



Isolators/circulators

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

Model	Short description	Band, MHz	Price, EUR
IF-1V(L,M,H)-50R/2	Single isolator, 50W, isolation min. 27 dB, -0.4 dB, regular	140-154 148-163 158-174	202
IF-2V(L,M,H)-50R/2	Dual isolator, 50W, isolation minimum 55 dB, -0.8 dB, regular	140-154 148-163 158-174	404
IF-1V(L,M,H)-125R/2	Single isolator, 125W, isolation min. 27 dB, -0.4 dB, regular	140-154 148-163 158-174	407
IF-2V(L,M,H)-125R/2	Dual isolator, 125W, isolation min. 55 dB, -0.8 dB, regular	140-154 148-163 158-174	639
IF-1V(L,M,H)-50X/2	Single isolator, 50W, isolation min. 27 dB, -0.4 dB, extreme	140-154 148-163 158-174	283
IF-2V(L,M,H)-50X/2	Dual isolator, 50W, isolation min. 55 dB, -0.8 dB, extreme	140-154 148-163 158-174	494
IF-1V(L,M,H)-125X/2	Single isolator, 125W, isolation min. 27 dB, -0.4 dB, extreme	140-154 148-163 158-174	474
IF-2V(L,M,H)-125X/2	Dual isolator, 125W, isolation min. 55 dB, -0.8 dB, extreme	140-154 148-163 158-174	838
IF-1U(L,H)-50R/2	Single isolator, 50W, isolation min. 27 dB, -0.4 dB, regular	400-470 420-490	202
IF-2U(L,H)-50R/2	Dual isolator, 50W, isolation min. 55 dB, -0.8 dB, regular	400-470 420-490	404
IF-1U(L,H)-125R/2	Single isolator, 125W, isolation min. 27 dB, -0.4 dB, regular	400-470 420-490	407
IF-2U(L,H)-125R/2	Dual isolator, 125W, isolation min. 55 dB, -0.8 dB, regular	400-470 420-490	772
IF-1U(L,H)-50X/2	Single isolator, 50W, isolation min. 27 dB, -0.4 dB, extreme	400-470 420-490	283
IF-2U(L,H)-50X/2	Dual isolator, 50W, isolation min. 55 dB, -0.8 dB, extreme	400-470 420-490	494
IF-1U(L,H)-125X/2	Single isolator, 125W, isolation min. 27 dB, -0.4 dB, extreme	400-470 420-490	474
IF-2U(L,H)-125X/2	Dual isolator, 125W, isolation min. 55 dB, -0.8 dB, extreme	400-470 420-490	838
IF-1V(A,U)-300	Single isolator, 300W, isolation minimum 27 dB, -0.4 dB	140-174 300-360 400-490	780
IF-2V(A,U)-300	Dual isolator, 300W, isolation minimum 55 dB, -0.8 dB	140-174 300-360 400-490	1540
circulators	x	140-174, 300-360, 400-490	



**140-154, 148-163, 158-174 MHz
Isolators "regular"
IF-1(2)VL-50(125)R/2, IF-1(2)VM-
50(125)R/2, IF-1(2)VH-50(125)R/2**

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IF-1V-50R/2 and IF-2V-50R/2



IF-1V-125R/2



IF-2V-125R/2



Electrical specifications

Model	IF-1VL(VM,VH)-50R/2	IF-2VL(VM,VH)-50R/2	IF-1VL(VM,VH)-125R/2	IF-2VL(VM,VH)-125R/2
Operating frequency band, MHz	VL 140-154 VM 148-163 VH 158-174	VL 140-154 VM 148-163 VH 158-174	VL 140-154 VM 148-163 VH 158-174	VL 140-154 VM 148-163 VH 158-174
Insertion loss not more, dB	0.4	0.8	0.4	0.8
Isolation TX-TX not less, dB	27	55	27	55
Impedance, Ohm	50	50	50	50
VSWR, not more than	1.2	1.2	1.2	1,2
Input power not more than, W	50	50	125	125
Temperature range, °C	from -30 to +50	from -30 to +50	from -30 to +50	from -30 to +50

Mechanical specifications

Model	IF-1VL(VM,VH)-50R/2	IF-2VL(VM,VH)-50R/2	IF-1VL(VM,VH)-125R/2	IF-2VL(VM,VH)-125R/2
Weight, kg	0.25	0.49	0.93	1.45
Connectors	N-female	N-female	N-female	N-female
Length/Width/Depth , mm	102x45x63	165x45x63	203x87x107	210x90x165



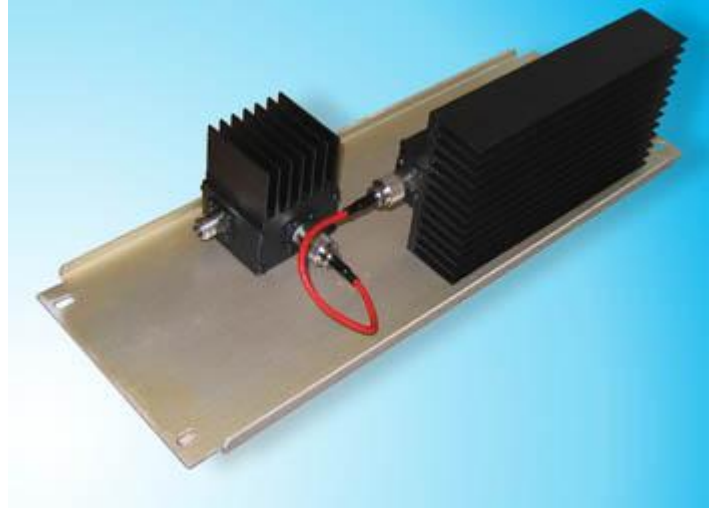
**140-154, 148-163, 158-174 MHz
Isolators "extreme"
IF-1(2)VL-50(125)X/2, IF-1(2)VM-
50(125)X/2, IF-1(2)VH-50(125)X/2**

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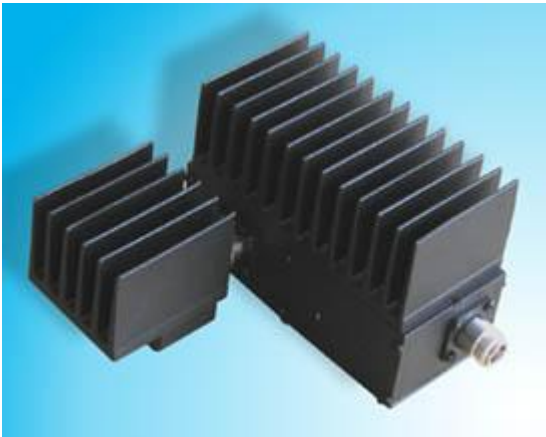
IF-1V-50X/2



IF-1V-125X/2



IF-2V-50X/2



IF-2V-125X/2



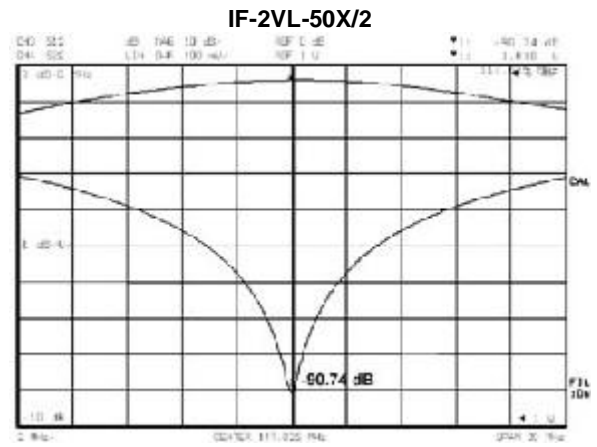
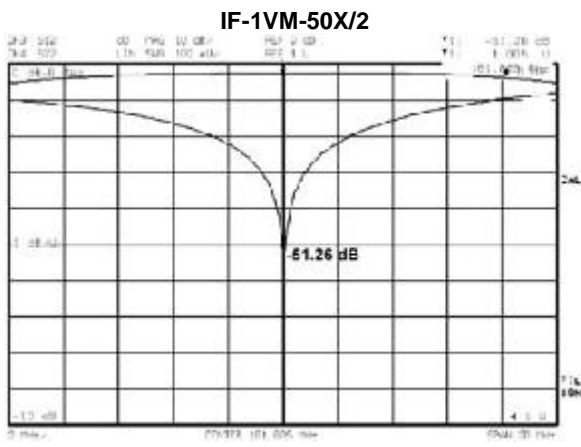
Electrical specifications

Model	IF-1VL(VM,VH)-50X/2	IF-2VL(VM,VH)-50X/2	IF-1VL(VM,VH)-125X/2	IF-2VL(VM,VH)-125X/2
Operating frequency band, MHz	VL 140-154 VM 148-163 VH 158-174	VL 140-154 VM 148-163 VH 158-174	VL 140-154 VM 148-163 VH 158-174	VL 140-154 VM 148-163 VH 158-174
Insertion loss not more, dB	0.4	0.8	0.4	0.8
Isolation TX-TX not less, dB	27	55	27	55
Impedance, Ohm	50	50	50	50
VSWR, not more than	1.2	1.2	1.2	1,2
Input power not more than, W	50	50	125	125
Temperature range, °C	from -30 to +50	from -30 to +50	from -30 to +50	from -30 to +50

Mechanical specifications

Model	IF-1VL(VM,VH)-50X/2	IF-2VL(VM,VH)-50X/2	IF-1VL(VM,VH)-125X/2	IF-2VL(VM,VH)-125X/2
Weight, kg	0.48	1.07	1.95	2.35
Connectors	N-female	N-female	N-female	N-female
Length/Width/Depth, mm	125x70x102	150x90x168	480x178x122	480x178x122

Typical isolator characteristics





**400-470, 420-490 MHz
Isolators "regular"
IF-1(2)UL-50(125)R/2, IF-1(2)UH-
50(125)R/2**

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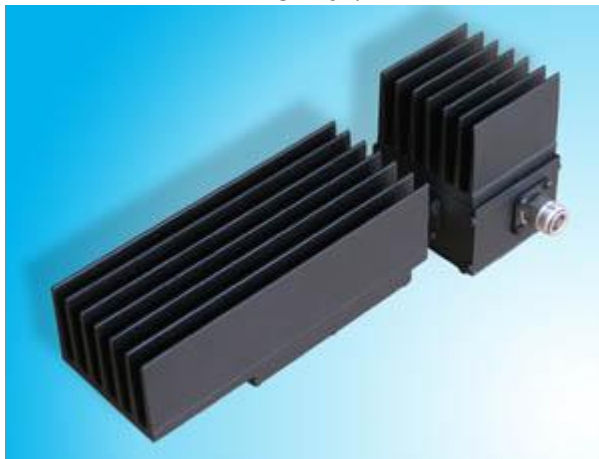
IF-1U-50R/2



IF-2U-50R/2



IF-1U-125R/2



IF-2U-125R/2



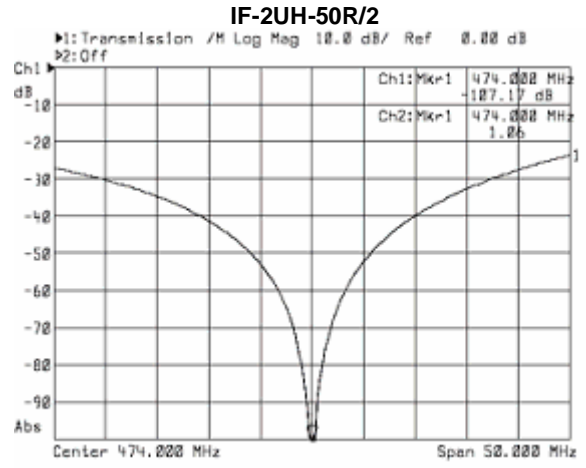
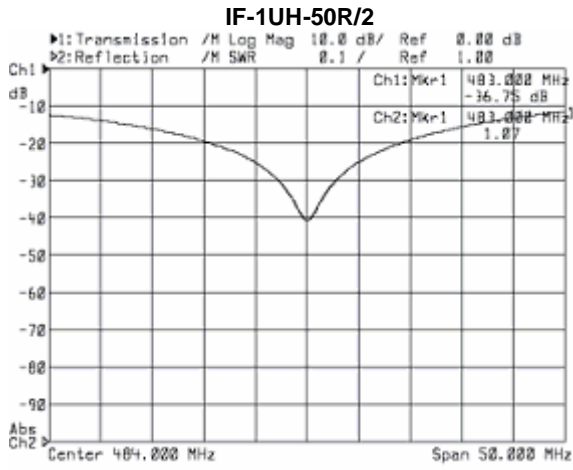
Electrical specifications

Model	IF-1UL(UH)-50R/2	IF-2UL(UH)-50R/2	IF-1UL(UH)-125R/2	IF-2UL(UH)-125R/2
Operating frequency band, MHz	UL 400-470 UH 420-490	UL 400-470 UH 420-490	UL 400-470 UH 420-490	UL 400-470 UH 420-490
Insertion loss not more, dB	0.4	0.8	0.4	0.8
Isolation TX-TX not less, dB	27	55	27	55
Impedance, Ohm	50	50	50	50
VSWR, not more than	1.2	1.2	1.2	1,2
Input power not more than, W	50	50	125	125
Temperature range, °C	from -30 to +50	from -30 to +50	from -30 to +50	from -30 to +50

Mechanical specifications

Model	IF-1UL(UH)-50R/2	IF-2UL(UH)-50R/2	IF-1UL(UH)-125R/2	IF-2UL(UH)-125R/2
Weight, kg	0.25	0.49	0.93	1.45
Connectors	N-female	N-female	N-female	N-female
Length/Width/Depth , mm	102x45x63	165x45x63	203x87x107	210x90x165

Typical isolator characteristics





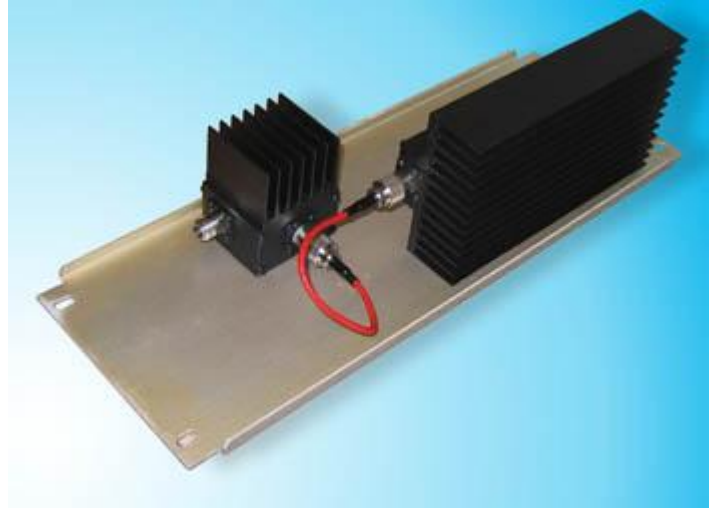
**400-470, 420-490 MHz
Isolators "extreme"
IF-1(2)UL-50(125)X/2, IF-1(2)UH-
50(125)X/2**

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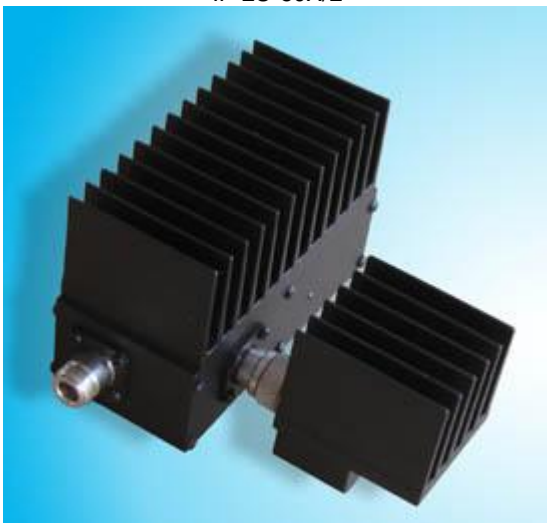
IF-1U-50X/2



IF-1U-125X/2



IF-2U-50X/2



IF-2U-125X/2



Electrical specifications

Model	IF-1UL(UH)-50X/2	IF-2UL(UH)-50X/2	IF-1UL(UH)-125X/2	IF-2UL(UH)-125X/2
Operating frequency band, MHz	VL 140-154 VM 148-163 VH 158-174	VL 140-154 VM 148-163 VH 158-174	VL 140-154 VM 148-163 VH 158-174	VL 140-154 VM 148-163 VH 158-174
Insertion loss not more, dB	0.4	0.8	0.4	0.8
Isolation TX-TX not less, dB	27	55	27	55
Impedance, Ohm	50	50	50	50
VSWR, not more than	1.2	1.2	1.2	1,2
Input power not more than, W	50	50	125	125
Temperature range, °C	from -30 to +50	from -30 to +50	from -30 to +50	from -30 to +50

Mechanical specifications

Model	IF-1UL(UH)-50X/2	IF-2UL(UH)-50X/2	IF-1UL(UH)-125X/2	IF-2UL(UH)-125X/2
Weight, kg	0,48	1,07	1,95	2,35

Connectors
Length/Width/Depth , mm

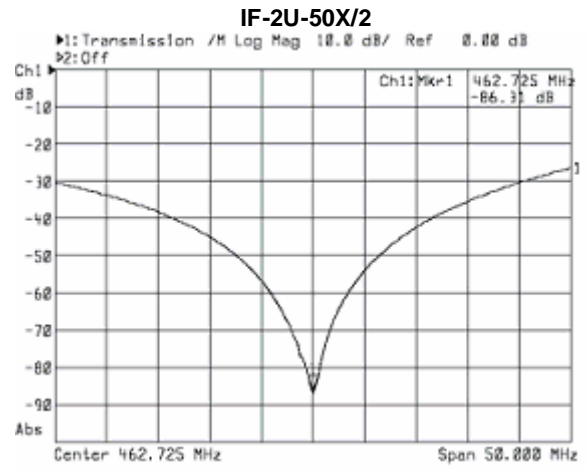
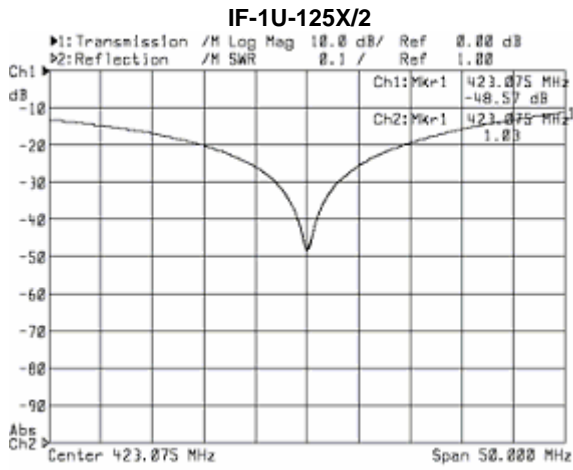
N-female
125x70x102

N-female
150x90x168

N-female
480x178x122

N-female
480x178x122

Typical isolator characteristics





140-174, 300-360, 400-490 MHz Isolators IF-1(2)V-300, IF-1(2)A- 300, IF-1(2)U-300

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Electrical specifications

Model	IF-1V-300	IF-2V-300	IF-1A-300	IF-2A-300	IF-1U-300	IF-2U-300
Operating frequency band, MHz		140-174		300-360		400-490
Operating bandwidth, MHz		7		14		20
Gain not more than, dB	0,4	0,8	0,4	0,8	0,4	0,8
Isolation TX-TX not less, dB	30	65	30	65	30	65
Impedance, Ohm				50		
VSWR, not more than				1,2		
Input power, W				not more than 300		
Temperature range, °C				30 to +50		

Mechanical specifications

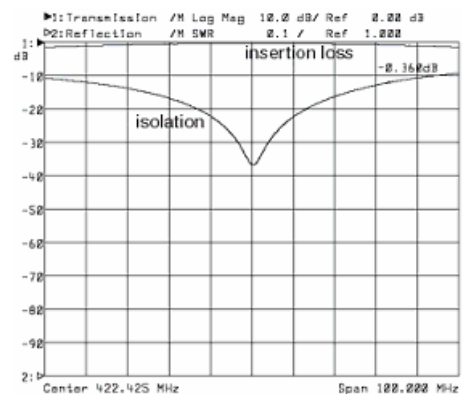
Model	IF-1V-300	IF-2V-300	IF-1A-300	IF-2A-300	IF-1U-300	IF-2U-300
Weight, kg	0,85	1,74	0,85	1,74	0,85	1,74
Connectors				N-female		
Length/Width/Depth, sm	15x11x9	15.5x18x9	15x11x9	15.5x18x9	15x11x9	15.5x18x9

25 kHz frequency grid enables to use only hybrid transmitter combiners. It's sometimes essential to use power amplifiers, when the number of channels is 4 or greater. In this case transmitter combiner should be meant for greater power input. Here ferrite 300-watt isolators can be implemented. High wattless power coaxial air capacitor usage makes isolator tuning easier and lowers its loss to minimum.

300-watt isolators are mainly adopted for constructing antenna section of powerful paging transmitters, in order to lower intermodulation interference and protect power amplifier from failure in antenna system. Replaceable ballast load enables to use IF-1(2)V(A,U)-300 for transmitter combiners manufacture, as well as standalone device.

Typical isolator characteristics

IF-1U-300





140-174, 300-360, 400-490 MHz Circulator

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It is a requirement to build telecommunications system in dual-frequency simplex mode and install filtering devices in its antenna sections in order to create favorable electromagnetic environment and improve reception conditions at sites with big number of control radio stations. Usually mobile terminals with common transmit-receive antenna are employed as stationary radio stations.

But to build previously mentioned system it is required to divide it into separate terminals, receiving and transmitting. Ferrite circulator will help with this. Possessing unidirectional conductivity it will easily provide your radio station with two TX and RX connectors with minimal insertion loss (0.4 dB).

