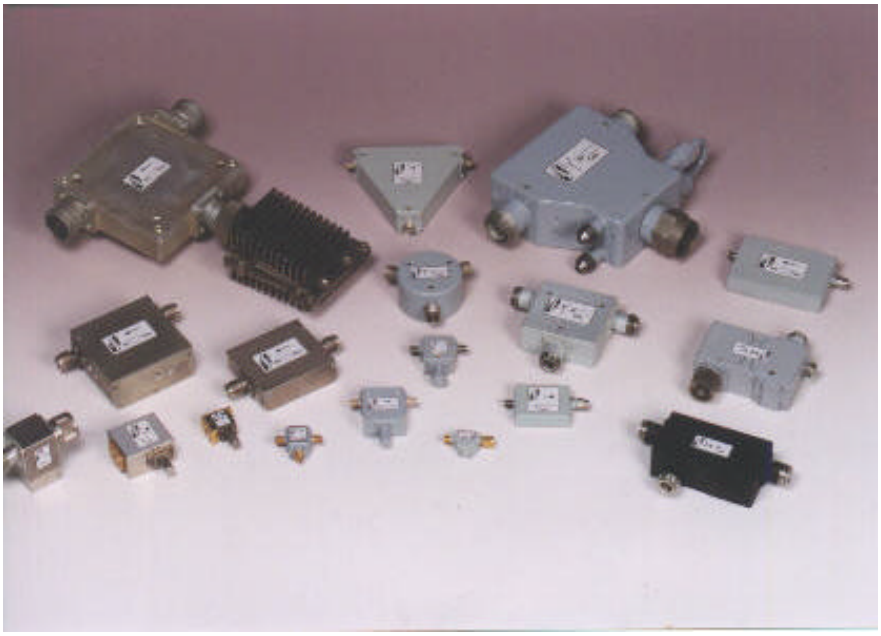
Ferrite Domen Co.'s Coaxial Isolators & Circulators product line includes components for applications ranging from mobile communications to space satellite communications and broadcasting.



CONTENTS

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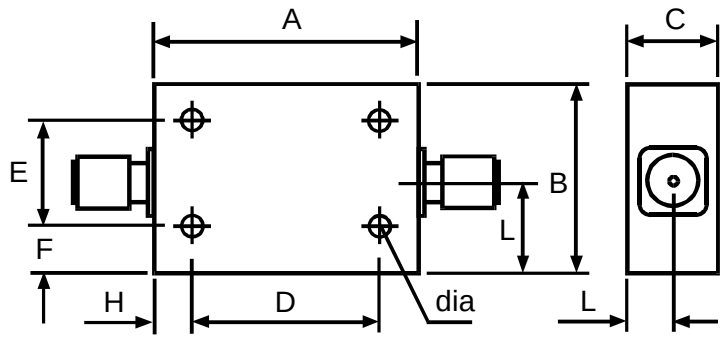
1. Broad Bandwidth Lumped Element Isolators

Frequency range MHz	Model	Insertion loss dB, max	Isolation dB, min	VSWR max	Temperature range ° C
48 to 66	1ICS57-2	1.2	17	1.4	+ 25
		1.3	15	1.6	-10 to +60
76 to 100	1ICS88-1	1.0	17	1.4	+ 25
		1.2	15	1.6	-10 to +60
88 to 108	1ICS98-1	1.0	17	1.4	+ 25
		1.2	15	1.6	-10 to +60
100 to 150	2ICS12-1	1.0	17	1.5	+ 25
		1.2	15	1.6	-40 to +70
120 to 180	2ICS15-1	1.0	17	1.5	+ 25
		1.2	15	1.6	-40 to +70
150 to 225	2ICS19-1	1.0	17	1.5	+ 25
		1.2	15	1.6	-40 to +70
180 to 270	2ICS23-1	1.0	17	1.5	+ 25
		1.2	15	1.6	-40 to +70
220 to 330	2ICS28-1	0.8	17	1.5	+ 25
		1.0	15	1.6	-40 to +70
270 to 405	2ICS35-1	0.8	17	1.5	+ 25
		1.0	15	1.6	-40 to +70
330 to 495	2ICS41-1	0.8	17	1.5	+ 25
		1.0	15	1.6	-40 to +70
400 to 600	2ICS50-1	0.8	17	1.5	+ 25
		1.0	15	1.6	-40 to +70
500 to 750	2ICS62-1	0.8	17	1.5	+ 25
		1.0	15	1.6	-40 to +70

1. Broad Bandwidth Lumped Element Isolators



Outlines (all dimensions are in millimeters)

Model	A	B	C	D	E	F	H	I	L	Weight g
1ICS57-2	69.0	67.0	25.0	51.0	54.0	6.5	9.0	10.5	12.0	400
1ICS88-1	69.0	67.0	25.0	51.0	54.0	6.5	9.0	10.5	12.0	400
1ICS98-1	69.0	67.0	25.0	51.0	54.0	6.5	9.0	10.5	12.0	400
2ICS12-1	69.0	67.0	25.0	51.0	54.0	6.5	9.0	10.5	12.0	400
2ICS15-1	69.0	67.0	25.0	51.0	54.0	6.5	9.0	10.5	12.0	400
2ICS19-1	69.0	67.0	25.0	51.0	54.0	6.5	9.0	10.5	12.0	400
2ICS23-1	69.0	67.0	25.0	51.0	54.0	6.5	9.0	10.5	12.0	400
2ICS28-1	59.4	52.0	22.1	34.0	35.0	6.5	12.7	24.5	11.6	300
2ICS35-1	59.4	52.0	22.1	34.0	35.0	6.5	12.7	24.5	11.6	300
2ICS41-1	59.4	52.0	22.1	34.0	35.0	6.5	12.7	24.5	11.6	300
2ICS50-1	54.0	43.0	18.5	38.0	15.0	12.5	8.0	20.0	9.7	200
2ICS62-1	54.0	43.0	18.5	38.0	15.0	12.5	8.0	20.0	9.7	200
Note. Isolators with SMA and N connection can be supplied on request; dia - M3 (4-40)										

2. Broad Bandwidth Y-junction Isolators and Circulators

Frequency range GHz	Model	Insertion loss dB, max	Isolation dB, min	VSWR max	Temperature range ºC	Power W
0.225 to 0.400	2❑CB31-1	1.0	17	1.40	+25	100
		1.5	15	1.50	-10 to +50	
0.464 to 0.700	2❑CS58-1	0.7	16	1.40	+25	75
		0.8	14	1.50	-60 to +85	
0.50 to 0.65	2❑CS57-1	0.7	17	1.30	+25	75
		0.7	17	1.40	-60 to +85	
0.65 to 0.975	2❑CS81-1	0.8	16	1.40	+25	75
		1.0	13	1.50	-60 to +85	
0.685 to 1.03	2❑CS85-1	0.7	16	1.40	+25	30
		0.8	14	1.50	-60 to +85	
0.94 to 1.41	3❑CS12-1	0.8	17	1.40	+25	75
		0.9	14	1.50	-60 to +85	
1.35 to 2.05	3❑CS17-2	0.8	16	1.40	+25	75
		1.0	13	1.50	-60 to +85	
2.60 to 3.90	3❑CS33-1	0.3	20	1.25	+25	50
		0.4	15	1.40	-60 to +85	
3.20 to 4.80	3❑CS40-1	0.3	20	1.25	+25	35
		0.3	18	1.30	-60 to +85	
4.60 to 8.80	3❑CS67-1	0.3	20	1.25	+25	35
		0.3	18	1.30	-60 to +85	
8.0 to 12.40	4❑CS10-1	0.4	20	1.25	+25	25
		0.5	18	1.30	-60 to +85	
12.0 to 18.0	4❑CS15-1	0.4	18	1.30	+25	25
		0.5	17	1.35	-60 to +85	

2. Broad Bandwidth Y-junction Isolators and Circulators

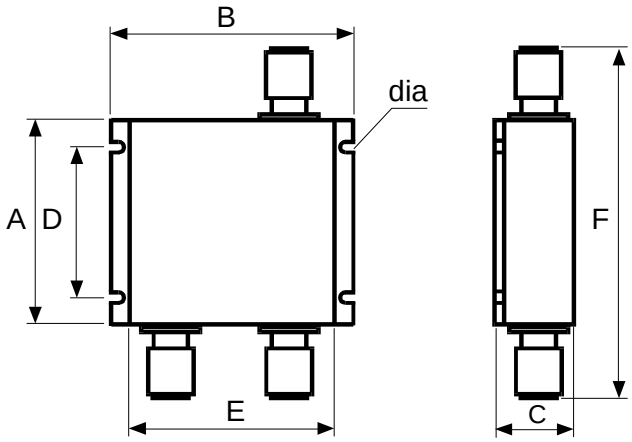


Fig. 1

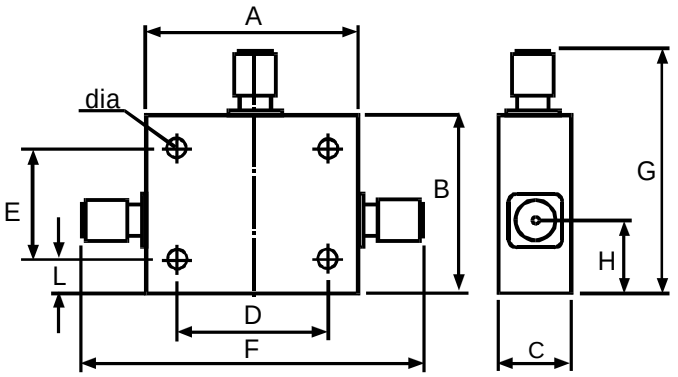


Fig. 2

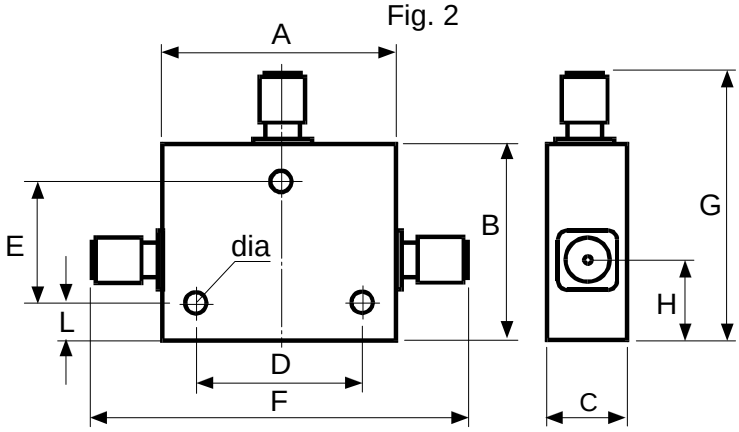


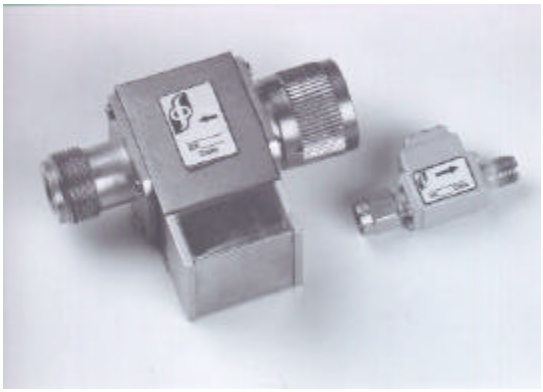
Fig. 3

Outlines (all dimensions are in millimeters)

Model	A	B	C	D	E	F	dia	H	L	Weight g	Fig.
2❑CB31-1	70.0	82.0	26.0	50.0	70.0	104.5	M3			350	1
2❑CS58-1	54.5	55.5	24.3	38.0	43.4	77.5	M4(4-40)	10.5	6.2	380	2
2❑CS57-1	54.5	55.5	23.5	38.0	43.4	72.0	M4(4-40)	10.5	6.2	380	2
2❑CS81-1	54.5	55.5	23.5	38.0	43.4	72.0	M4(4-40)	10.5	6.2	380	2
2❑CS85-1	54.5	55.5	24.3	38.0	43.4	77.5	M4(4-40)	10.5	6.2	300	2
3❑CS12-1	45.6	47.5	20.5	34.0	25.0	64.0	M3(4-40)	8.5	8.9	260	2
3❑CS17-2	45.6	47.5	20.5	34.0	25.0	64.0	M3(4-40)	8.5	8.9	260	2
3❑CS33-1	41.8	44.1	19.0	33.0	32.0	60.0	M3 (4-40)	7.7	7.7	250	2
3❑CS40-1	41.8	44.1	19.0	33.0	32.0	60.0	M3 (4-40)	7.7	7.7	250	2
3❑CS67-1	28.6	33.1	16.0	21.0	20.8	47.0	M3 (4-40)	7.5	7.4	120	3
4❑CS10-1	21.3	24.7	15.2	15.0	14.5	39.5	M3 (4-40)	6.8	6.8	65	3
4❑CS15-1	18.0	20.0	15.0	12.5	10.2	35.5	M3 (4-40)	6.8	6.8	45	3

Note. In blank ❑: I - Isolator, C- Circulator. Dimensions are given for circulators. Isolator dimensions are defined by connected load, which depends on absorbed power.

3. Narrow Bandwidth Y-junction Isolators and Circulators



Frequency range GHz	Model	Band width MHz	Insertion loss dB	Isolation dB	VSWR	Operating temperature °C	Power W
0.148 to 0.176	2CCM16-1	5	0.4	30	1.2	-10 to +50	300
0.240 to0.300	2CCS25-1	25	0.4	20	1.25	+25	30
			0.5	18	1.3	0 to +50	
0.300 to 0.350	2CCS33-1	10	0.5	20	1.25	+25	35
			0.6	18	1.3	-10 to +50	
0.300 to 0.470	2CCM38-1	10	0.4	30	1.2	-10 to +50	300
0.470 to 0.580	2CCM52-2	Full	0.3	23	1.1	+25	300
			0.3	20	12	-20 to +80	
0.570 to 0.710	2CCM64-1	Full	0.3	23	1.15	+25	300
			0.3	20	1.2	-20 to +80	
0.700 to 0.862	2CCM78-1	Full	0.3	23	1.15	+25	300
			0.3	20	1.2	-20 to +80	
0.850 to 0.900	2❑CS87-1	Full	0.4	20	1.2	-10 to +55	150/15
0.820 to 0.960	2CCS89-1	Full	0.4	20	1.25	+25	50
			0.5	18	1.3	0 to +50	
0.860 to 0.960 0.900 to 0.960	2❑CS91-1	Full	0.3	20	1.2	+25	200/15
			0.35	19	1.25	-10 to +55	
0.980 to 1.080	3ICS10-1	Full	0.3	23	1.15	+25	50/10
			0.4	20	1.2	-10 to +70	
1.750 to 1.900	3ICL18-1	25	0.15	20	1.2	+25	50/10
			0.2	19	1.25	-10 to +70	
1.805 to 1.880	3CCS18-1	Full	0.2	23	1.15	+25	50
			0.25	20	1.2	-10 to +55	
1.800 to 2.000	3ICS19-1	Full	0.4	19	1.15	+25	50/15
			0.5	18	1.3	-25 to +70	
1.800 to 2.000	3ICL19-2	10	0.15	20	1.2	+25	50/15
			0.2	19	1.25	-20 to +60	
2.150 to 2.500	3❑CS23-1	Full	0.3	22	1.2	+25	25/0.25
			0.4	19	1.3	-30 to +60	
2.900 to 4.000	3CCS34-1	Full	0.4	20	1.25	-10 to +70	25
3.700 to 4.200	3CCS39-1	Full	0.2	23	1.2	-30 to +60	25
4.400 to 5.000	3CCS47-1	Full	0.2	23	1.2	-30 to +60	25
5.850 to 6.450	3ICS61-1	Full	0.4	20	1.25	-10 to +70	1/1
7.100 to 8.500	3ICS78-1	Full	0.4	20	1.25	-10 to +70	1/1
8.900 to 10.100	3ICS95-1	Full	0.4	20	1.25	-10 to +70	1/1
11.700 to 12.700	4ICS12-1	Full	0.4	20	1.25	-40 to +70	1/1
12.600 to 13.300	4ICS13-1	Full	0.4	20	1.25	-40 to +70	1/1
14.000 to14.500	4ICS14-1	Full	0.4	20	1.25	-40 to +70	1/1
17.700 to 19.700	4ICS18-1	Full	0.5	20	1.25	-40 to +70	1/1

Notes. **Power** - operating power (forward/reverse). ∗ - Typical performance at (25 ± 10) °C. Max. and Min. - values within temperature range. [1)] - 5 MHz bandwidth. [2)] - 10 MHz bandwidth. [3)] - 25 MHz bandwidth.

3. Narrow Bandwidth Y-junction Isolators and Circulators

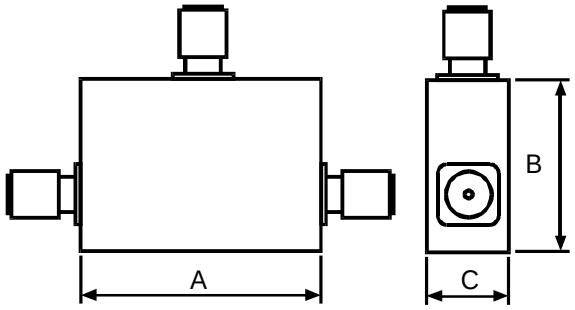


Fig. 1

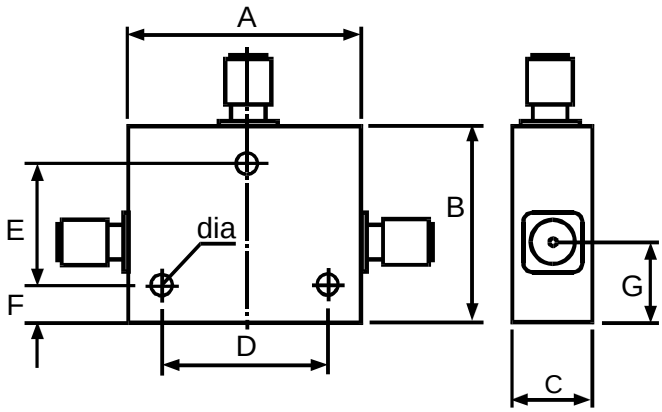


Fig. 2

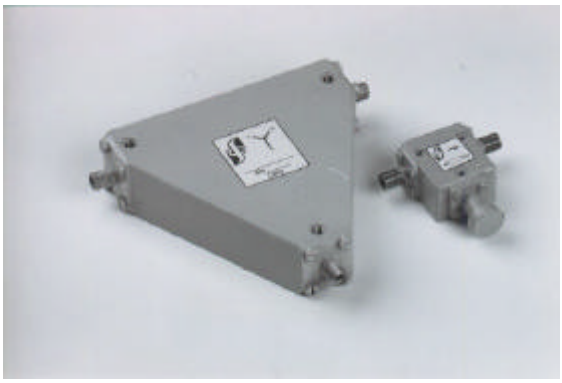
Outlines (all dimensions are in millimeters)

Model	A	B	C	Connector	Fig.
2CCM16-1	110	110	30.0	N	1
2CCS25-1	60.0	60.0	24.0	SMA	1
2CCS33-1	55.0	55.0	24.0	SMA	1
2CCM38-1	69.0	75.0	31.5	N	1
2CCM52-2	48.7	53.6	27.2	N	1
2CCM64-1	64.8	73.4	25.5	N	1
2CCM78-1	48.7	53.6	27.2	N	1
2❑CS87-1	37.0	42.0	26.0	SMA	1
2❑CS91-1	31.0	33.0	19.0	SMA	1
3ICS10-1	31.0	33.0	19.0	SMA	1
3ICL18-1	25.4	26.0	21.0	SMA, N	1
3CCS18-1	25.4	26.0	13.0	SMA	1
3ICS19-1	25.4	26.0	21.0	N	1
3ICL19-2	25.4	26.0	21.0	N	1
3CCS34-1	29.0	34.0	17.0	SMA	1
3CCS39-1	25.4	26.0	16.0	SMA	1
3CCS47-1	25.4	26.0	16.0	SMA	1
3ICS61-1	12.7	15.3	10.5	SMA	1
3ICS78-1	12.7	15.3	10.5	SMA	1
3ICS95-1	12.7	15.3	10.5	SMA	1
4ICS12-1	12.7	15.3	10.5	SMA	1
4ICS13-1	12.7	15.3	10.5	SMA	1
4ICS18-1	12.7	15.3	10.5	SMA	1
4ICS14-1	12.7	15.3	10.5	SMA	1

Model	A	B	C	D	E	F	G	dia	Connector	Fig.
2CCS89-1	31.0	31.0	19.0	27.0	24.5	6.7	6.8	M3 (4-40)	SMA	2
3❑CS23-1	25.4	30.0	20.0	19.0	21.0	4.5		M1.6	SMA	2

Note. In blank ❑: I - Isolator, C- Circulator. Dimensions are given for circulators. Isolator dimensions are defined by connected load, which depends on absorbed power.

4. Octave and Octave Plus Bandwidth Isolators & Circulators



Frequency range GHz	Model	Insertion loss dB, max	Isolation dB, min	VSWR max	Temperature range °C	Power W
1.0 to 2.0	3❑CB15-1	0.4	20	1.25	+25	75
		1.0	15	1.50	+1 to +70	
1.07 to 2.14	3❑CB16-1	0.5	19	1.25	+25	75
		0.7	16	1.40	+1 to +50	
2.0 to 4.0	3❑CB30-1	0.4	20	1.25	+25	50
		0.6	16	1.40	-25 to +85	
3.0 to 6.0	3❑CB45-1	0.4	20	1.25	+25	35
		0.6	16	1.40	-60 to +85	
4.0 to 8.0	3❑CB60-1	0.4	20	1.25	+25	25
		0.6	16	1.40	-60 to +85	
6.0 to 12.0	3❑CB90-1	0.4	20	1.25	+25	25
		0.6	16	1.40	-60 to +85	
0.8 to 2.0	3❑CB14-2	1.2	10	1.70	+25	75
		1.2	10	1.70	+10 to +40	
2.0 to 6.0	3❑CB40-1	0.8	14	1.50	+25	35
		1.2	13	1.60	-40 to +85	
6.0 to 18.0	4❑CB12-1	1.2	12	1.67	+25	2
		1.3	12	1.67	-60 to +85	
6.0 to 18.0	4❑CB12-2	1.0	13	1.60	+25	1
		1.2	13	1.60	-60 to +85	
6.0 to 18.0	4❑CB12-3*	1.2	10	1.7	+25	1
		1.3	10	1.7	-60 to +85	
9.0 to 18.0	4❑CB13-1	0.6	16	1.45	+25	25
		0.8	15	1.50	-60 to +85	
Notes. **Power** - Average power. Average reverse power for isolators: 1W. * - Model operates at 1 kW peak power.						

Note. In blank ❑: I - Isolator, C- Circulator

4. Octave and Octave Plus Bandwidth Isolators & Circulators

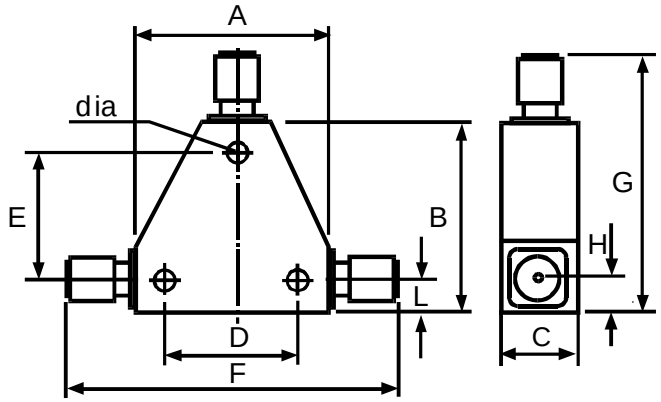


Fig.1

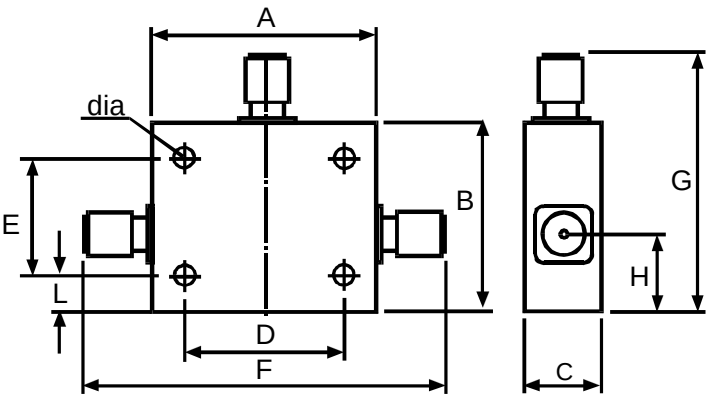


Fig. 2

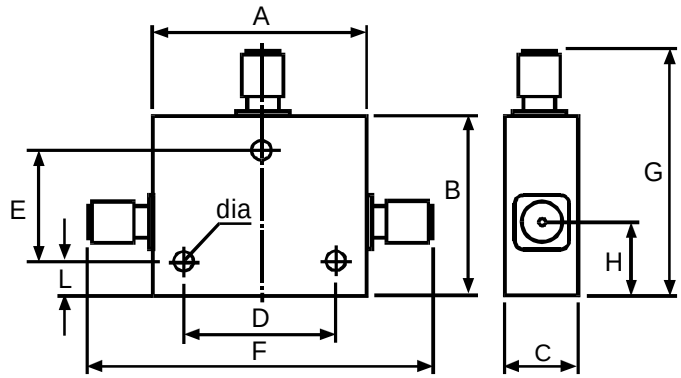


Fig. 3

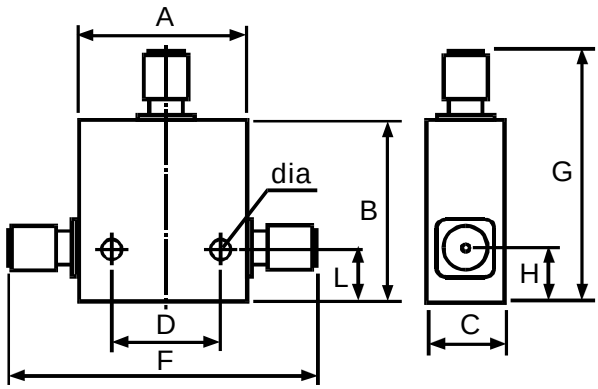


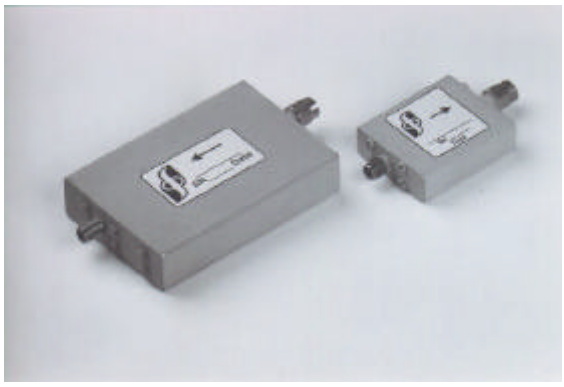
Fig. 4

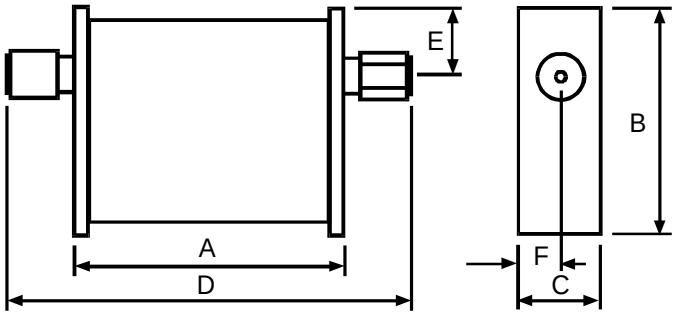
Outlines (all dimensions are in millimeters)

Model	A	B	C	D	E	F	G	dia	H	L	Weight g	Fig.
3❑CB15-1	78.4	77.0	21.2	70.0	63.5	97.4	86.5	M4 (4-40)	9.5	9.5	250	1
3❑CB16-1	78.4	77.0	21.2	70.0	63.5	97.4	86.5	M4 (4-40)	9.5	9.5	250	1
3❑CB30-1	41.8	44.1	19.0	33.0	32.0	60.0	53.2	M3 (4-40)	7.7	7.7	150	2
3❑CB45-1	41.8	44.1	19.0	33.0	32.0	60.0	53.2	M3 (4-40)	7.7	7.7	150	2
3❑CB60-1	28.6	33.2	16.5	21.0	20.8	47.0	42.5	M3 (4-40)	7.5	7.4	120	3
3❑CB90-1	21.3	24.7	15.2	15.0	14.5	39.5	33.8	M3 (4-40)	6.8	6.8	65	3
3❑CB14-2	96.0	83.6	21.6	67.3	60.5	115	93.1	M4 (4-40)	9.5	9.5	330	1
3❑CB40-1	42.0	44.0	19.5	28.0	30.0	60.0	53.0	M3 (4-40)	7.4	6.3	150	3
4❑CB12-1	12.8	15.3	10.0	8.0		31.8	24.8	M2 (2-56)	5.2	5.5	14	4
4❑CB12-2	12.8	15.3	10.0	8.0		31.8	24.8	M2 (2-56)	5.2	5.5	14	4
4❑CB12-3	12.8	15.3	10.0	8.0		31.8	24.8	M2 (2-56)	5.2	5.5	14	4
4❑CB13-1	17.1	19.7	14.6	12.5	10.2	35.5	28.9	M3 (4-40)	6.7	6.8	45	3
Note. Connectors: SMA female. Dimensions are given for circulators. Isolator dimensions are defined by connected load, which depends on absorbed power.												

Note. In blank ❑: I - Isolator, C- Circulator

5. Multioctave Bandwidth (Peripheral Mode) Isolators





Frequency range GHz	Model	Insertion loss dB, max	Isolation dB, min	VSWR max	Temperature range ºC
1.0 to 4.3	3ICP27-1	2.0	20	1.5	+25
		2.2*	15*	1.6	-10 to +60
2.0 to 8.2	3ICP51-1	1.5	20	1.5	+25
		1.5**	17	1.5**	-10 to +60
3.2 to 8.3	3ICP58-1	0.9	20	1.5	+25
		1.0***	20	1.5	-10 to +60
8.0 to 18.0	4ICP13-1	1.0	20	1.5	+25
		1.1	20	1.5	-10 to +60
Notes. Operating Power: 1W. * - Insertion loss - 3.5 dB between 1.0 and 1.3 GHz. Isolation - 13 dB between 4.0 and 4.3 GHz. ** - Insertion loss - 1.8 dB between 8.0 and 8.2 GHz. VSWR - no more than 1.6 between 2.0 and 2.1 GHz. *** - Insertion loss - 1.2 dB between 3.2 and 3.3 GHz.					

Outlines (all dimensions are in millimeters)

Model	A	B	C	D	E	F	Weight g
3ICP27-1	68.5	47.5	16.5	87.5	18.3	8.0	300
3ICP51-1	48.0	35.0	12.0	64.0	14.0	6.0	130
3ICP58-1	38.0	33.0	12.0	60.0	15.0	6.0	100
4ICP13-1	23.0	25.0	10.0	45.0	12.0	5.0	60
Note. Connectors: SMA (input - male, output - female).							

6. 4-port Isolators and Circulators

Frequency range MHz	Model	Insertion loss dB (Typ∗/ Max)	Isolation dB min	VSWR max	Operating temp. °C	Power W
405 to 455[1)]	2CCX43-1	0.4/0.5	45	1.25	-10 to +55	100
450 to 500	2CCX47-1	0.4/0.5	45	1.25	-10 to +55	100
850 to 870	2ICX85-1	0.3	60	1.25	-10 to +50	200
869 to 894	2CCX88-1	0.4	55	1.15	-10 to +70	100
860 to 960	2CCX91-1	0.4	50	1.25	-10 to +55	100
917 to 960	2CCX94-1	0.4	55	1.2	-10 to +70	100
Notes. **Power** - Average power. ∗ - Typical performance at (25 ± 10) °C, max and min values within temperature range. [1)] - 5% bandwidth.						

Outlines (all dimensions are in millimeters)

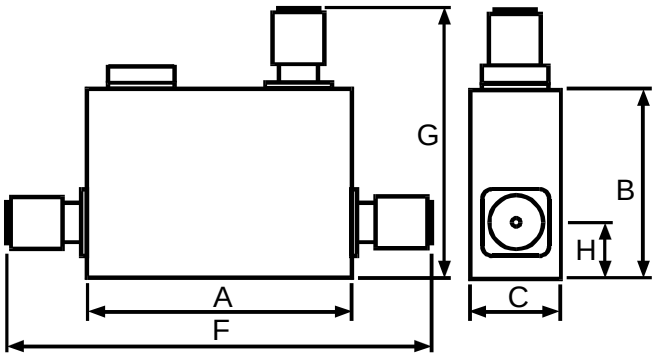


Fig. 1

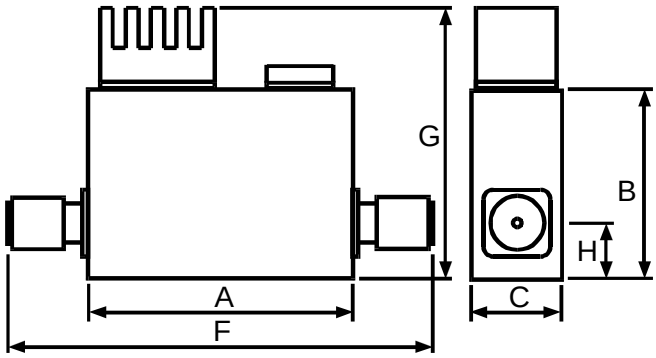
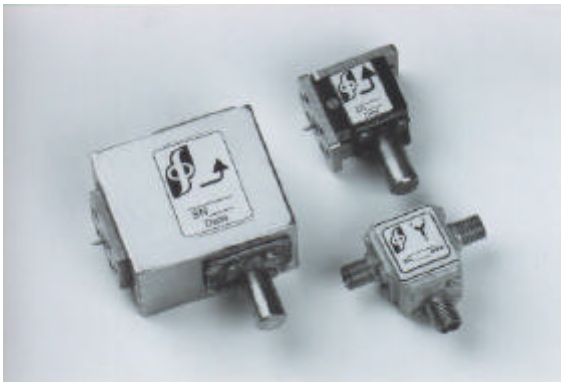


Fig. 2

Model	A	B	C	H	F	G	Fig.
2CCX43-1	96	50	27	14.7	132	67.5	1
2CCX47-1	96	50	27	14.7	132	67.5	1
2ICX85-1	74	41	26	13.7	109	63.5	2
2CCX88-1	74	41	26	13.7	109	58.5	1
2CCX91-1	74	41	26	13.7	109	58.5	1
2CCX94-1	74	41	26	13.7	109	58.5	1
Note. All devices are supplied with N connectors							

7. Cryogenic (4 to 77 K) Isolators and Circulators



Frequency range GHz	Model	Insertion loss dB, max	Isolation dB, min	VSWR 50 Ohm, max	Operating temp. range °C
1.35 to 1.75	3❑DC15-1*	0.4	19	1.30	-196
		0.7	16	1.40	-196 to +50
2.15 to 2.60	3❑DC24-1*	0.4	19	1.30	-196
		0.7	16	1.40	-196 to +50
2.90 to 4.00	3❑DC34-1*	0.4	20	1.25	-196
			16	1.30	-196 to +50
3.55 to 4.25	3❑DC39-1	0.2	22	1.18	-196
		0.3	19	1.30	-196 to +50
4.40 to 5.20	3❑DC48-1	0.2	22	1.18	-196
		0.3	19	1.30	-196 to +50
5.40 to 6.20	3❑DC58-1	0.2	22	1.18	-196
		0.3	19	1.30	-196 to +50
7.20 to 7.80	3❑DC75-1	0.2	23	1.18	-196
		0.3	19	1.30	-196 to +50
8.15 to 8.75	3❑DC85-1	0.2	23	1.18	-196
		0.3	19	1.30	-196 to +50
Note. Operating power: ≤ 0.5 W. * - Operating power: 1.0 W.					

7. Cryogenic (4 to 77 K) Isolators and Circulators

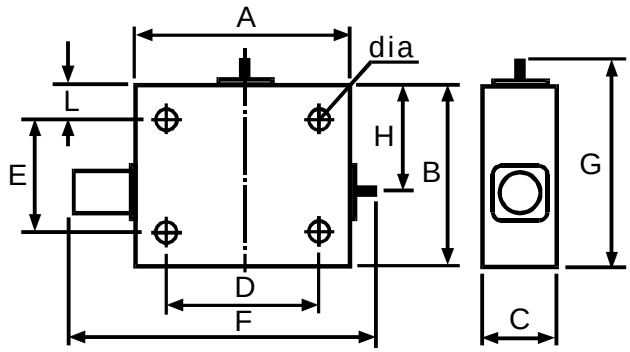


Fig. 1

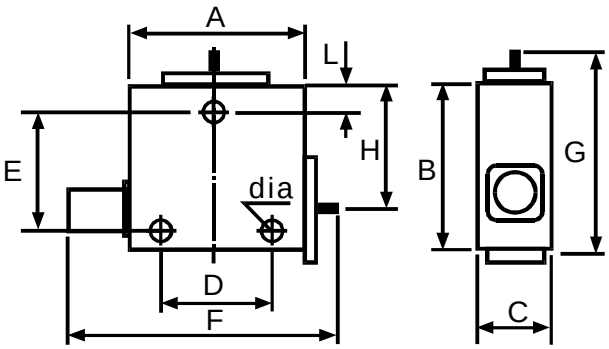


Fig. 2

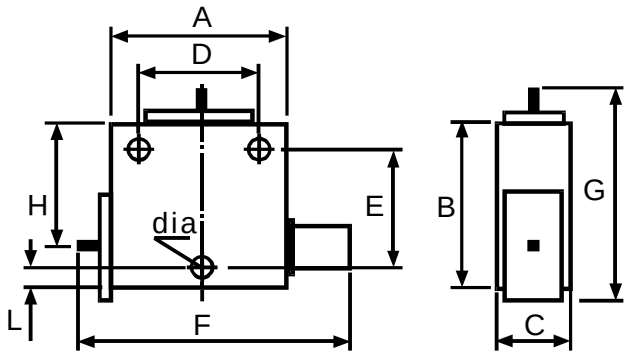
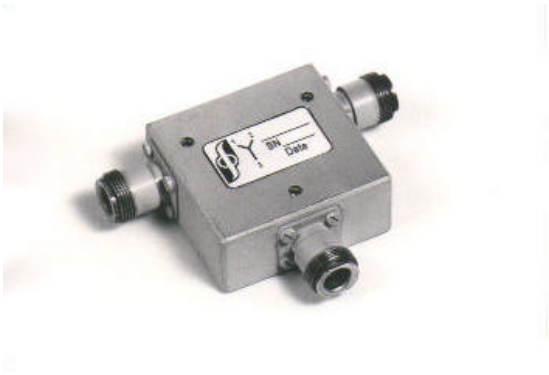


Fig. 3

Outlines (all dimensions are in millimeters)

Model	A	B	C	D	E	F	G	dia	H	L	Weight g	Fig.
3❑DC15-1	32.0	36.5	21.5	12.0	27.5	53.5	42.0	M2	24.8	3.0	150	1
3❑DC24-1	24.8	30.0	23.5	19.0	21.0	46.5	35.5	M1.6	18.5	3.0	150	2
3❑DC34-1	28.6	33.2	17.0	22.5	22.5	49.6	41.0	M1.6	15.5	4.5	100	3
3❑DC39-1	25.0	29.7	15.0	16.0	14.0	46.5	35.2	M1.6	19.6	8.8	75	3
3❑DC48-1	25.0	29.7	15.0	16.0	14.0	46.5	35.2	M1.6	19.6	8.8	75	3
3❑DC58-1	20.0	25.5	13.6	15.6	13.5	41.5	31.0	M1.6	15.4	6.5	55	3
3❑DC75-1	13.5	20.2	14.8	10.3	10.5	34.5	25.7	M1.6	10.2	3.5	40	3
3❑DC85-1	13.5	20.2	14.8	10.3	10.5	34.5	25.7	M1.6	10.2	3.5	40	3
Note. Connectors: SMA - female; optional - input/output pin: ∅ =0.9 mm, L = 3.0 mm.												

8. Medium Power Broad Bandwidth Y-junction Circulators



Frequency range GHz	Model	Insertion loss dB, max	Isolation dB, min	VSWR max	Temperature range ºC	Power W
0.225 to 0.400	2CCH31-1	1.0	17	1.40	+25	400
		1.5	15	1.50	-10 to +50	
0.47 to 0.56	2CCM51-2	0.2	23	1.15	-10 to +50	600/1000*
0.4 to 0.65	2CCM52-1	0.8	14	1.60	+ 25	250
		1.2	12	1.70	-60 to +85	
0.55 to 0.66	2CCM60-2	0.2	23	1.15	-10 to +50	600/1000*
0.65 to 1.0	2CCM83-1	0.7	14	1.55	+ 25	250
		1.0	13	1.60	-60 to +85	
0.65 to 0.76	2CCM70-2	0.2	23	1.15	-10 to +50	600/1000*
0.75 to 0.86	2CCM81-2	0.2	23	1.15	-10 to +50	600/1000*
1.0 to 2.0	3CCM15-1	0.5	17	1.35	+ 25	250
		0.8	14	1.60	-60 to +55	
2.0 to 4.0	3CCM30-1	0.4	18	1.30	+ 25	250
		0.6	15	1.45	-60 to +70	
3.0 to 6.0	3CCM45-1	0.4	18	1.30	+ 25	150
		0.6	15	1.45	-60 to +70	
4.0 to 8.0	3CCM60-1	0.4	18	1.30	+ 25	150
		0.6	15	1.45	-60 to +70	
4.0 to 12.0	3CCM80-1	1.2	13	1.60	+ 25	150
		1.3	12	1.70	-60 to +70	
6.0 to 12.0	3CCM90-1	0.5	17	1.35	+ 25	150
		0.8	15	1.45	-60 to +70	
8.0 to 18.0	4CCM13-1	0.8	14	1.55	+ 25	150
		0.9	13	1.60	-60 to +70	
9.0 to 18.0	4CCM14-1	0.6	15	1.45	+ 25	150
		0.8	14	1.60	-60 to +70	
Note. **Power** - operating power. *) - average/peak power						

8. Medium Power Broad Bandwidth Y-junction Circulators

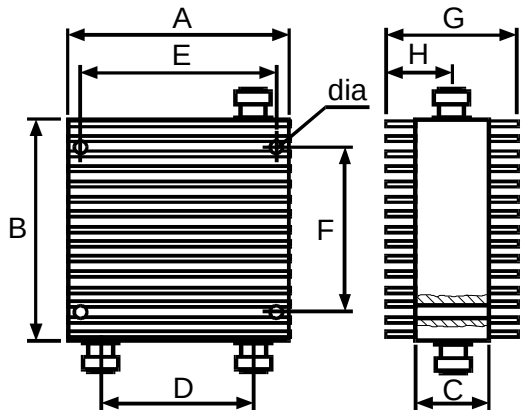


Fig. 1

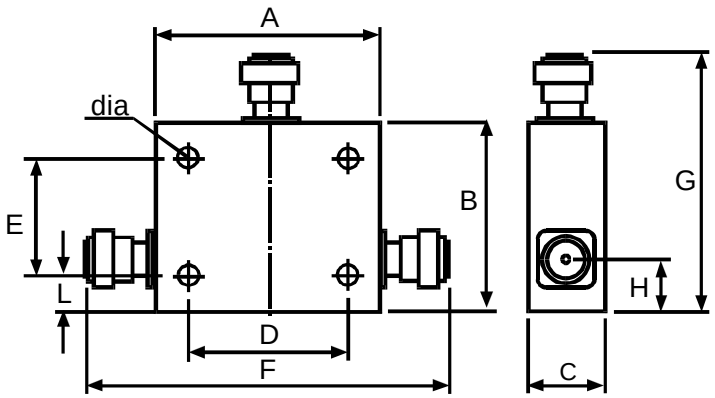


Fig. 2

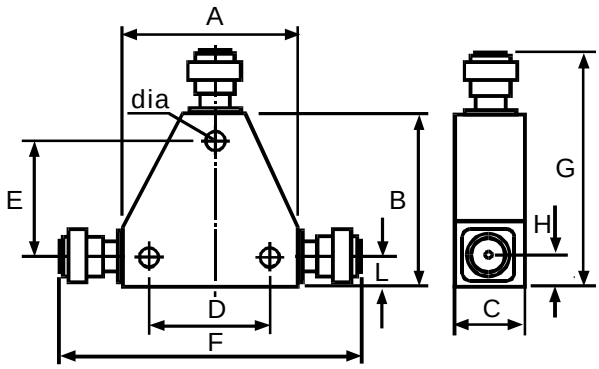


Fig. 3

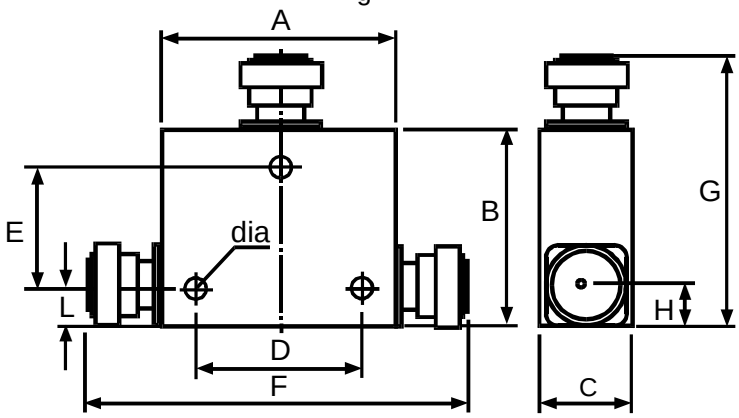


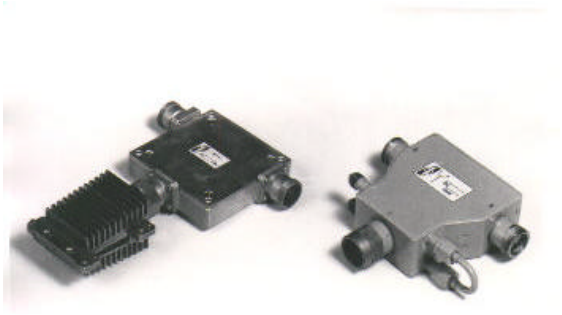
Fig. 4

Outlines (all dimensions are in millimeters)

Model	A	B	C	D	E	F	G	H	L	dia	Weight, g	Fig.
2CCH31-1	120	120	38.5	87	107	87	70	35.7		4.5	1500	1
2CCM51-2*	72.6	74.8	27.5	42	62	111	94	21.9	7.5	4.5	700	2
2CCM52-1	64.8	75.4	25.5	50	50	100	91	19.5	13	M4	690	2
2CCM60-2*	72.6	74.8	27.5	42	62	111	94	21.9	7.5	4.5	700	2
2CCM83-1	54.5	56.5	20.5	38		86				M4	370	2
2CCM70-2*	72.6	74.8	27.5	42	62	111	94	21.9	7.5	4.5	700	2
2CCM81-2*	72.6	74.8	27.5	42	62	111	94	21.9	7.5	4.5	700	2
3CCM15-1	96.4	83.5	25.2	68	59	132	101.3	10.3	12.3	M3	500	3
3CCM30-1	55.8	51.8	22.2	40.0	32	91	69.5	11.5	11.5	M3	300	4
3CCM45-1	45.8	45.2	24.8	35.0	25.5	81.0	63.3	15.5	14.8	M3	250	4
3CCM60-1	45.8	45.2	24.4	35.0	25.5	81.0	63.3	15.5	14.8	M3	250	4
3CCM80-1	45.8	45.2	24.4	35.0	25.5	81.0	63.3	15.5	14.8	M4	250	2
3CCM90-1	36	38	22.8	25	13	20					200	2
4CCM13-1	34.6	37.1	22.3	25.0	20.0	70.0	54.8	13.8	12.3	M3	200	4
4CCM14-1	34.6	37.1	22.3	25.0	20.0	70.0	54.8	13.8	12.3	M3	200	4

Note. Connectors: 7/3.04 mm (N female); *) - connectors: 7/16 (N female).

9. High Power Circulators



Frequency range MHz	Model	Band width MHz	Insertion loss dB max	Isolation dB min	VSWR max	Op. temp. °C	Power kW
66 to 100	1CCH85-1*	8	0.5	18	1.30	+5 to +45	4.0/8.0
80 to 108	2CCH10-1	8	0.4	20	1.20	-10 to +45	1.0/2.0
100 to 150	2CCS13-1	30	1.0	16	1.35	+25	1.0/2.0
				15	1.45	-10 to +70	
150 to 220	2CCS18-1	35	1.0	16	1.35	+25	1.0/2.0
				15	1.45	-10 to +70	
174 to 230	2CCH20-2	25	0.3	20	1.25	+5 to +45	1.0/2.0
200 to 300	2CCH25-1	Full	1.0	16	1.35	+25	1.0/2.0
				15	1.45	-10 to +70	
290 to 400	2CCH35-1	Full	1.0	16	1.35	+25	1.0/2.0
				15	1.45	-10 to +70	
470 to790	2CCH61-3	30	0.3	20	1.20	+5 to +45	1.0/2.0
174 to 230	2CCH20-3	16	0.4	20	1.25	-10 to +45	2.0/4.0
470 to 790	2CCH61-2	40	0.3	20	1.15	+5 to +45	5.0/10.0
470 to 790	2CCH61-1	50	0.2	20	1.20	+5 to +45	15.0/30.0
174 to 230	2CCH20-1	16	0.3	22	1.15	+5 to +45	19.0/34.0
				20	1.20	-10 to +70	
960 to 1215	3CCH11-1	Full	0.5	20	1.25	+25	0.25/15.0
				18	1.30	-10 to +50	
1000 to 2000	3CCH15-1*	Full	0.6	17	1.35	+25	1.0/1.0
			1.0	15	1.45	-60 to +55	
2000 to 4000	3CCH30-1*	Full	0.5	18	1.30	+25	1.0/1.0
			0.8	15	1.45	-60 to +55	

Notes. **Power** - operating power (average/peak). All devices need a forced air cooling. * - Models need a liquid cooling.

9. High Power Circulators

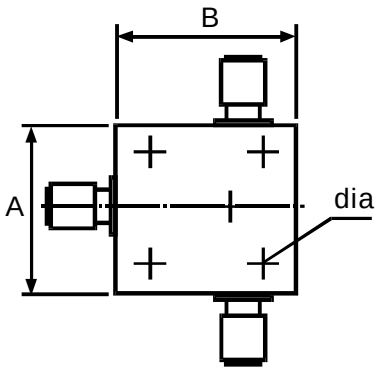


Fig. 1

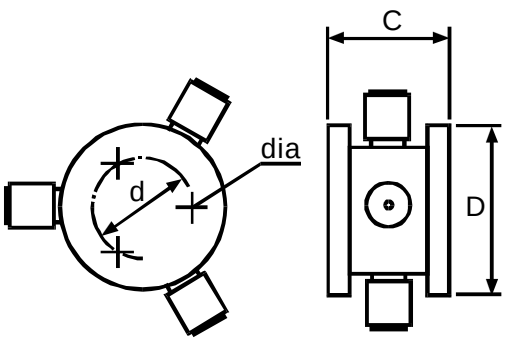


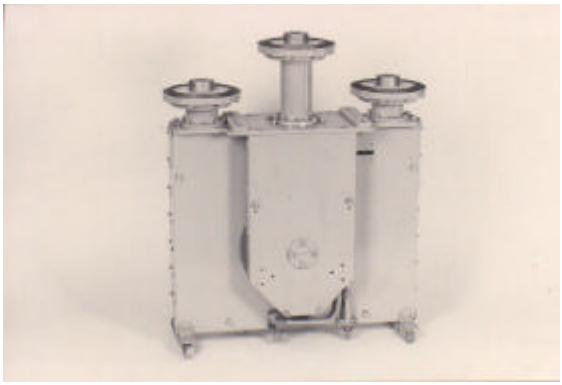
Fig. 2

Outlines (all dimensions are in millimeters)

Model	A	B	C	Fig.
1CCH85-1	330	370	105	1
2CCH10-1	200	185	65	1
2CCS13-1	197	185	62	1
2CCS18-1	157	143	62	1
2CCH20-2	154	146	58	1
2CCH25-1	157	143	62	1
2CCH35-1	157	143	62	1
2CCH61-3	95	95	60	1
2CCH20-3	154	146	58	1
2CCH61-2	152	155	88	1
2CCH61-1	390	370	190	1
2CCH20-1	376	376	242	1
3CCH15-1	113	113	45	1
3CCH30-1	97	107	46	1

Model	C	D	d	dia	Fig.
3CCH11-1	42	103	94	4.5	2

10. High Peak Power Circulators



Frequency range MHz	Model	Band width MHz	Insertion loss dB max	Isolation dB min	VSWR Max	Op. temp. °C	Power kW
0.145 to 0.150	2CCH15-1*	Full	0.3	25	1.15	+15 to +25	10/3500
0.780 to 0.920	2CCH85-1	Full	0.5	20	1.20	+25	5/100
				18	1.25	-60 to +70	
1.200 to 1.400	3CCH13-1	Full	0.5	20	1.20	+25	5/100
				18	1.25	-60 to +70	
Notes. **Power** - operating power (average/peak). All devices need a forced air cooling. * - Model needs a liquid cooling.							

Outlines (all dimensions are in millimeters)

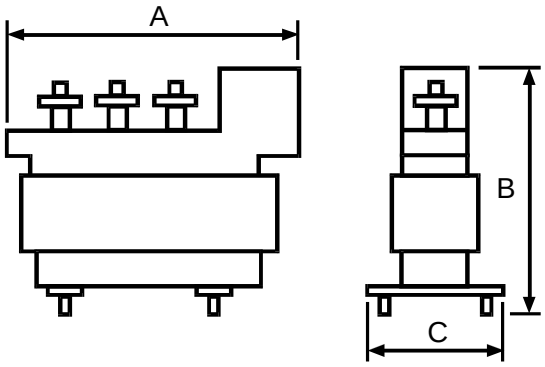


Fig. 1

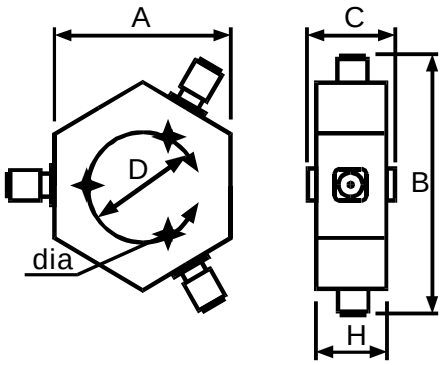
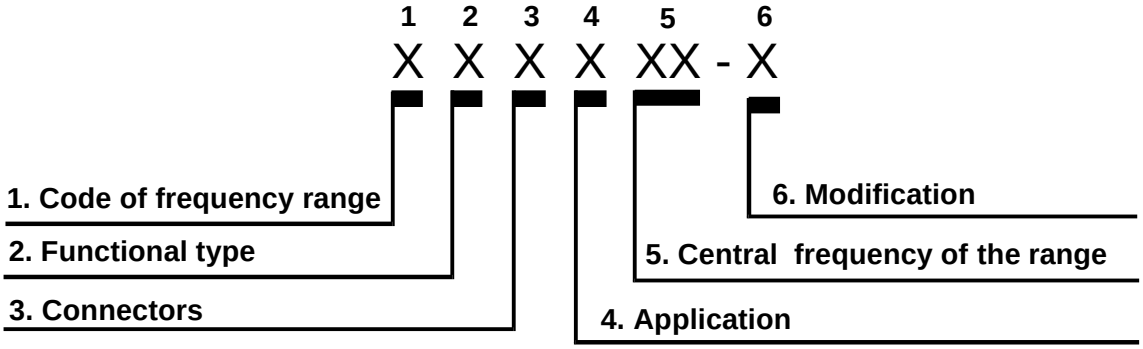


Fig. 2

Model	A	B	C	H	d	dia	Fig.
2CCH14-1	1000	900	400				1
2CCH85-1	234	260	150	132	170	M10	2
3CCH13-1	234	260	150	132	170	M10	2

Microwave Coaxial Circulator & Isolator model numbering system describes many options. Adapting our basic catalog models to your specific needs will frequently result in lower costs and prompt delivery.

Product identification



1. Code of frequency range and its Central frequency

1		5
Code of frequency range	**Frequency range**	**Central frequency of the range**
0	1 to 9 MHz	XX · 0.1 MHz
1	10 to 99 MHz	XX · 1 MHz
2	100 to 999 MHz	XX · 10 MHz
3	1 to 9 GHz	XX · 100 MHz
4	10 to 99 GHz	XX · 1 GHz
5	Over 100 GHz	XX · 10 GHz

2. Functional type

Code of the type	Product type
I	Isolator
C	Circulator

3. Connectors

Code of connectors	Type
C	Coaxial
W	Waveguide
M	Microstrip
D	Drop-in

4. Application

Code of application	Application
S	Standard
L	Low loss
B	Wide Bandwidth
P	Peripheral Mode
M	Medium Power
H	High Power
C	Cryogenic
X	4-port

5. Central frequency of the range

6. Modification