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Technical Specification



RPC-1.85

Calibration Kit
Jack

MCK67A-F

Electrical data

Frequency range DC to 70.0 GHz

Thru

Return loss

- ≥ 28 dB, DC to 4 GHz
- ≥ 21 dB, 4 GHz to 26.5 GHz
- ≥ 20 dB, 26.5 GHz to 50 GHz
- ≥ 17 dB, 50 GHz to 70 GHz

Open

Error from nominal phase¹

- ≤ 2.0°, DC to 4 GHz
- ≤ 5.0°, 4 GHz to 26.5 GHz
- ≤ 7.0°, 26.5 GHz to 50 GHz
- ≤ 10.0°, 50 GHz to 70 GHz

Short

Error from nominal phase²

- ≤ 2.0°, DC to 4 GHz
- ≤ 5.0°, 4 GHz to 26.5 GHz
- ≤ 7.0°, 26.5 GHz to 50 GHz
- ≤ 10.0°, 50 GHz to 70 GHz

Load

Return loss

- ≥ 35.0 dB, DC to 4 GHz
- ≥ 25.0 dB, 4 GHz to 26.5 GHz
- ≥ 22.0 dB, 26.5 GHz to 50 GHz
- ≥ 20.0 dB, 50 GHz to 70 GHz

DC Resistance 50 Ω ± 0.5 Ω

Power handling (at 25 °C, sea level) ≤ 0.5 W, derate by 0.005 W/K

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 1.65 Nm

Recommended torque 0.90 Nm

Gauge 0.00 mm to 0.05 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 Z₀ / Impedance / Z₀ 50 Ω

Offset Delay 84.492 ps

Length (electrical) / Offset Length 25.33 mm

Offset Loss 4.00 GΩ/s

Loss 0.0294 dB/√GHz

Line Loss @ 1GHz 0.0012 dB/mm

Load

Offset Z₀ / Impedance / Z₀ 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

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Open

Offset Z_0 / Impedance / Z_0	50 Ω	
Offset Delay	16.678 ps	
Length (electrical) / Offset Length	5.00 mm	
Offset Loss	3.75 G Ω /s	
Loss	0.0109 dB/ $\sqrt{\text{GHz}}$	
Fringing Capacitances	$C_0 = 1.70000 \times 10^{-15} \text{ F}$	/ 1.70000 fF
	$C_1 = 170.000 \times 10^{-27} \text{ F/Hz}$	/ 0.17000 fF /GHz
	$C_2 = -6.30000 \times 10^{-36} \text{ F/Hz}^2$	/ -0.00630 fF /GHz ²
	$C_3 = 0.04000 \times 10^{-45} \text{ F/Hz}^3$	/ 0.00004 fF /GHz ³

Short

Offset Z_0 / Impedance / Z_0	50 Ω	
Offset Delay	16.678 ps	
Length (electrical) / Offset Length	5.00 mm	
Offset Loss	4.17 G Ω /s	
Loss	0.0121 dB/ $\sqrt{\text{GHz}}$	
Short Inductance	$L_0 = -21.0000 \times 10^{-12} \text{ H}$	/ -21.000 pH
	$L_1 = 700.000 \times 10^{-24} \text{ H/Hz}$	/ 0.70000 pH/GHz
	$L_2 = -15.0000 \times 10^{-33} \text{ H/Hz}^2$	/ -0.01500 pH/GHz ²
	$L_3 = 0.10000 \times 10^{-42} \text{ H/Hz}^3$	/ 0.00010 pH/GHz ³

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.

Inspection interval

Recommendation	12 months
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Packing

Weight	34 g/pce
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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.

For the installation of the electrotechnical equipment, particular electrotechnical expertise is required.



Rev.

Date

d00

31.01.17

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