

TV filters for analog use

TYPES

BF4-3C050

BF4-4C050

BF4-6C050

BF4-3C200

BF4-4C200

BF4-6C200

BF4-3C1K0

BF4-4C1K0

BF4-6C1K0

BF4-3C2K5

BF4-4C2K5

BF4-6C2K5

BF4-3C5K0

BF4-4C5K0

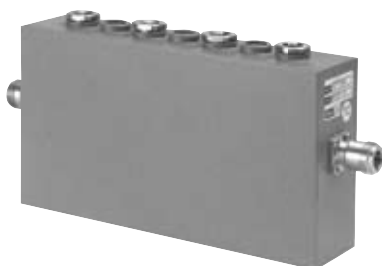
BF4-6C5K0

Band-pass filters are used to attenuate frequencies outside a narrow pass-band. They are commonly used as components in the design of combiners, for the attenuation of noisy side bands, to achieve additional decoupling between transmitters installed in close proximity in the same antenna system, and to combine digital channels with existing analogue channels.

The BF4-3Cppp band-pass filter consists of three magnetic coupled coaxial resonators with adjustable coupling and BF4-4Cppp with four and BF4-6Cppp with six. One end of the resonator is open-circuited and the other short-circuited, and tuning is accomplished by rotating the circular central conductor at the lower end of each resonator. The coaxial input and output lines are coupled to the first and last resonator by magnetic coupling loops.

The band-pass filter is factory tuned to the desired operating channels. All filters are retunable on whole frequency bands IV and V.

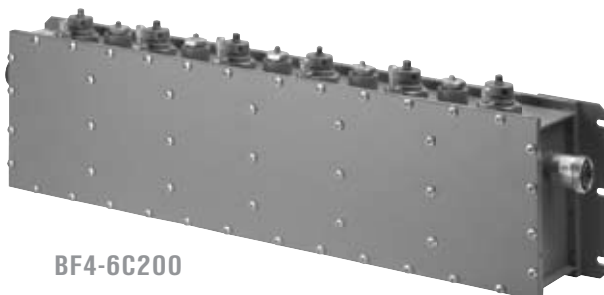
All these filters are suitable to operate as an output filter of the transmitter, most commonly are used as components of combiners (starpoint or constant impedance combiners). See more details on pages 66-74.



BF4-4C050



BF4-3C1K0



BF4-6C200



BF4-4C2K5

TYPE DESCRIPTION

B F x - y C p p p

BF - band-pass filter

x - frequency range:

4 - UHF band IV and V (470 - 862 MHz)

yC - number of cavities:

3C - 3 cavity filter

4C - 4 cavity filter

6C - 6 cavity filter

ppp - input power:

050 - up to 50 W

200 - up to 200 W

1K0 - up to 1 kW

2K5 - up to 2,5 kW

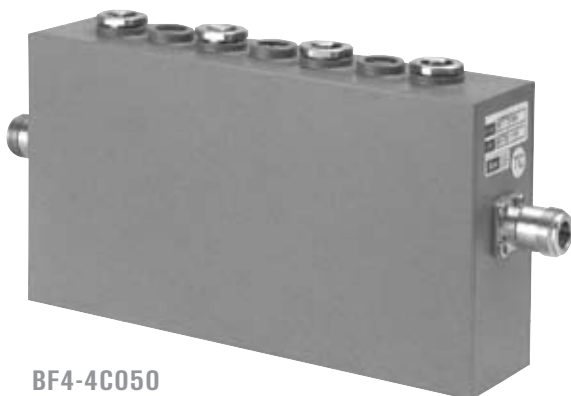
5K0 - up to 5 kW

specifications

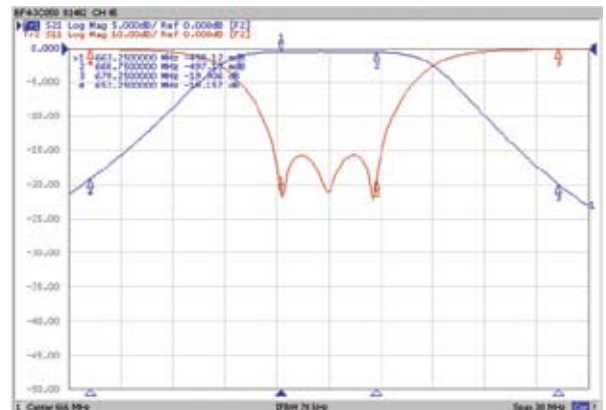
Analogue TV band pass filters up to 50W

	BF4-3C050	BF4-4C050	BF4-6C050
Frequency range	470 – 862 MHz		
Impedance	50 Ω		
Number of cavities	3	4	6
Band pass width	8 MHz / CCIR		
Max. input power (W)	50		
Return loss (dB)	≥ 30		
Selectivity (dB)*			
f vision - 11 MHz	≥ 20	≥ 40	≥ 70
f vision + 16 MHz	≥ 20	≥ 40	≥ 70
Insertion loss (dB)*			
Center frequency (f0)	$\leq 0,4$	$\leq 0,7$	$\leq 1,1$
f vision (f0 - 2,75 MHz)	$\leq 0,5$	$\leq 0,9$	$\leq 1,3$
f sound (f0 + 2,25 MHz)	$\leq 0,5$	$\leq 0,9$	$\leq 1,3$
Group delay variation (ns)*			
f vision (f0 - 2,75 MHz)	≤ 60	≤ 110	≤ 230
f sound (f0 + 2,25 MHz)	≤ 60	≤ 110	≤ 230
Temperature stability (kHz/K)*	15	16	16
Material	Outer conductor aluminum, inner conductor, silver plated brass		
Mounting	Two holes for M4 mounting bolts		
Input and output connectors	N female / N female or SMA / N female		
Temperature range	From -10°C to +50°C		
Weight (kg)	1,5	2,0	3,0
Dimensions (mm)	177 x 46 x 103	221 x 46 x 103	280 x 46 x 103
Cooling	Fan-less convectional cooling		

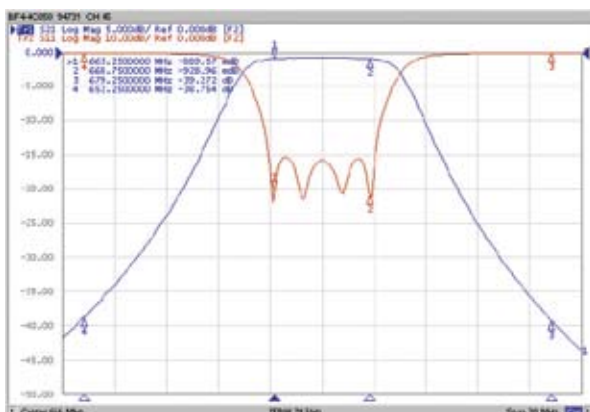
* Measured on mid-channel CH45; table correspond to return loss 30dB and flat response. Higher selectivity on request.



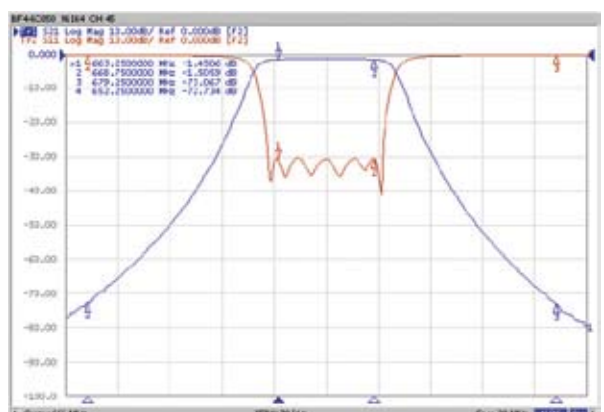
BF4-4C050



Insertion and Return loss BF4-3C050



Insertion and Return loss BF4-4C050

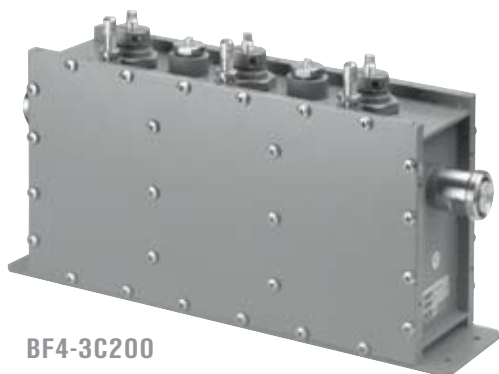


Insertion and Return loss BF4-6C050

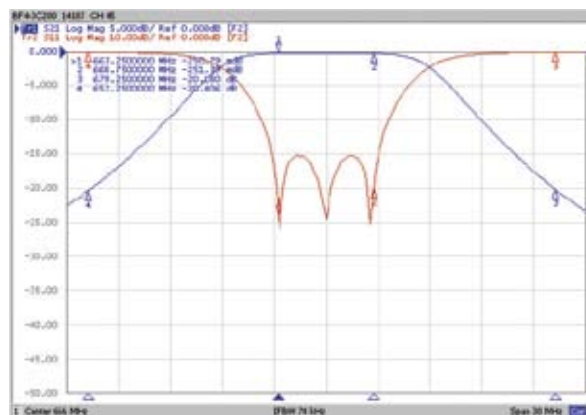
specifications

Analogue TV band pass filters up to 200W			
	BF4-3C200	BF4-4C200	BF4-6C200
Frequency range	470 – 862 MHz		
Impedance	50 Ω		
Number of cavities	3	4	6
Band pass width	8 MHz / CCIR		
Max. input power (W)	200		
Return loss (dB)	≥ 30		
Selectivity (dB)*			
fvision - 11 MHz	≥ 20	≥ 38	≥ 70
fvision + 16 MHz	≥ 20	≥ 38	≥ 70
Insertion loss (dB)*			
Center frequency (f0)	≤ 0,25	≤ 0,38	≤ 1,1
f vision (f0 – 2,75 MHz)	≤ 0,25	≤ 0,45	≤ 1,3
f sound (f0 + 2,25 MHz)	≤ 0,25	≤ 0,45	≤ 1,3
Group delay variation (ns)*			
f vision (f0 – 2,75 MHz)	≤ 60	≤ 110	≤ 230
f sound (f0 + 2,25 MHz)	≤ 60	≤ 110	≤ 230
Temperature stability (kHz/K)*	14	15	15
Material	Outer conductor brass, inner conductor silver plated brass		
Mounting	Two holes for M6 mounting bolts		
Input and output connectors	DIN 7/16 female or EIA 7/8"		
Temperature range	From -10°C to +50°C		
Weight (kg)	4,0	4,8	8,5
Dimensions (mm)	320 x 84 x 170	401 x 84 x 170	560 x 84 x 170
Cooling	Fan-less convectional cooling		

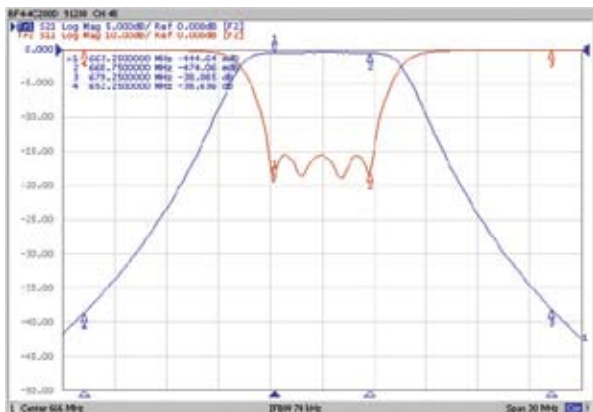
* Measured on mid-channel CH45; table correspond to return loss 30dB and flat response. Higher selectivity on request.



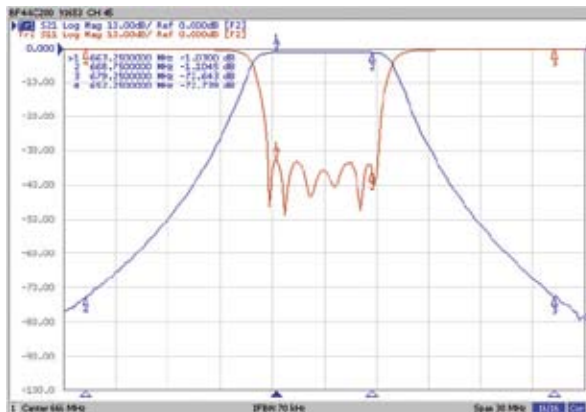
BF4-3C200



Insertion and Return loss BF4-3C200



Insertion and Return loss BF4-4C200



Insertion and Return loss BF4-6C200

specifications

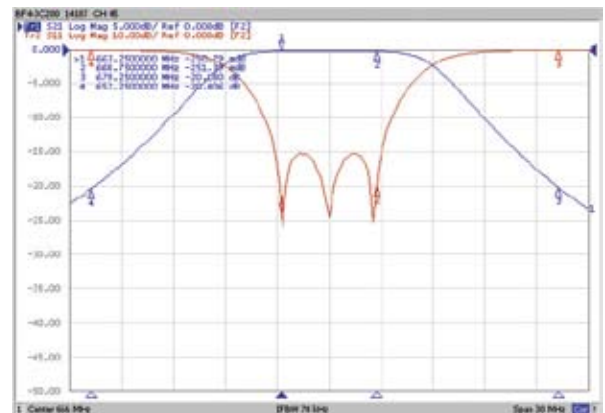
Analogue TV band pass filters up to 1kW

	BF4-3C1K0	BF4-4C1K0	BF4-6C1K0
Frequency range	470 – 862 MHz		
Impedance	50 Ω		
Number of cavities	3	4	6
Band pass width	8 MHz / CCIR		
Max. input power (W)	1.000		
Return loss (dB)	≥ 30		
Selectivity (dB)*			
f vision - 11 MHz	≥ 20	≥ 38	≥ 70
f vision + 16 MHz	≥ 20	≥ 38	≥ 70
Insertion loss (dB)*			
Center frequency (f0)	$\leq 0,25$	$\leq 0,38$	$\leq 1,1$
f vision (f0 - 2,75 MHz)	$\leq 0,25$	$\leq 0,45$	$\leq 1,3$
f sound (f0 + 2,25 MHz)	$\leq 0,25$	$\leq 0,45$	$\leq 1,3$
Group delay variation (ns)*			
f vision (f0 - 2,75 MHz)	≤ 60	≤ 110	≤ 230
f sound (f0 + 2,25 MHz)	≤ 60	≤ 110	≤ 230
Temperature stability (kHz/K)*	14	15	15
Material	Outer conductor brass, inner conductor silver plated brass		
Mounting	Two holes for M6 mounting bolts		
Input and output connectors	DIN 7/16 female or EIA 7/8"		
Temperature range	From -10°C to +50°C		
Weight (kg)	6,0	6,8	10,5
Dimensions (mm)	320 x 84 x 170	401 x 84 x 170	560 x 84 x 170
Cooling	Fan-less convectional cooling, radiator mounted on the top of the filter		

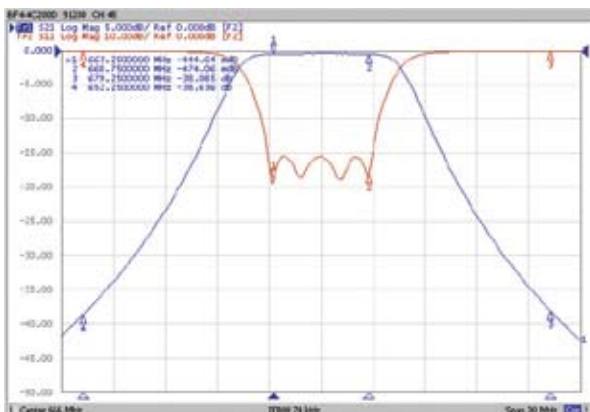
* Measured on mid-channel CH45; table correspond to return loss 30dB and flat response. Higher selectivity on request.



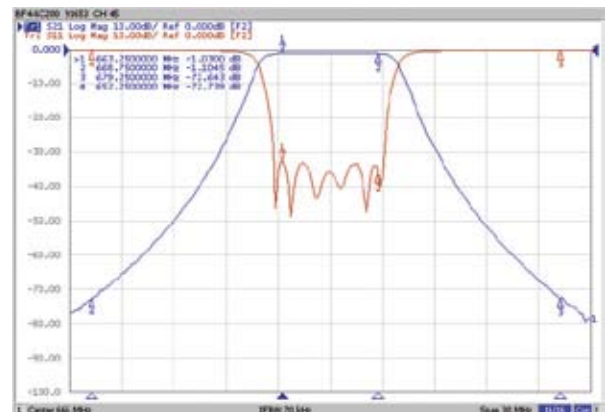
BF4-3C1K0



Insertion and Return loss BF4-3C1K0



Insertion and Return loss BF4-4C1K0



Insertion and Return loss BF4-6C1K0

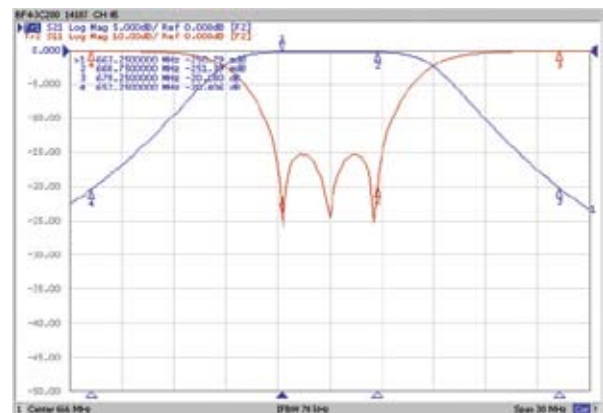
specifications

Analogue TV band pass filters up to 2,5kW			
	BF4-3C2K5	BF4-4C2K5	BF4-6C2K5
Frequency range	470 – 862 MHz		
Impedance	50 Ω		
Number of cavities	3	4	6
Band pass width	8 MHz / CCIR		
Max. input power (W)	2.500		
Return loss (dB)	≥ 30		
Selectivity (dB)*			
fvision - 11 MHz	≥ 20	≥ 40	≥ 70
fvision + 16 MHz	≥ 20	≥ 40	≥ 70
Insertion loss (dB)*			
Center frequency (f0)	≤ 0,2	≤ 0,4	≤ 0,65
f vision (f0 - 2,75 MHz)	≤ 0,2	≤ 0,45	≤ 0,70
f sound (f0 + 2,25 MHz)	≤ 0,2	≤ 0,45	≤ 0,70
Group delay variation (ns)*			
f vision (f0 - 2,75 MHz)	≤ 60	≤ 130	≤ 230
f sound (f0 + 2,25 MHz)	≤ 60	≤ 130	≤ 230
Temperature stability (kHz/K)*	10	10	11
Material	Outer conductor aluminum, inner conductor silver plated brass		
Mounting	By means of four screws M6		
Input and output connectors	EIA 1 5/8"		
Temperature range	From -10 °C to +50 °C		
Weight (kg)	14,8	18,8	27,0
Dimensions (mm)	506 x 146 x 321	634 x 146 x 321	889 x 146 x 321
Cooling	Fan-less convectional cooling		

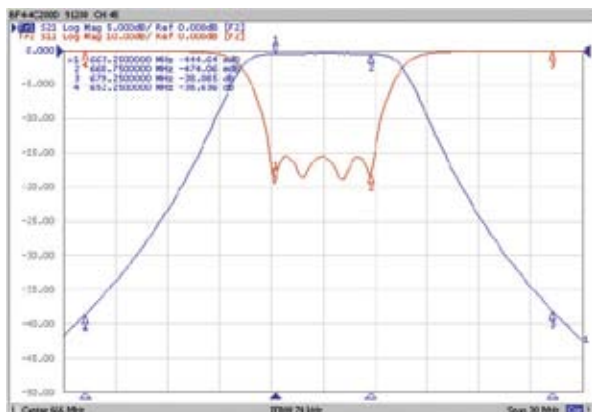
* Measured on mid-channel CH45; table correspond to return loss 30dB and flat response. Higher selectivity on request.



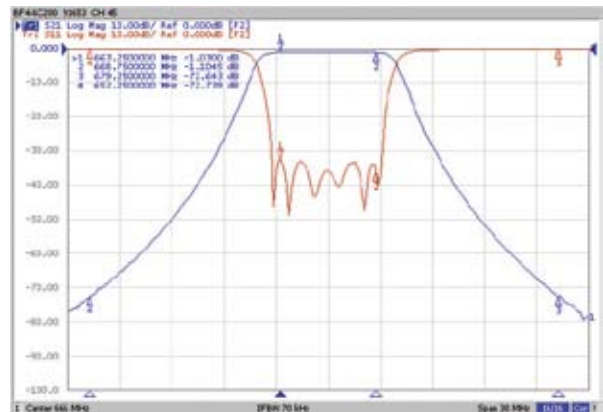
BF4-4C2K5



Insertion and Return loss BF4-3C200



Insertion and Return loss BF4-4C200



Insertion and Return loss BF4-6C200

specifications

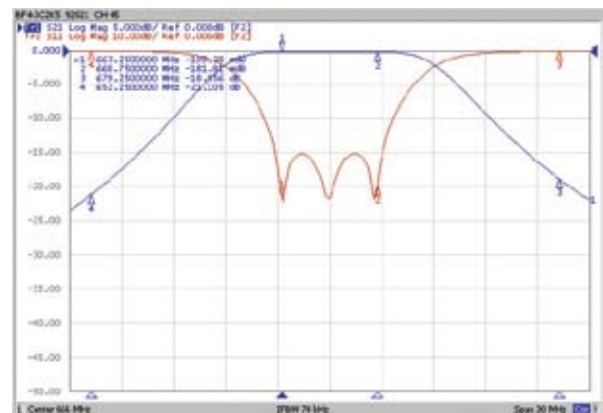
Analogue TV band pass filters up to 5kW

	BF4-3C5K0	BF4-4C5K0	BF4-6C5K0
Frequency range	470 – 862 MHz		
Impedance	50 Ω		
Number of cavities	3	4	6
Band pass width	8 MHz / CCIR		
Max. input power (W)	5.000		
Return loss (dB)	≥ 30		
Selectivity (dB)*			
f vision - 11 MHz	≥ 20	≥ 40	≥ 70
f vision + 16 MHz	≥ 20	≥ 40	≥ 70
Insertion loss (dB)*			
Center frequency (f0)	≤ 0,2	≤ 0,4	≤ 0,65
f vision (f0 - 2,75 MHz)	≤ 0,2	≤ 0,45	≤ 0,70
f sound (f0 + 2,25 MHz)	≤ 0,2	≤ 0,45	≤ 0,70
Group delay variation (ns)*			
f vision (f0 - 2,75 MHz)	≤ 60	≤ 130	≤ 230
f sound (f0 + 2,25 MHz)	≤ 60	≤ 130	≤ 230
Temperature stability (kHz/K)*	10	10	11
Material	Outer conductor aluminum, inner conductor silver plated brass		
Mounting	By means of four screws M6		
Input and output connectors	EIA 1 5/8"		
Temperature range	From -10°C to +50°C		
Weight (kg)	17,0	22,0	24,0
Dimensions (mm)	506 x 146 x 321	634 x 146 x 321	889 x 146 x 321
Cooling	Fan-less convectional cooling		

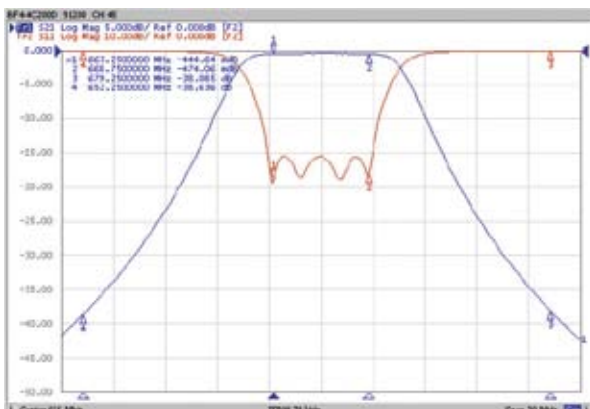
* Measured on mid-channel CH45; table correspond to return loss 30dB and flat response. Higher selectivity on request.



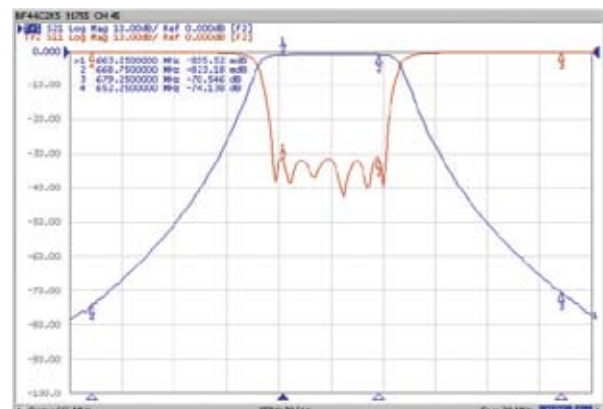
BF4-3C5K0



Insertion and Return loss BF4-3C5K0



Insertion and Return loss BF4-4C5K0



Insertion and Return loss BF4-6C5K0