



107497, Moscow Chernicinsky pr-d 7/1
Tel.: (495) 775-43-19, 462-44-14
Tel./fax: 462-44-14
E-mail: radial@radial.ru
www.radial.ru

Narrowband duplexers

Model	Short description	Band, MHz	Price, EUR
DPF8-4LB(L)	4 cavities diam. 8", separat. 3 MHz, -1 dB, -55 dB, 200 W	30-40	2342
DPF8-4LB(H)	4 cavities diam. 8", separat. 3 MHz, -1 dB, -55 dB, 200 W	38-48	1957
DPF8-6LB(L)	6 cavities diam. 8", separat. 1 MHz, -1 dB, -75 dB, 200 W	30-40	3639
DPF8-6LB(H)	6 cavities diam. 8", separat. 1 MHz, -1 dB, -75 dB, 200 W	38-48	2952
DPF5-3V	3 cavities diam. 5", separat. 5 MHz, -1 dB, -35/-70 dB, 200 W	140-174	602
DPF5-4V	4 cavities diam. 5", separat. 4 MHz, -1 dB, -55 dB, 200 W	140-174	770
DPF5-6V	6 cavities diam. 5", separat. 2 MHz, -1,5 dB, -63 dB, 200 W	140-174	1151
DPF8-4V	4 cavities diam. 8", separat. 3,5 MHz, -2 dB, -55 dB, 200 W	140-174	1060
DPF8-6V	6 cavities diam. 8", separat. 1,5 MHz, -1,5 dB, -63 dB, 200 W	140-174	1587
DPF4-4A	4 cavities diam. 4", -1 dB, -65 dB @ Δf TX/RX=36 MHz, 200 W	300-360	771
DPF4-4U	4 cavities diam. 4", separat. 5 MHz, -1 dB, -45 dB, 200 W	400-490	767
DPF4-6U	6 cavities diam. 4", separat. 5 MHz, -1,5 dB, -60 dB, 200 W	400-490	1134
DPF8-4U	4 cavities diam. 8", separat. 4 MHz, -1,3 dB, -48 dB, 200 W	400-490	1016



30-48 MHz Narrowband duplexers DPF8- 4LB, DPF8-6LB

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Electrical specifications:

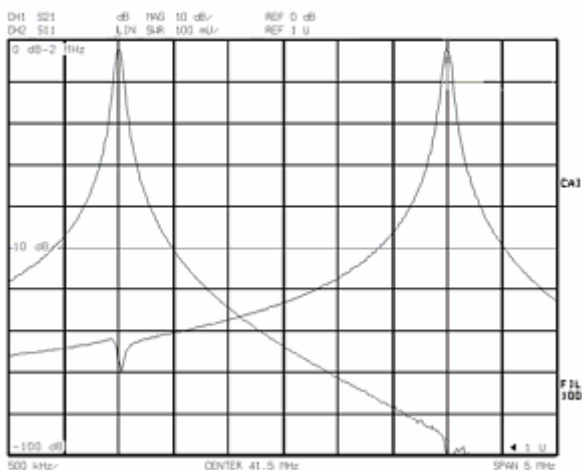
Model	DPF8-4LB(L)	DPF8-4LB(H)	DPF8-6LB(L)	DPF8-6LB(H)
Operating Frequency band, MHz	30-40	38-48	30-40	38-48
Insertion loss (adjustable) not more, dB	1.5	1.5	2	2
Frequency separation TX/RX (min), MHz	3	3	1	1
Impedance, Ohm	50	50	50	50
Isolation, not less, dB	55	55	75	75
VSWR, not more than	1.5	1.5	1.5	1.5
Input power, not more, W			not more than 200	
Temperature Range, °C			from -30 to +60	
Cavity electrical length			1/4λ	

Mechanical specifications

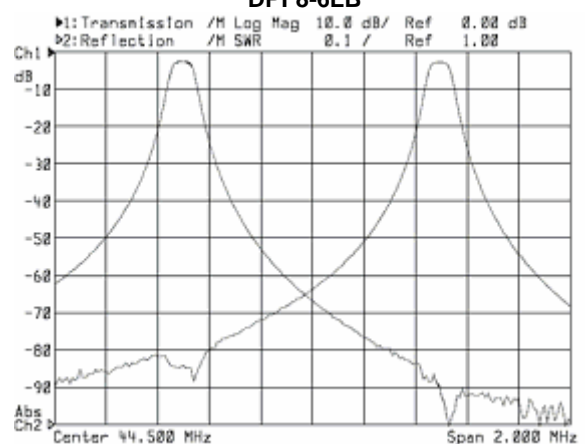
Model	DPF8-4LB(L)	DPF8-4LB(H)	DPF8-6LB(L)	DPF8-6LB(H)
Diameter, mm (ins.)			200x200 (8"x8")	
Weight, kg	77,5	67,5	112,5	101,5
Connector			N-female	
Mount to 19-inch rack			yes	
Length/Width/Depth, sm	40x48x278	40x48x248	60x48x278	60x48x248

Typical duplexers response curves

DPF8-4LB



DPF8-6LB





140-174 MHz Narrowband duplexers DPF5- 3V, DPF5-4V, DPF5-6V

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DPF5-3V



DPF5-4V



DPF5-6V



Electrical specifications

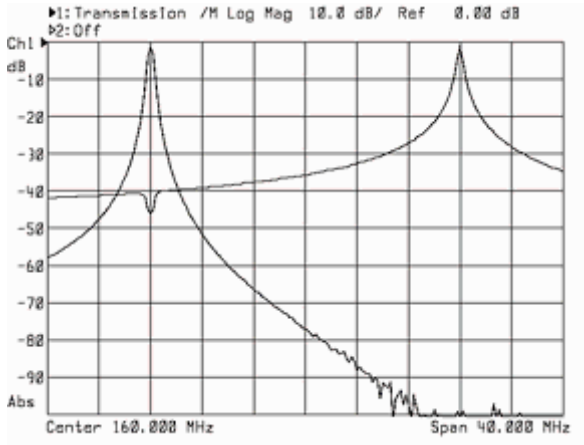
Model	DPF5-3V	DPF5-4V	DPF5-6V
Operating Frequency band, MHz		140-174	
Insertion loss (adjustable) not more, dB	1	1	1,5
Frequency separation TX/RX (min), MHz	5	4	2
Impedance, Ohm		50	
Isolation, not less, dB	35/70	55	63
VSWR, not more than		1,5	
Input power, not more, W		not more than 300	
Temperature Range, °C		from -30 to +60	
Cavity electrical length		1/4λ	

Mechanical specifications

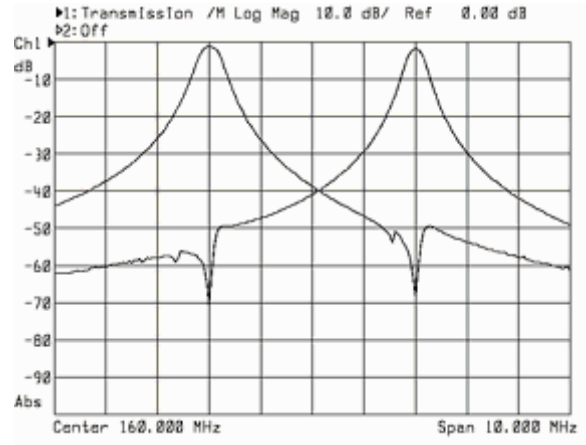
Model	DPF5-3V	DPF5-4V	DPF5-6V
Diameter, mm (ins.)		128 (5")	
Weight, kg	6,5	8,45	12,35
Connector		N-female	
Mount to 19-inch rack		yes	
Length/Width/Depth, mm	800x480x138		800x480x265

It is more effective to use bandpass duplexers, which cavities are tuned to pass receiver frequencies (in receiver circuit) and transmitter frequencies (in transmitter circuit), instead of band pass-reject duplexers at considerable receiving and transmission frequency separation. Having higher filtration capability, duplexer DPF5-4(6)V will handle out-of-band emission attenuation better. These duplexers classical application is two militia radio stations 148 and 172 MHz combination. In the last case triple-cavity duplexer DPF5-3V is applicable.

Typical duplexers response curves

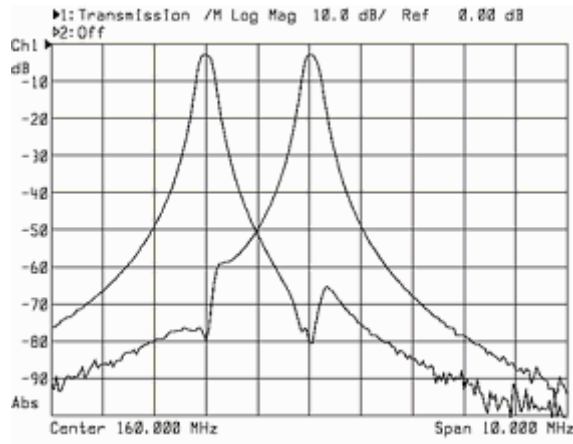


DPF5-3V



DPF5-4V

DPF5-6V





140-174 MHz Narrowband duplexers DPF8-4V, DPF8-6V

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DPF8-4V



DPF8-6V



Electrical specifications

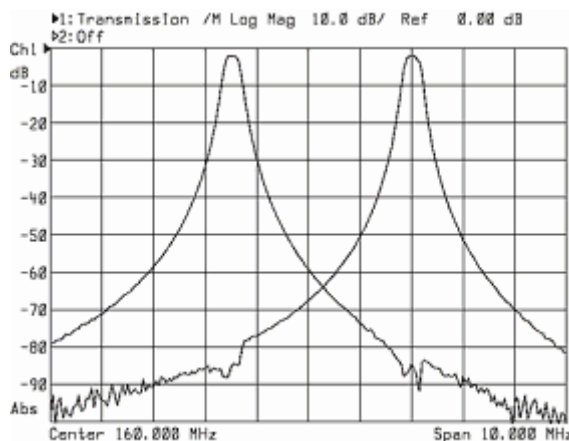
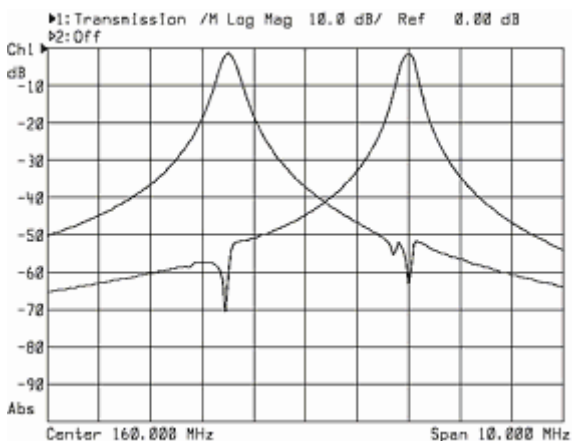
Model	DPF8-4V	DPF8-6V
Operating Frequency band, MHz		140-174
Insertion loss (adjustable) not more, dB	1,5	2
Frequency separation TX/RX (min), MHz	3,5	1,5
Impedance, Ohm		50
Isolation, not less, dB	55	63
VSWR, not more than		1,5
Input power, not more, W		not more than 300
Temperature Range with garanted stabilization, °C		from -30 to +60
Cavity electrical length		1/4 λ

Mechanical specifications

Model	DPF8-4V	DPF8-6V
Diameter, mm (ins.)		206 (8")
Weight, kg	14	21,3
Connector		N-female
Mount to 19-inch rack	yes	yes
Length/Width/Depth, mm	800x480x420	800x650x420

8-inch cavities with higher Q-factor are used when duplexer, assembled on 5-inch cavities, unable to provide appropriate isolation because of low frequency separation TX/RX. Increase in the number of cavities (in duplexer DPF8-6V case) leads to gain slope increase and to decrease of receiver desensitization.

Typical duplexers response curves





400-490 MHz Narrowband duplexers DPF4- 4U, DPF4-6U

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DPF4-4U



DPF4-6U



Electrical specifications

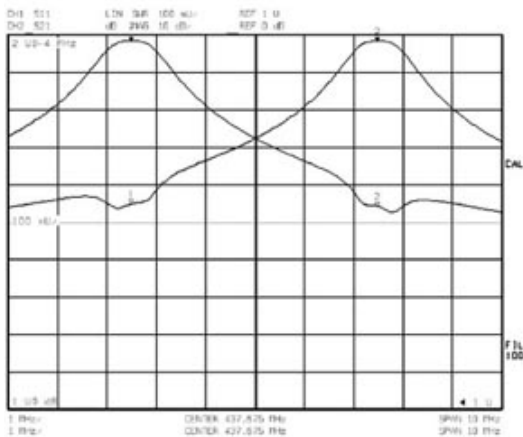
Model	DPF4-4U	DPF4-6U
Operating Frequency band, MHz		400-490
Insertion loss (adjustable) not more, dB	1	1,5
Frequency separation TX/RX (min), MHz		5
Impedance, Ohm		50
Isolation, not less, dB	45	60
VSWR, not more than		1,5
Input power, not more, W		not more than 200
Temperature range, °C		from -30 to +60
Cavity electrical length		1/4λ

Mechanical specifications

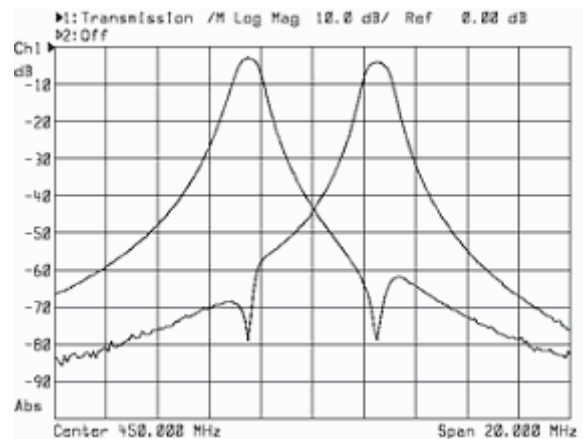
Model	DPF4-4U	DPF4-6U
Diameter, mm (ins.)		110 (4")
Weight, kg	5,8	8,4
Connector		N-female
Mount to 19-inch rack		yes
Length/Width/Depth, mm		360x480x225

Duplexer DPF4-4U will be quite effective in case your frequency plan assumes 10 MHz separation between receiving and transmission frequency, the number of channels is rather small, and they occupy not more than 1 MHz band. Channel bandwidth will rise up to 1.5 MHz after installation of six cavities; gain slope will be improved also.

Typical duplexers response curves



2009



DPF4-4U

DPF4-6U