



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!



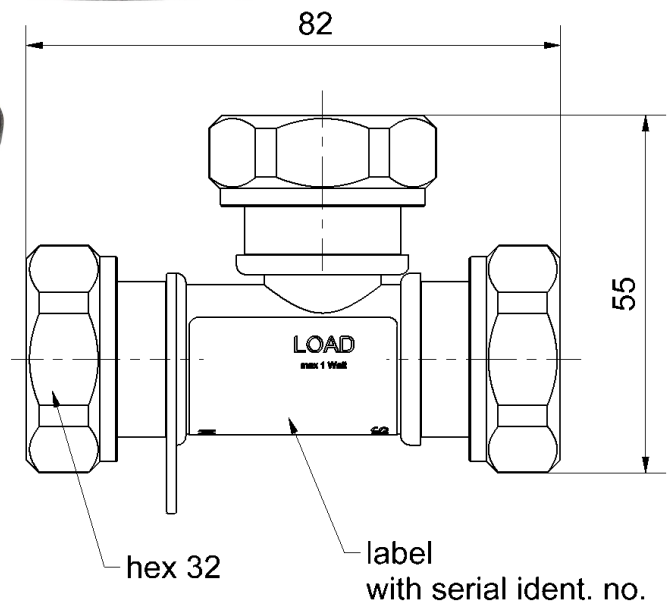
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All dimensions are in mm; tolerances according to ISO 2768 m-H

## Interface

According to

IEC 61169-4, EN 122190, DIN 47223

## Documents

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

Center conductor  
Outer conductor  
Body  
Coupling nut  
Dielectric  
Substrate

### Material

Brass  
Brass  
Brass  
Brass  
PP  
Al<sub>2</sub>O<sub>3</sub>

### Plating

Gold, min. 1.27 µm, over nickel  
Flash white bronze over silver(e.g. Optargen®)  
powder coated  
Flash white bronze over silver(e.g. Optargen®)



## Electrical data

Frequency range DC to 4 GHz

### Open

Return loss  $\leq 0.15$  dB, DC to 4 GHz

Error from nominal phase<sup>1</sup>  $\leq 3.0^\circ$ , DC to 4 GHz

### Short

Return loss  $\leq 0.15$  dB, DC to 4 GHz

Error from nominal phase<sup>1</sup>  $\leq 3.0^\circ$ , DC to 4 GHz

### Load

Return loss  $\geq 40$  dB, DC to 2.5 GHz

$\geq 38$  dB, 2.5 GHz to 4 GHz

DC Resistance  $50 \Omega \pm 0.5 \Omega$

Power handling  $\leq 1.0$  W

<sup>1</sup> The nominal phase is defined by the Offset Delay, the Offset Loss and the Fringing Capacitances

<sup>2</sup> The nominal phase is defined by the Offset Delay, the Offset Loss and the Short Inductance

## Mechanical data

Mating cycles  $\geq 500$

Maximum torque 30 Nm

Recommended torque 2.26 Nm

Gauge 1.47 mm to 1.77 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  $Z_0$  / Impedance /  $Z_0$  50  $\Omega$

Offset Delay 56.372 ps

Length (electrical) / Offset Length 16.90 mm

Offset Loss 0.50 G $\Omega$ /s

Loss 0.0049 dB/ $\sqrt{\text{GHz}}$

Fringing Capacitances  $C_0 = 168.000 \times 10^{-15}$  F / 168.000 fF

$C_1 = 2600.00 \times 10^{-27}$  F/Hz / 2.60000 fF /GHz

$C_2 = 50.0000 \times 10^{-36}$  F/Hz<sup>2</sup> / 0.05000 fF /GHz<sup>2</sup>

$C_3 = 0.80000 \times 10^{-45}$  F/Hz<sup>3</sup> / 0.00080 fF /GHz<sup>3</sup>

# Technical Data Sheet

# Rosenberger

7-16

Calibration Kit  
Plug

60S34R-MS0N3

## Short

Offset $Z_0$ / Impedance / $Z_0$	50 $\Omega$		
Offset Delay	65.712 ps		
Length (electrical) / Offset Length	19.70 mm		
Offset Loss	0.50 G $\Omega$ /s		
Loss	0.0057 dB/ $\sqrt{\text{GHz}}$		
Short Inductance	$L_0 = 0.0000 \times 10^{-12}$ H	/	0.0000 pH
	$L_1 = 0.0000 \times 10^{-24}$ H/Hz	/	0.0000 pH/GHz
	$L_2 = 0.0000 \times 10^{-33}$ H/Hz <sup>2</sup>	/	0.0000 pH/GHz <sup>2</sup>
	$L_3 = 0.0000 \times 10^{-42}$ H/Hz <sup>3</sup>	/	0.0000 pH/GHz <sup>3</sup>

## Load

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

## Environmental data

Operating temperature range <sup>3</sup>	0 °C to +50 °C
Storage temperature range	- 55 °C to +90 °C
RoHS	compliant

<sup>3</sup> 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
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## Packing

Standard	1 pce in bag
Weight	332 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
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