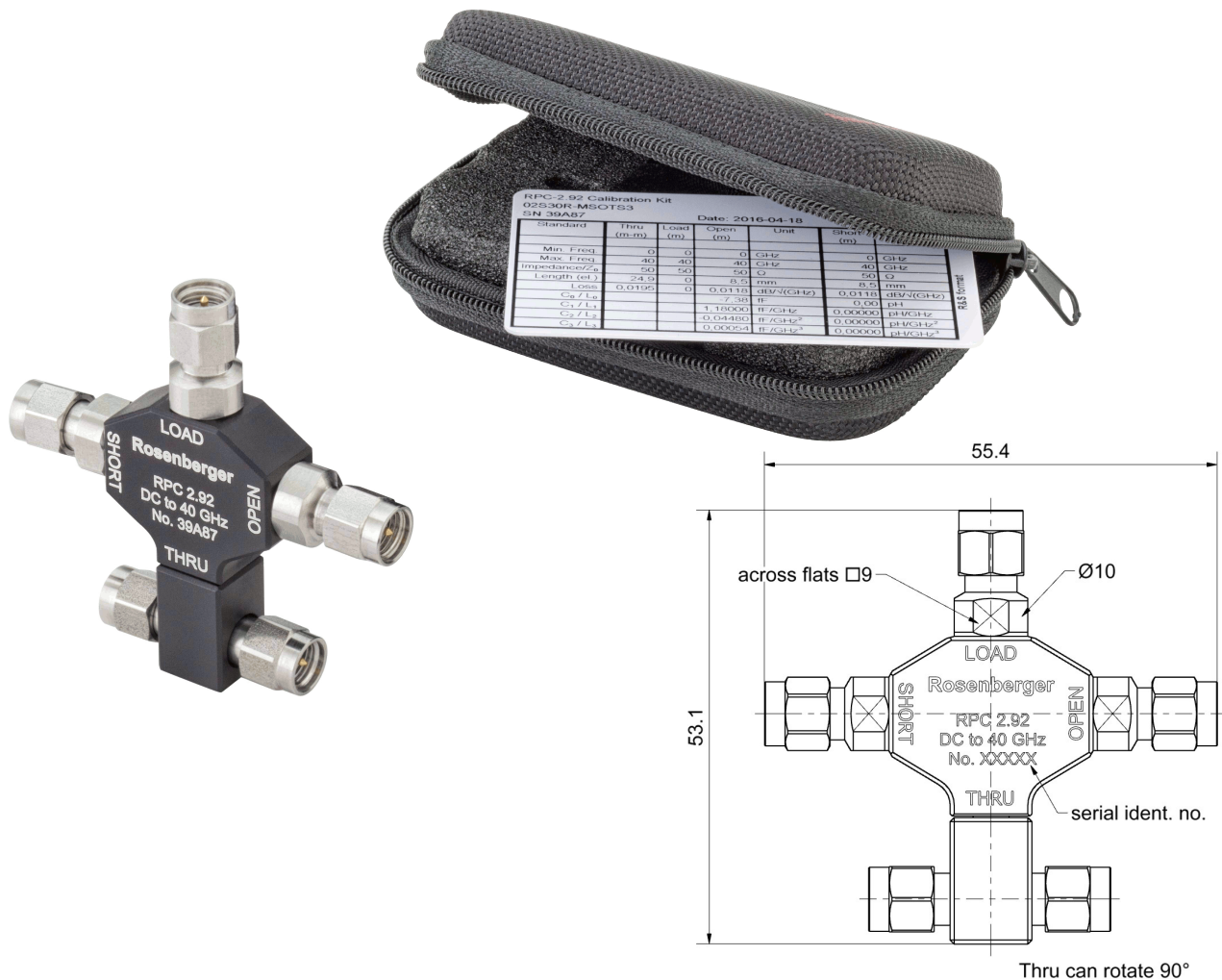


RPC-2.92

Calibration Kit Plug

02S30R-MSOTS3



All dimensions are in mm; tolerances according to ISO 2768 m-H

Interface

According to
Mechanically compatible with

IEC 61169-35
RPC-3.50 and SMA

Contents and Documentation

This kit is delivered with

- **Standard Definitions Card**
Printed Standard Definitions that can be used on nearly all Vector Network Analyzers
- **Test Results Documentation**
- **Hard Shell Case**
- **Protection Caps**

Material and plating

Connector parts

Center conductor
Outer conductor
Coupling nut
Body
Dielectric
Substrate

Material

CuBe
Stainless steel
Stainless steel
Aluminum
PS
 Al_2O_3

Plating

Gold, min. 1.27 μm , over nickel
Passivated
Passivated
black anodized

Electrical data

Frequency range DC to 40.0 GHz

Thru

Return loss
 ≥ 32 dB, DC to 4 GHz
 ≥ 30 dB, 4 GHz to 26.5 GHz
 ≥ 28 dB, 26.5 GHz to 40 GHz

Open

Error from nominal phase¹
 $\leq 1.5^\circ$, DC to 4 GHz
 $\leq 4.0^\circ$, 4 GHz to 26.5 GHz
 $\leq 5.0^\circ$, 26.5 GHz to 40.0 GHz

Short

Error from nominal phase²
 $\leq 1.5^\circ$, DC to 4 GHz
 $\leq 4.0^\circ$, 4 GHz to 26.5 GHz
 $\leq 5.0^\circ$, 26.5 GHz to 40.0 GHz

Load

Return loss
 ≥ 40.0 dB, DC to 4 GHz
 ≥ 28.0 dB, 4 GHz to 26.5 GHz
 ≥ 25.0 dB, 26.5 GHz to 40.0 GHz
DC Resistance $50 \Omega \pm 0.5 \Omega$
Power handling ≤ 0.5 W

¹ The nominal phase is defined by the Offset Delay, the Offset Loss and the Fringing Capacitances

² The nominal phase is defined by the Offset Delay, the Offset Loss and the Short Inductance

Mechanical data

Mating cycles ≥ 500
Maximum torque 1.70 Nm
Recommended torque 0.90 Nm
Gauge 0.00 mm to 0.08 mm

General standard definitions

For proper operation the vector network analyzer (VNA) needs a model describing the electrical behaviour of this calibration standard. The different models, units, and terms used will depend on the VNA type and they will have to be entered into the VNA. All values are based on typical geometry and plating.

Thru

Offset Z_o / Impedance / Z_o 50 Ω
Offset Delay 83.057 ps
Length (electrical) / Offset Length 24.90 mm
Offset Loss 2.70 G Ω /s
Loss 0.0195 dB/ $\sqrt{\text{GHz}}$
Line Loss @ 1GHz 0.0008 dB/mm

Open

Offset Z_o / Impedance / Z_o 50 Ω
Offset Delay 28.353 ps
Length (electrical) / Offset Length 8.50 mm
Offset Loss 2.40 G Ω /s
Loss 0.0118 dB/ $\sqrt{\text{GHz}}$
Fringing Capacitances
 $C_0 = -7.38000 \times 10^{-15}$ F / -7.38000 fF
 $C_1 = 1180.00 \times 10^{-27}$ F/Hz / 1.18000 fF /GHz
 $C_2 = -44.8000 \times 10^{-36}$ F/Hz² / -0.04480 fF /GHz²
 $C_3 = 0.54000 \times 10^{-45}$ F/Hz³ / 0.00054 fF /GHz³

Technical Data Sheet				Rosenberger			
RPC-2.92		Calibration Kit Plug		02S30R-MSOTS3			
Short							
Offset Z _o / Impedance / Z _o		50 Ω					
Offset Delay		28.353 ps					
Length (electrical) / Offset Length		8.50 mm					
Offset Loss		2.40 GΩ/s					
Loss		0.0118 dB/√GHz					
Short Inductance		L ₀ = 0.0000 x 10 ⁻¹² H		/	0.0000 pH		
		L ₁ = 0.0000 x 10 ⁻²⁴ H/Hz		/	0.0000 pH/GHz		
		L ₂ = 0.0000 x 10 ⁻³³ H/Hz ²		/	0.0000 pH/GHz ²		
		L ₃ = 0.0000 x 10 ⁻⁴² H/Hz ³		/	0.0000 pH/GHz ³		
Load							
Offset Z _o / Impedance / Z _o		50 Ω					
Offset Delay		0.0000 ps					
Length (electrical) / Offset Length		0.000 mm					
Offset Loss		0.00 GΩ/s					
Loss		0.0000 dB/√GHz					
Environmental data							
Operating temperature range ³		+ 20 °C to +26 °C					
Rated temperature range of use ⁴		0 °C to +50 °C					
Storage temperature range		- 40 °C to +85 °C					
RoHS		compliant					
³ Temperature range over which these specifications are valid.							
⁴ This range is underneath and above the operating temperature range, within the calibration kit is fully functional and could be used without damage							
Declaration of documentation							
Standard delivery for this kit includes Test Results. The documentation issued reports which quantities were tested individually, traceable to national / international standards. Model based standard definitions of the calibration standards are reported in Agilent / Keysight, Rohde & Schwarz and Anritsu compatible VNA format.							
Inspection interval							
Recommendation		12 months					
Packing							
Standard		1 pce in bag					
Weight		42 g/pce					
While the information has been carefully compiled to the best of our knowledge, nothing is intended as representation or warranty on our part and no statement herein shall be construed as recommendation to infringe existing patents. In the effort to improve our products, we reserve the right to make changes judged to be necessary.							
Draft	Date	Approved	Date	Rev.	Engineering change number	Name	Date
Marcel Panicke	05.11.15	Markus Müller	27.11.19	i00	19-2083	Marion Striegler	27.11.19
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