Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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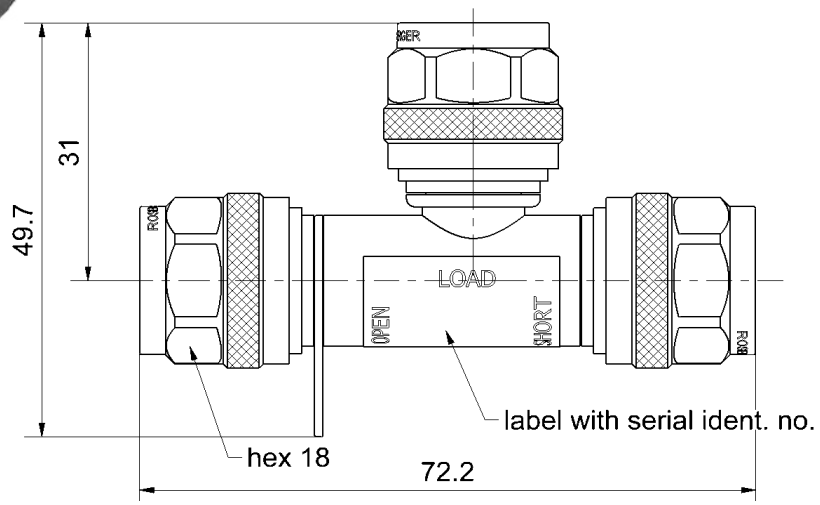
Technical Data Sheet		Rosenberger
N 50 Ω	Calibration Kit Plug	**53S36R-MSON3**



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

Interface

According to IEC 61169-16

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**
- **Lanyard**
- **Hard Shell Case**

Material and plating

Connector parts	**Material**	**Plating**
Center conductor	Brass	Gold, min. 1.27 µm, over nickel
Outer conductor	Brass	Flash white bronze over silver(e.g. Optargen®)
Coupling nut	Brass	White bronze(e.g. Optalloy®)
Body	Brass	powder-coated
Dielectric	PTFE / PPE	
Substrate	Al_2O_3	

Rosenberger Hochfrequenztechnik GmbH & Co. KG
P.O.Box 1260 D-84526 Tittmoning Germany
www.rosenberger.de

Tel. : +49 8684 18-0
Email : info@rosenberger.de

Electrical data

Frequency range	DC to 6 GHz

Open

Error from nominal phase[1]	≤ 3.0°, DC to 6 GHz

Short

Error from nominal phase[2]	≤ 2.0°, DC to 6 GHz

Load

Return loss	≥ 42 dB, DC to 2.5 GHz ≥ 38 dB, 2.5 GHz to 6 GHz
DC Resistance	50 Ω ± 0.5 Ω
Power handling	≤ 1.0 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	1.10 Nm
Gauge	5.28 mm to 5.84 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	67.78 ps		
Length (electrical) / Offset Length	20.32 mm		
Offset Loss	0.80 GΩ/s		
Loss	0.0094 dB/$\sqrt{\text{GHz}}$		
Fringing Capacitances	C_0 =	-1.17000 x 10^{-15} F	/ -1.17000 fF
	C_1 =	-4280.00 x 10^{-27} F/Hz	/ -4.28000 fF /GHz
	C_2 =	1600.00 x 10^{-36} F/Hz^2	/ 1.60000 fF /GHz^2
	C_3 =	-106.000 x 10^{-45} F/Hz^3	/ -0.10600 fF /GHz^3

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Short

Offset Z_o / Impedance / Z_o	50 Ω
Offset Delay	67.78 ps
Length (electrical) / Offset Length	20.32 mm
Offset Loss	0.80 GΩ/s
Loss	0.0094 dB/$\sqrt{GHz}$
Short Inductance	L_0 = 23.5000 x 10^{-12} H / 23.5000 pH
	L_1 = -2300.00 x 10^{-24} H/Hz / -2.30000 pH/GHz
	L_2 = -2000.00 x 10^{-33} H/Hz^2 / -2.00000 pH/GHz^2
	L_3 = 269.000 x 10^{-42} H/Hz^3 / 0.26900 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/$\sqrt{GHz}$

Environmental data

Operating temperature range[3]	0 °C to +50 °C
Storage temperature range	-40 °C to +85 °C
RoHS	compliant

[3] *Temperature range over which these specifications are valid.*

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	140 g/pce

Draft	Date	Approved	Date
Kerstin Herzog	20.07.06	Herbert Babinger	19.10.17

Rev.	Engineering change number	Name	Date
f00	17-s336	M. Knoll	19.10.17

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