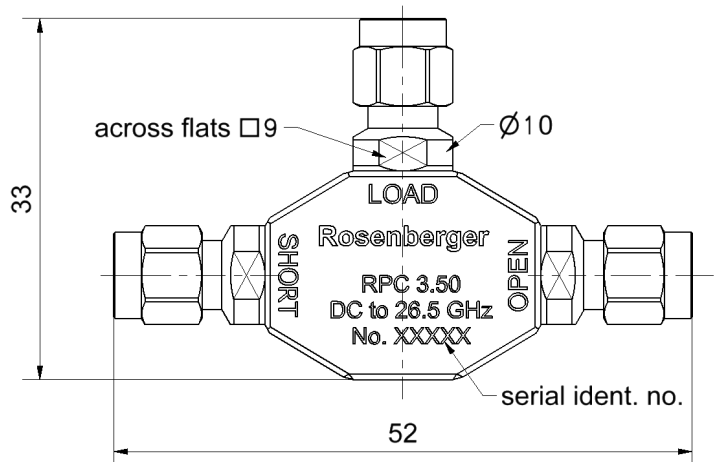
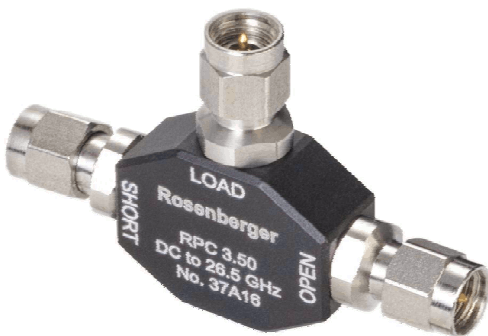




RPC-3.50 Calibration Kit
03S30R-MSOS3
SN 37A16

Standard	Load (m)	Open (m)	Date
Min. Freq.	0	0	GHz
Max. Freq.	26.5	26.5	GHz
Impedance	50	50	Ω
Length (cl.)	0	10	mm
Loss	0	0.012	dB/(GHz)²
C _g / L _e		17.00	fF
C _g / L ₁		2.00000	fF/GHz
C _g / L ₂		0.14700	fF/GHz²
C _g / L ₃		0.00300	fF/GHz²
			D, D172, dB/(GHz)
			39.0000 pF
			2.20000 pF/GHz
			0.15000 pF/GHz²
			0.00300 pF/GHz²

ASS format



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

Interface

According to
Mechanically compatible with

IEC 61169-23
RPC-2.92 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**

Material and plating

Connector parts

- Center conductor
- Outer conductor
- Coupling nut
- Body
- Dielectric
- Substrate

Material

- Beryllium copper
- Stainless steel
- Stainless steel
- Aluminum
- PS
- Al₂O₃

Plating

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

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RF_35/09;14/6.2

Electrical data

Frequency range DC to 26.5 GHz

Open

Error from nominal phase¹

- ≤ 1.0°, DC to 4 GHz
- ≤ 2.0°, 4 GHz to 8 GHz
- ≤ 3.0°, 8 GHz to 26.5 GHz

Short

Error from nominal phase²

- ≤ 1.0°, DC to 4 GHz
- ≤ 2.0°, 4 GHz to 8 GHz
- ≤ 3.0°, 8 GHz to 26.5 GHz

Load

Return loss

- ≥ 40.0 dB, DC to 4 GHz
- ≥ 35.0 dB, 4 GHz to 8 GHz
- ≥ 30.0 dB, 8 GHz to 26.5 GHz

DC Resistance 50 Ω ± 0.5 Ω

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.

Open

Offset Z_o / Impedance / Z_o 50 Ω

Offset Delay 33.356 ps

Length (electrical) / Offset Length 10.00 mm

Offset Loss 2.20 GΩ/s

Loss 0.0127 dB/√GHz

Fringing Capacitances

- C₀ = -17.000 x 10⁻¹⁵ F / -17.000 fF
- C₁ = -2000.0 x 10⁻²⁷ F/Hz / -2.0000 fF /GHz
- C₂ = 147.00 x 10⁻³⁶ F/Hz² / 0.1470 fF /GHz²
- C₃ = -3.0000 x 10⁻⁴⁵ F/Hz³ / -0.0030 fF /GHz³

Short

Offset Z_0 / Impedance / Z_0	50 Ω	
Offset Delay	33.357 ps	
Length (electrical) / Offset Length	10.00 mm	
Offset Loss	2.36 G Ω /s	
Loss	0.0127 dB/ $\sqrt{\text{GHz}}$	
Short Inductance	$L_0 = -39.000 \times 10^{-12} \text{ H}$	/ -39.000 pH
	$L_1 = 2200.0 \times 10^{-24} \text{ H/Hz}$	/ 2.2000 pH /GHz
	$L_2 = -150.00 \times 10^{-33} \text{ H/Hz}^2$	/ -0.1500 pH /GHz ²
	$L_3 = 3.0000 \times 10^{-42} \text{ H/Hz}^3$	/ 0.0030 pH /GHz ³

Load

Offset Z_0 / Impedance / Z_0	50 Ω
Offset Delay	0.0000 ps
Length (electrical) / Offset Length	0.000 mm
Offset Loss	0.00 G Ω /s
Loss	0.0000 dB/ $\sqrt{\text{GHz}}$

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
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Packing

Standard	1 pce in bag
Weight	26.4 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	07.01.16	Markus Müller	02.05.18	e00	18-0787	Marion Striegler	02.05.18