SMA female 2-hole flange floating test adaptor	$\geq 38$ dB @ DC to 3 GHz $\geq 30$ dB @ 3 GHz to 6 GHz	

## Adaptors P-SMP - N 50 Ω

Rosenberger No.	Order No.	Sales Unit	Packaging	Remarks	
119 K 153-K00 L5	210513	1	standard	P-SMP female - N female	

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