

## Decouplers

### Description and purpose

RK series coaxial isolators are designed to isolate direct-current component and protect sensitive components of radio-frequency systems, such as receivers or instrumentation. RK isolators designed for 2.92/1.27 mm path operate at frequencies between 0.05 GHz and 40 GHz. Decouplers designed for 2.4/1.04 mm path operate at frequencies between 0.05 GHz and 50 GHz. Note that, due to mechanical compatibility between 2.92/1.27 mm and 3.5 mm connectors, RK-40-14R-14 may be used in combination with devices of 3.5/1.52 mm coaxial path at frequencies between 0.05 GHz and 26.5 GHz without performance degradation. Frequency dependence of absolute transmission coefficient at frequencies up to 100 MHz is shown in Fig. 1. Isolator bodies and nuts are made of stainless steel. Central conductors are made of tempered beryllium bronze and plated with wear-proof gold. Low dielectric permeability and high strength insulation is applied. Materials and design of isolators provide high stability of parameters, low reflection level and low insertion loss irregularity at operating temperatures between  $-45\text{ }^{\circ}\text{C}$  and  $+110\text{ }^{\circ}\text{C}$  for at least 2000 connect/disconnect cycles. Minimum screen attenuation is 90 dB.

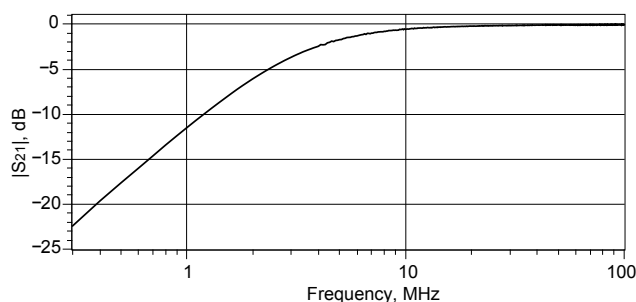


Fig. 1

### Specifications

	RK-32-03R-03	RK-32-13R-13	RK-40-14R-14	RK-40-05R-05
Connectors	Type IX, ver. 3 (female) – type IX, ver. 3 (male)	3.5 mm (female) – 3.5 mm (male)	2.92 mm (female) – 2.92 mm (male)	2.4 mm (female) – 2.4 mm (male)
Frequency range, GHz	0.05 ... 32		0.05 ... 40	0.05 ... 50
Port VSWR, max.	1.2			
Insertion loss, dB, max.	0.3			0.4
Maximum operating voltage, V	30			
Figure	2		3	4

### Dimensions

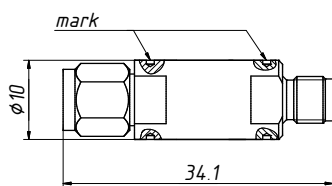


Fig. 2

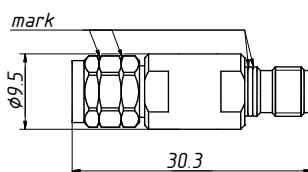


Fig. 3

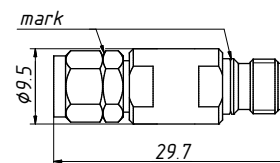


Fig. 4

### Ordering example

- RK-50-05R-05 Isolator, 2.4 mm (female) – 2.4 mm (male) connectors.