

# Keysight Couplers

The Keysight Technologies, Inc. couplers consists of hybrid coupler, broadband directional coupler, single directional coupler, and dual directional coupler. This is a complete line of coaxial single and dual port directional couplers, bridges for isolating, separating, and combining RF and microwave signals in applications such as power monitoring, source leveling, swept transmission, and reflection measurements.

775D

87300/301 series, 87301B



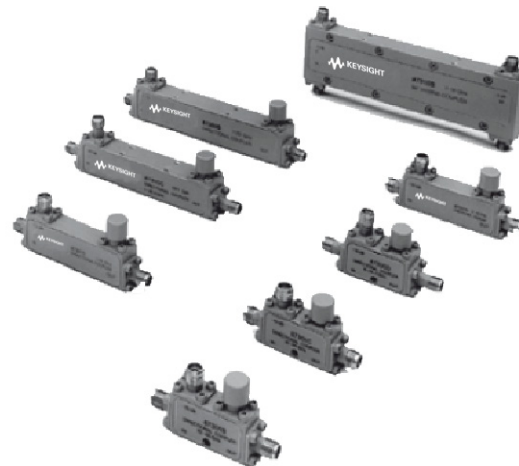
776D



777D



778D



## Key features

- Broadband couplers maximize your operating frequency up to 50 GHz
- Excellent directivity of min 40 dB for higher measurement accuracy
- Low SWR ( $< 1.1$  dB) minimizes mismatch errors

## Product specifications

Model	Frequency range (GHz)	Coupling	Amplitude imbalance	Phase imbalance	Isolation	Maximum SWR (dB)	Insertion loss (dB)	Power rating average, peak	Connectors
<b>Hybrid coupler</b>									
87310B	1 to 18	3 dB	± 0.5 dB at each port, centered at -3 dB	± 10 degrees	> 17 dB	1.35	< 2.0	20 W, 3 kW	SMA (f)
<b>Broadband directional coupler</b>									
87300B	1 to 20	10 ± 0.5		> 16	1.35		< 1.5	20 W, 3 kW	
87300C	1 to 26.5	10 ± 1.0		> 14 to 12.4 GHz > 12 to 26.5 GHz	1.35 to 12.4 GHz 1.5 to 26.5 GHz		< 1.2 to 12.4 GHz < 1.7 to 26.5 GHz	20 W, 3 kW	
87300D	6 to 26.5	10 ± 0.5		> 13	1.4		< 1.3	20 W, 3 kW	
87301B	10 to 46	10 ± 0.7		> 10	1.8		< 1.9	20 W, 3 kW	
87301C	10 to 50	10 ± 0.7		> 10	1.8		< 1.9	20 W, 3 kW	
87301D	1 to 40	13 ± 1.0		> 14 to 20 GHz > 10 to 40 GHz	1.5 to 20 GHz 1.7 to 40 GHz		< 1.2 to 20 GHz < 1.9 to 40 GHz	20 W, 3 kW	
87301E	2 to 50	10 ± 1.0		> 13 to 26.5 GHz > 10 to 50 GHz	1.5 to 26.5 GHz 1.8 to 50 GHz		< 2.0	20 W, 3 kW	
<b>Single directional coupler</b>									
773D <sup>1</sup>	2 to 18	20 ± 0.9		> 30 to 12.4 GHz > 27 to 18 GHz	1.2		< 0.9	50 W, 250 W	
<b>Dual directional coupler</b>									
772D <sup>1</sup>	2 to 18	20 ± 0.9		> 30 to 12.4 GHz > 27 to 18 GHz	1.28 to 12.4 GHz 1.4 to 18 GHz		< 1.5	50 W, 250 W	
775D <sup>2</sup>	0.45 to 0.94	20 ± 1		> 40	1.15		< 0.40	50 W, 500 W	
776D <sup>2</sup>	0.94 to 1.9	20 ± 1		> 40	1.15		< 0.35	50 W, 500 W	
777D <sup>2</sup>	1.9 to 4	20 ± 0.4		> 30	1.2		< 0.75	50 W, 500 W	
778D	0.1 to 2	20 ± 1.5		> 36 to 1 GHz <sup>3</sup> > 32 to 2 GHz <sup>3</sup>	1.1		< 0.60	50 W, 500 W	

1. See data sheet for typical out of band data from 0.1 to 2 GHz and 18 to 20 GHz.

2. Maximum auxiliary arm tracking: 0.3 dB for Keysight 776D; 0.5 dB for Keysight 777D.

3. 30 dB to 2.0 GHz, input port.

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## Ordering information

Model	Option	Standard connector	
		Primary line	Auxiliary arm
772D	STD	APC-7, APC-7	N(f)
	001	N(f), N(f)	N(f)
773D	STD/101	APC-7, APC-7	N(f)
	001	N(f), N(f)	N(f)
	010	N(m), N(f)	N(f)
775D/ 777D	002	N(f), N(m)	N(f)
	STD	N(m), N(f)	N(f)
778D	STD	N(f), N(m)	N(f), N(f)
	011	APC-7, N(f)	N(f), N(f)
	012	N(m), N(f)	N(f)
87301D	240	2.4 mm(f), 2.4 mm(f)	2.4 mm(f)
	292	2.92 mm(f), 2.92 mm(f)	2.92 mm(f)
87300B	-	SMA (f), SMA (f)	SMA (f)
87300C	-	3.5 mm(f), 3.5 mm(f)	3.5 mm(f)
87300D	-	3.5 mm(f), 3.5 mm(f)	3.5 mm(f)
87301B	-	2.92 mm(f), 2.92 mm(f)	2.92 mm(f)
87301C	-	2.4 mm(f), 2.4 mm(f)	2.4 mm(f)
87301E	-	2.4 mm(f), 2.4 mm(f)	2.4 mm(f)
87310B	-	SMA (m), SMA (m)	SMA (m)

## KEYSIGHT SERVICES

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Keysight Services helps you improve productivity and product quality with our comprehensive service offerings of one-stop calibration, repair, asset management, technology refresh, consulting, training, and more.