

3 dB Hybrid Coupler RK3-544P-6G-S1

MTS-No.: 27670

Description

The 3 dB Hybrid Couplers of this series are designed to work at frequency ranges between 380 MHz and 6000 MHz. They cover for example TETRA, GSM, DECT, UMTS, Bluetooth, WiMAX, Wi-Fi (2.4G / 5G) and all LTE frequency bands.

The multisection stripline design exhibits good flatness and VSWR at all ports.



Technical data:

1 RF-specifications:

| | | | |
|--|----------------|---------------|---------------|
| 1.1 Coupler type | RK3, 3 dB | | |
| 1.2 Impedance | 50 Ω | | |
| 1.3 Input power | 50 W max. | | |
| 1.4 Frequency range | 380 - 6000 MHz | | |
| | min. | typ. | max. |
| 1.5 VSWR (at all ports) @ 380 - 5850 MHz | | 1.05 | 1.25 |
| @ 5850 - 6000 MHz | | 1.15 | 1.35 |
| 1.6 Insertion loss / Coupling (+3 dB) @ 3000 MHz | | 0.7 dB | 0.8 dB |
| @ 5850 MHz | | 1.1 dB | 1.3 dB |
| 1.7 Isolation @ 380 - 2750 MHz | 30 dB | 35 dB | |
| @ 2750 - 5400 MHz | 23 dB | 28 dB | |
| @ 5400 - 5850 MHz | 20 dB | 25 dB | |
| @ 5850 - 6000 MHz | 17 dB | 22 dB | |
| 1.8 Amplitude balance | | ± 0.4 dB | ± 0.9 dB |
| 1.9 Phase balance (90°) | | $\pm 1^\circ$ | $\pm 5^\circ$ |

2 Connections:

| | |
|------------------------|--|
| 2.1 RF-in- and outputs | 4x SMA female (4x N female available) |
|------------------------|--|

3 General specifications:

| | |
|--|--------------------------------|
| 3.1 Operating temperature | -55 °C - +75 °C |
| 3.2 Reference temperature for specifications | +25 °C |
| 3.3 Dimensions (without connections) | 132 mm x 35 mm x 17 mm (LxWxH) |
| 3.4 Case style | Milled aluminium enclosure |
| 3.5 Colour | SurTec650 (Chrome alloy) |
| 3.6 Weight | 225 grams |

4 Delivered parts:

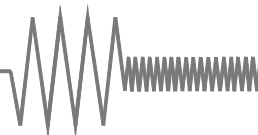
RK3-544P-6G-S1
Datasheet

5 Comments:

| | |
|----------------|-----------|
| Warranty | 12 months |
| RoHS-compliant | Yes |

6 Recommended accessories:

RF-cables
Attenuators series PAH



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Typical measurements:

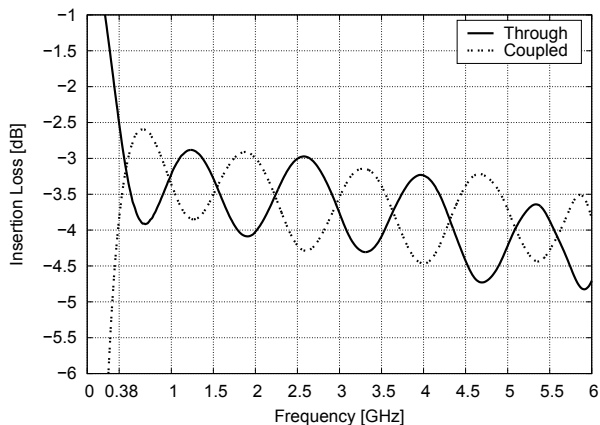


Fig. 1: Through and coupled line insertion loss

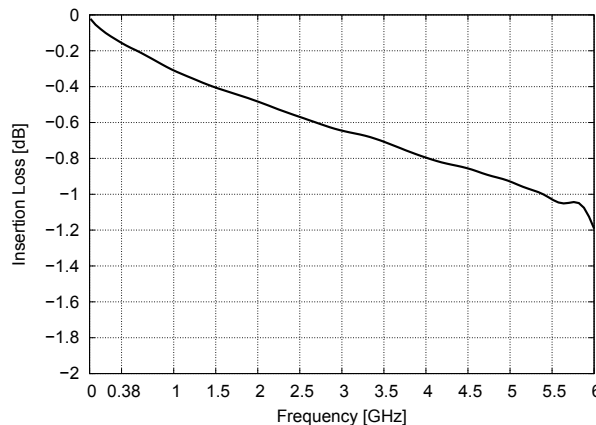


Fig. 2: Through plus coupled line insertion loss

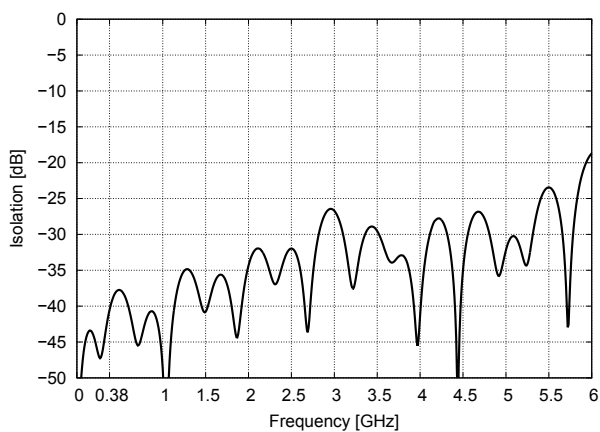


Fig. 3: Isolation between output ports

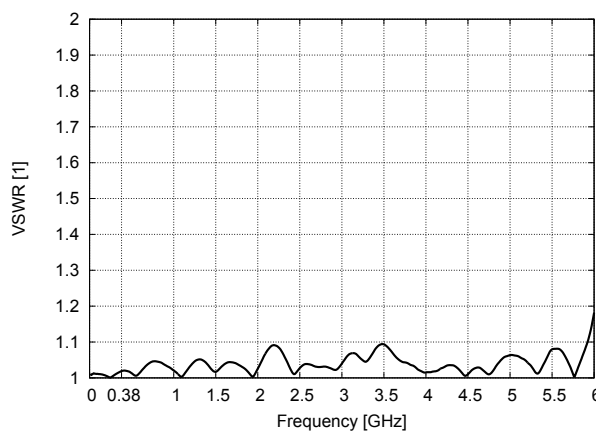


Fig. 4: VSWR at all ports

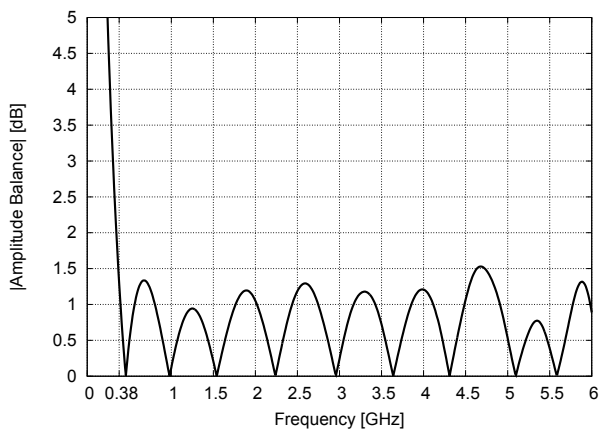


Fig. 5: Amplitude balance between output ports

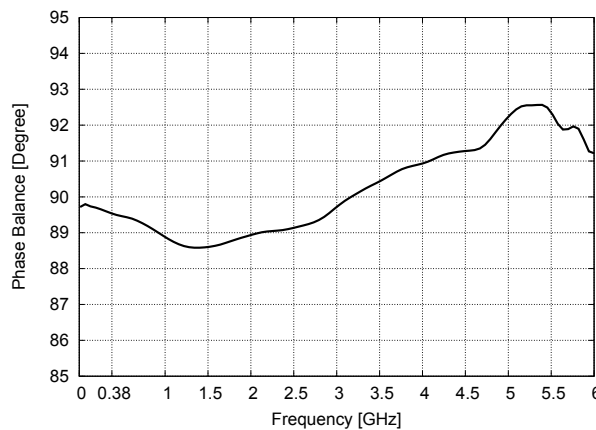
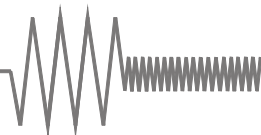


Fig. 6: Phase balance between output ports



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Port configuration:

| Input | IN | ISO | -3 dB / 0° | -3 dB / 90° |
|-------------|-------------|-------------|-------------|-------------|
| IN | --- | ISOLATION | -3 dB / 0° | -3 dB / 90° |
| ISO | ISOLATION | --- | -3 dB / 90° | -3 dB / 0° |
| -3 dB / 0° | -3 dB / 0° | -3 dB / 90° | --- | ISOLATION |
| -3 dB / 90° | -3 dB / 90° | -3 dB / 0° | ISOLATION | --- |

Views:

