

Fixed Attenuators

The name JFW has been synonymous with RF attenuators almost since our inception in 1979. Designed to meet and exceed the demanding requirements of our customers, each fixed attenuator from JFW is manufactured to the highest quality standards. We have thousands of different models with countless combinations of features available to meet almost any RF application



Available Features

- Fixed attenuators from 1/2 Watt to 1000 Watts (CW)
- Fixed attenuators from DC-26.5 GHz
- 50 Ohm, 75 Ohm attenuators (other impedance values also available upon request)
- Choose any RF connector combination (BNC, SMA, N, TNC, 7/16, F, reverse polarity and more)
- Ask about DC passing and DC blocking attenuators
- Bulkhead, panel-mount or right angle

AFFORDABLE CUSTOM DESIGNS ARE ALSO AVAILABLE!

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Fixed Attenuators

Model Number Index

Please add connector type to the end of part number to complete model number (Example: 50F-003 SMA).

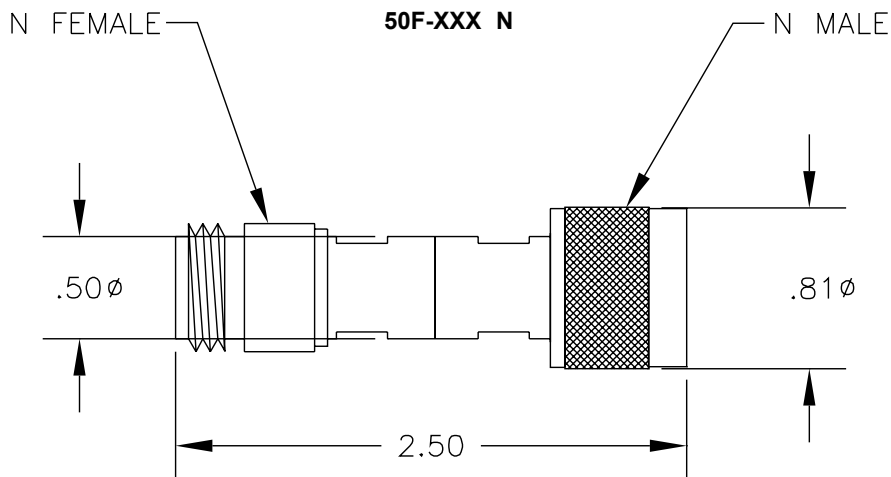
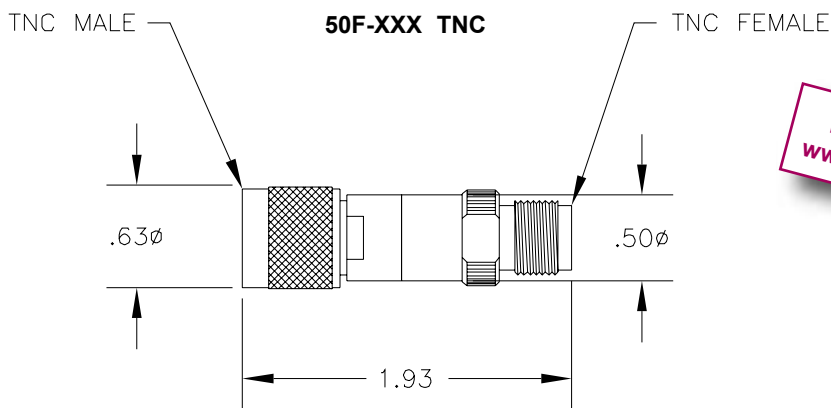
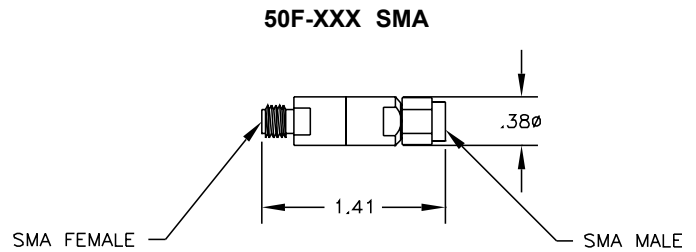
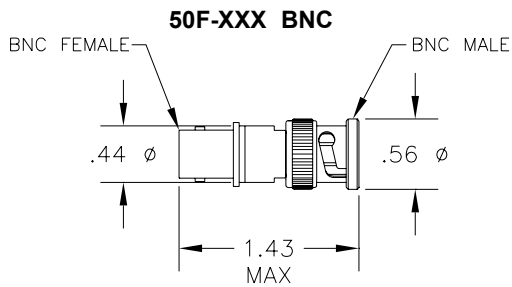
Low Power - 50 Ohm				Medium Power - 50 Ohm			
Model Number	Frequency Range	Average Power	Page	Model Number	Frequency Range	Average Power	Page
50F-XXX	DC-2200 MHz	1 Watt	4-3	50FH-XXX-5	DC-2000 MHz	5 Watts	4-14
50FFD-XXX	600-1950 MHz	DC Passing	4-9	50FH-XXX-10	DC-2000 MHz	10 Watts	4-14
50FFP-XXX	400-2500 MHz	DC Passing	4-9	50FH-XXX-30	DC-2000 MHz	30 Watts	4-16
50FP-XXX-H2	DC-2000 MHz	2 Watts	4-12	50FH-XXX-30-3	DC-3000 MHz	30 Watts	4-16
50FP-XXX-H3	DC-3000 MHz	2 Watts	4-12	50FH-XXX-50	DC-2000 MHz	50 Watts	4-16
50FP-XXX-H4	DC-4000 MHz	2 Watts	4-12	50FH-XXX-50-3	DC-3000 MHz	50 Watts	4-16
50FP-XXX-H6	DC-6000 MHz	2 Watts	4-12	50FHC-XXX-10	DC-4000 MHz	10 Watts	4-15
50HB-XX	DC-6000 MHz	2 Watts	4-6	50FHC-XXX-15	DC-4000 MHz	15 Watts	4-15
50HN-XX	DC-6000 MHz	2 Watts	4-6	50FHC-XXX-20	DC-4000 MHz	20 Watts	4-15
50HF-XXX	DC-18 GHz	2 Watts	4-7	50FHC-XXX-25	DC-4000 MHz	25 Watts	4-15
Low Power - 75 Ohm				50FHXC-XXX-40	DC-4000 MHz	40 Watts	4-15
Model Number	Frequency Range	Average Power	Page	50FHXC-XXX-50	DC-4000 MHz	50 Watts	4-15
75F-XXX	DC-1000 MHz	1 Watt	4-4	50FPE-XXX	DC-6000 MHz	5 Watts	4-13
75FFB-XXX	950-2150 MHz	DC Passing	4-10	50HF-XXX-5	DC-18 GHz	5 Watts	4-7
75FFD-XXX	450-2000 MHz	DC Passing	4-10	50HFP-XXX-10	DC-18 GHz	10 Watts	4-8
75FP-XXX-2G	DC-2000 MHz	1 Watt	4-5	50HFP-XXX-25	DC-18 GHz	25 Watts	4-8
75FP-XXX-3G	DC-3000 MHz	0.5 Watt	4-5	50HFP-XXX-50	DC-18 GHz	50 Watts	4-8
Fixed Attenuator Kits - 50 Ohm				High Power - 50 Ohm			
Model Number	Frequency Range	Average Power	Page	Model Number	Frequency Range	Average Power	Page
50KFA-005	DC-2200 MHz	1 Watt	4-11	50FH-XXX-100	DC-1000 MHz	100 Watts	4-17
50KFA-006	DC-2200 MHz	1 Watt	4-11	50FH-XXX-100-2	DC-2000 MHz	100 Watts	4-17
50KFA-008	DC-18 GHz	2 Watts	4-11	50FH-XXX-100-3	DC-3000 MHz	100 Watts	4-17
50KFA-014	DC-18 GHz	2 Watts	4-11	50FH-XXX-300	DC-1000 MHz	300 Watts	4-21
50KFA-074	DC-2200 MHz	1 Watt	4-11	50FH-XXX-300-2	DC-2000 MHz	300 Watts	4-21
				50FHAO-XXX-100	DC-3000 MHz	100 Watts	4-18
				50FHAO-XXX-150	DC-3000 MHz	150 Watts	4-19
				50FHAO-XXX-200	DC-3000 MHz	200 Watts	4-20
				50FHDQ-XXX-500	DC-1000 MHz	500 Watts	4-22
				50FHDQ-XXX-500-3	DC-3000 MHz	500 Watts	4-22
				50FHIE-XXX-1000	DC-3000 MHz	1000 Watts	4-23
				50FHIQ-XXX-1000	DC-1000 MHz	1000 Watts	4-23

1 Watt Fixed Attenuators F Series

Model	Frequency Range	Attenuation Values *	Attenuation Accuracy (maximum)	VSWR (maximum)	RF Connectors
50F-XXX	DC-2200 MHz	1 thru 20 dB in any 1 dB increment	+/- 0.5 dB DC-1000 MHz +/- 0.8 dB 1000-2200 MHz	1.2:1 DC-1000 MHz 1.4:1 1000-2200 MHz	BNC, TNC, SMA or N
50F-XXX	DC-1000 MHz	21 thru 40 dB in any 1 dB increment	+/- 0.5 dB or 2%	1.2:1	BNC, TNC, SMA or N

* (XXX) insert attenuation value

Common Specifications			
Impedance	Input Power (average)	Peak Power	Operating Temperature
50 Ohms	1 Watt	1000 Watts	-55° C to +125° C



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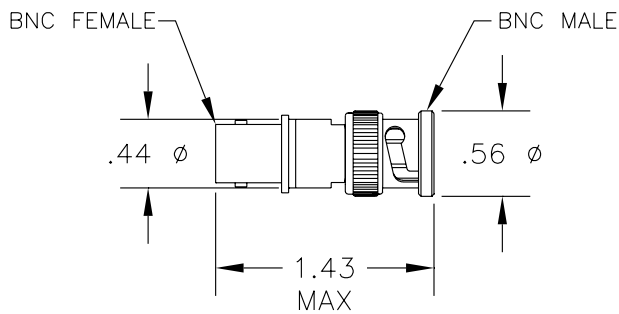
Fixed Attenuators F Series

Model	Frequency Range	Attenuation Values *	Attenuation Accuracy	VSWR (maximum)	RF Connectors
75F-XXX	DC-500 MHz	1 thru 30 dB in any 1 dB increment	+/- 0.2 dB DC-100 MHz +/- 0.4 dB 100-500 MHz	1.3:1	BNC
75F-XXX	DC-1000 MHz	1 thru 20 dB in any 1 dB increment	+/- 0.3 dB DC-500 MHz +/- 0.5 dB 500-1000 MHz	1.2:1 @ 500 MHz 1.3:1 @ 1000 MHz	N or F (Screw On)
75F-XXX	DC-1000 MHz	1 thru 20 dB in any 1 dB increment	+/- 0.3 dB DC-500 MHz +/- 0.5 dB 500-1000 MHz	1.15:1 @ 500 MHz 1.30:1 @ 1000 MHz	TNC

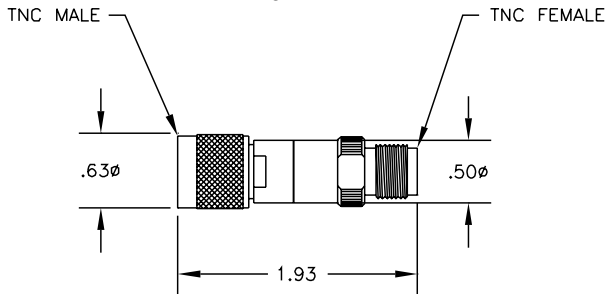
* (XXX) insert attenuation value

Common Specifications			
Impedance	Input Power (average)	Peak Power	Operating Temperature
75 Ohms	1 Watt	1000 Watts	-55° C to +125° C

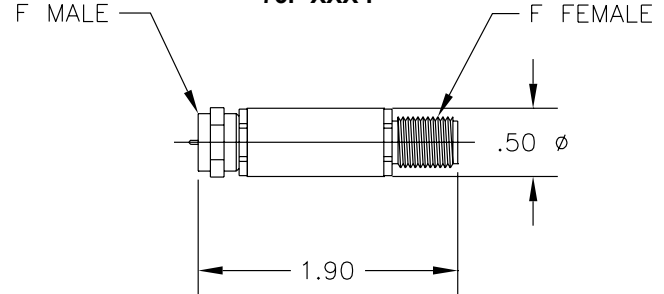
75F-XXX BNC



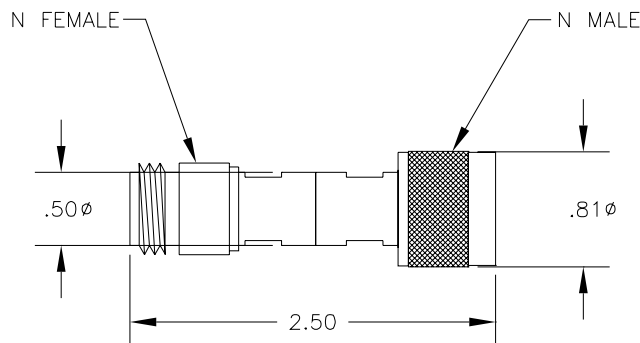
75F-XXX TNC



75F-XXX F



75F-XXX N



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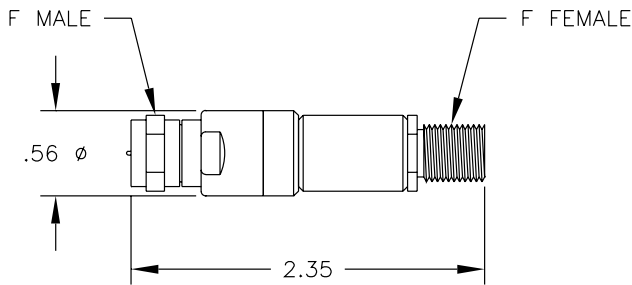
Fixed Attenuators FP Series

Model	Frequency Range	Attenuation Values *	Attenuation Accuracy	VSWR (maximum)	RF Connectors
75FP-XXX-2G	DC-2000 MHz	1 thru 20 dB in any 1 dB increment	+/- 0.3 dB DC-1000 MHz +/- 0.5 dB or 3% 1000-2000 MHz	1.2:1 DC-500 MHz 1.3:1 500-1000 MHz 1.4:1 1000-2000 MHz	F, BNC, TNC or N
75FP-XXX-3G	DC-3000 MHz	3 thru 20 dB in any 1 dB increment	+/- 0.3 dB DC-1300 MHz +/- 0.5 dB 1300-3000 MHz	1.12:1 DC-1300 MHz 1.3:1 1300-3000 MHz	F or N

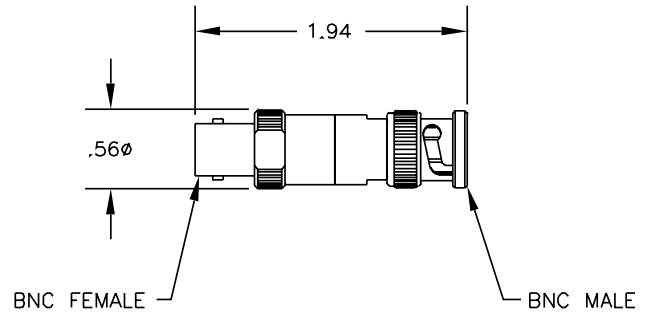
* (XXX) insert attenuation value

Model	Impedance	Input Power (average)	Peak Power	Operating Temperature
75FP-XXX-2G	75 Ohms	1 Watt @ +25° C	1000 Watts	-55° C to +125° C
75FP-XXX-3G	75 Ohms	0.5 Watt @ +25° C	100 Watts	-55° C to +125° C

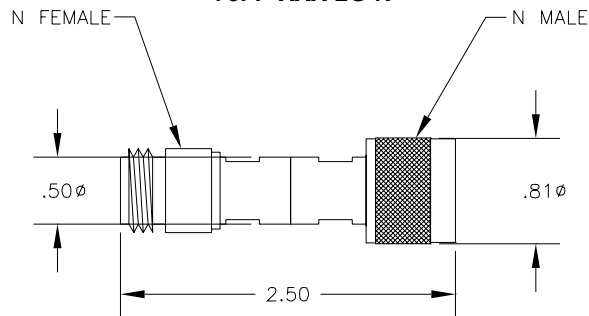
75FP-XXX-2G F



75FP-XXX-2G BNC

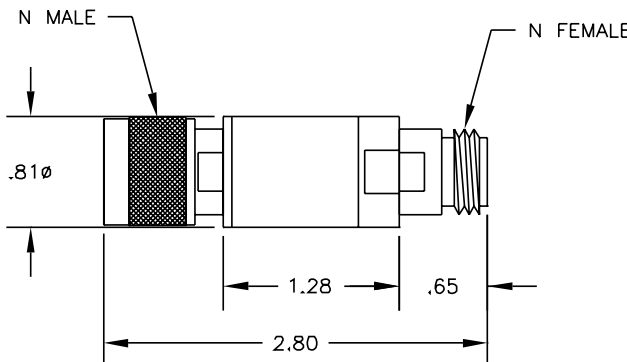


75FP-XXX-2G N

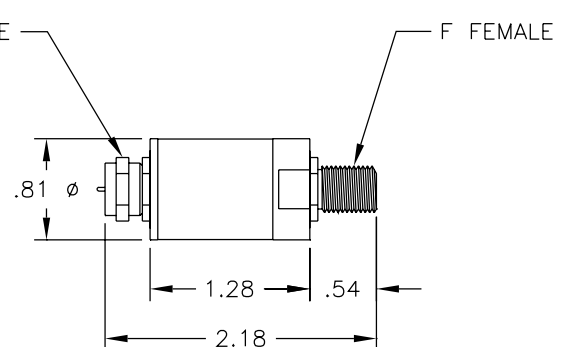


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75FP-XXX-3G N



75FP-XXX-3G F



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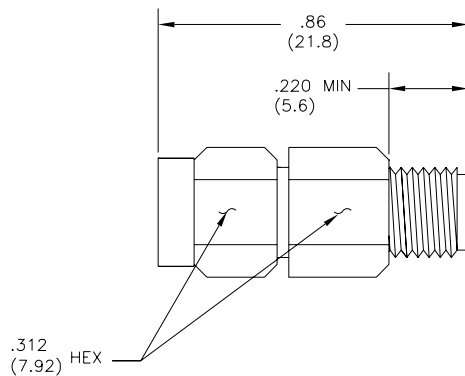
LOW COST!

Low Cost Fixed Attenuators

Model	Frequency Range	Attenuation Values *	Attenuation Accuracy (maximum)	VSWR (maximum)	RF Connectors
50HB-XX	DC-6000 MHz	1-12, 15, 20 or 30 dB	+/- 0.5 dB (1-20 dB) +/- 0.75 dB (30 dB)	1.15:1 DC-2.5 GHz 1.20:1 2.5-6 GHz (1-6 dB) 1.25:1 2.5-6 GHz (7-12 dB) 1.30:1 2.5-6 GHz (15, 20 dB) 1.35:1 2.5-6 GHz (30 dB)	SMA
50HN-XX	DC-6000 MHz	1, 3, 6, 10, 20 or 30 dB	+/- 0.30 dB (1, 3 & 6 dB) +/- 0.50 dB (10 dB) +/- 0.75 dB (20 dB) +/- 1.00 dB (30 dB)	1.25:1	N
* (XXX) insert attenuation value					

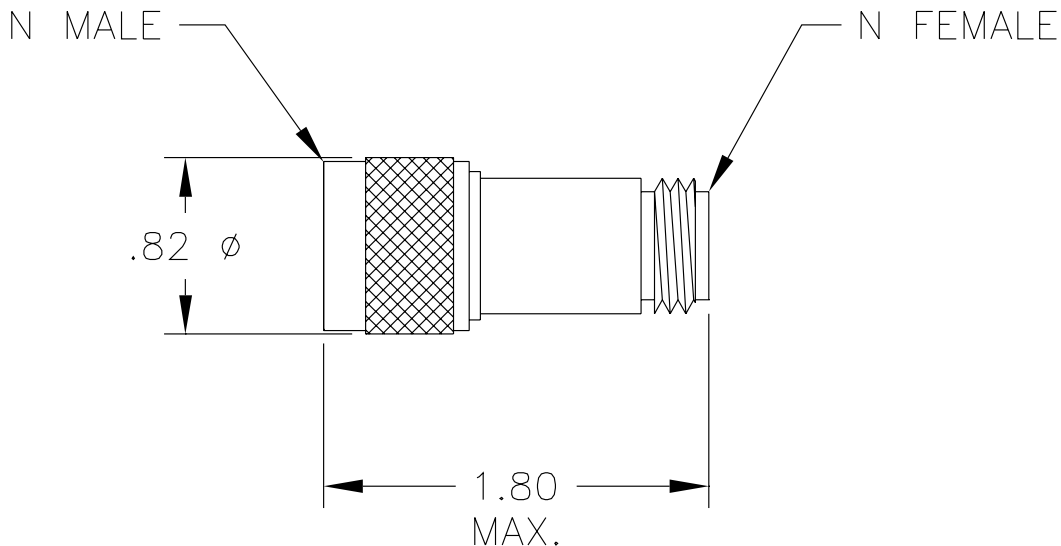
Common Specifications			
Impedance	Input Power (average)	Peak Power	Operating Temperature
50 Ohms	2 Watts @ +25° C Derate to 0.5 Watts @ +125° C	200 Watts (5 microsecond pulse, 0.1% duty cycle)	-65° C to +125° C

50HB-XX SMA



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50HN-XX N



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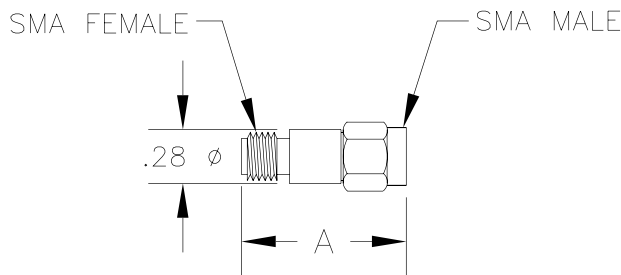
High Frequency Fixed Attenuators

Model	Frequency Range	Attenuation Values *	Attenuation Accuracy	VSWR (maximum)	RF Connectors
50HF-XXX	DC-18 GHz	0-10, 12, 15, 20 & 30 dB	+/- 0.3 dB 1-6 dB +/- 0.5 dB 7-20 dB +/- 0.75 dB 21-30 dB	1.2:1 DC-4 GHz 1.25:1 4-8 GHz 1.3:1 8-12.4 GHz 1.4:1 12.4-18 GHz	N or SMA
50HF-XXX-5	DC-18 GHz	0-10, 12, 15, 20 & 30 dB	+/- 0.3 dB 1-6 dB +/- 0.5 dB 7-20 dB +/- 0.75 dB 21-30 dB	1.2:1 DC-4 GHz 1.25:1 4-8 GHz 1.3:1 8-12.4 GHz 1.4:1 12.4-18 GHz	N or SMA

* (XXX) insert attenuation value - Consult Factory for other dB Values

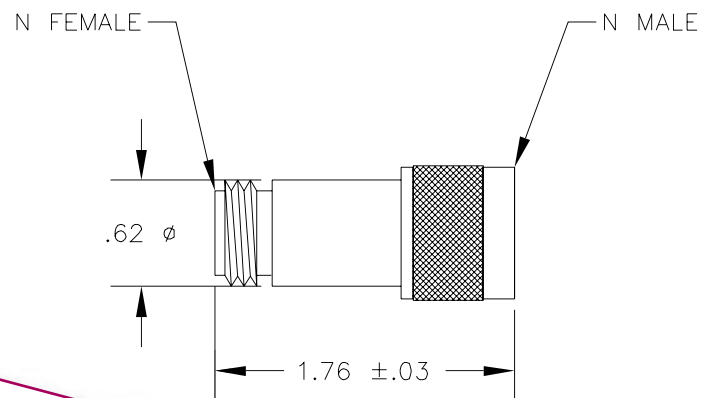
Model	Impedance	Input Power (average)	Peak Power	Operating Temperature
50HF-XXX	50 Ohms	2 Watts @ +25° C (derate to 0.5 Watt @ +125° C)	250 Watts	-65° C to +125° C
50HF-XXX-5	50 Ohms	5 Watts @ +25° C (derate to 1 Watt @ +125° C)	250 Watts	-65° C to +125° C

50HF-XXX SMA



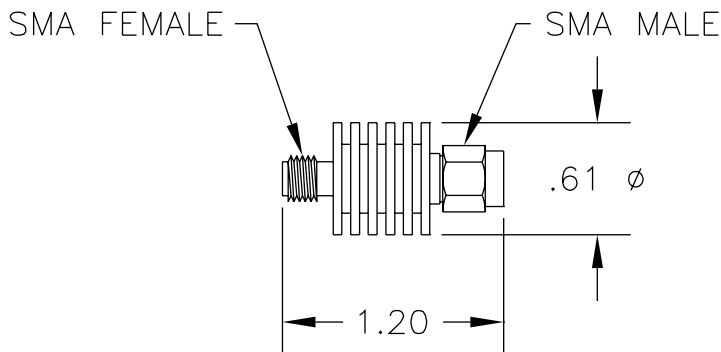
dB VALUE	DIM. A
1-12dB	.86 ±.03
13-30dB	.99 ±.03

50HF-XXX N

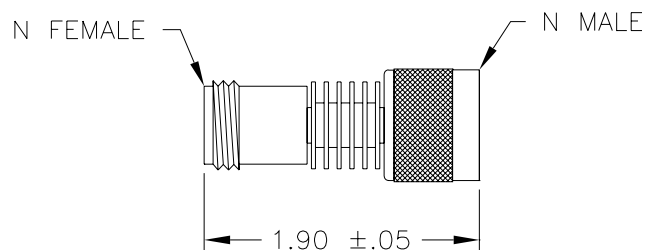


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50HF-XXX-5 SMA



50HF-XXX-5 N



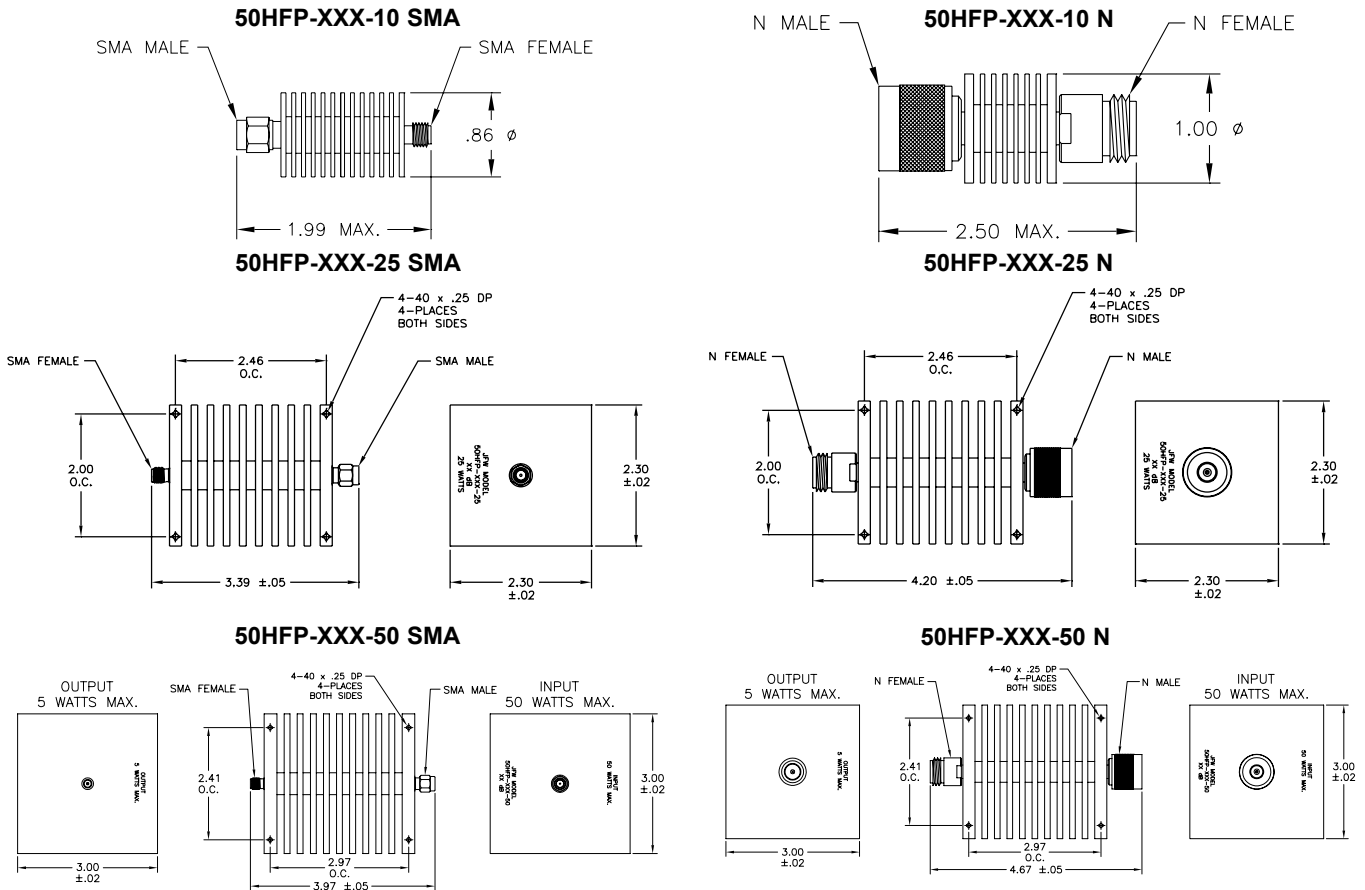
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High Frequency Fixed Attenuators

Model	Frequency Range	Attenuation Values *	Attenuation Accuracy	VSWR (maximum)																								
50HFP-XXX-10	DC-18 GHz	3, 6, 10, 20 and 30 dB	3, 6 dB +/- 0.5 dB 10 dB +/- 0.75 dB 20 dB +/- 1.0 dB 30 dB +/- 1.25 dB	1.2:1 DC-4 GHz 1.3:1 4-12.4 GHz 1.4:1 12.4-15 GHz 1.45:1 15-18 GHz																								
50HFP-XXX-25	DC-18 GHz	3, 6, 10, 20, 30 and 40 dB	<table border="1"> <thead> <tr> <th colspan="4">50HFP-XX-25</th> </tr> <tr> <th></th> <th>DC-6GHz</th> <th>6-12.4GHz</th> <th>12.4-18GHz</th> </tr> </thead> <tbody> <tr> <td>3, 6dB</td> <td>+/-0.3dB</td> <td>+/-0.5dB</td> <td>+/-0.75dB</td> </tr> <tr> <td>10, 20dB</td> <td>+/-0.5dB</td> <td>+/-0.75dB</td> <td>+/-1.0dB</td> </tr> <tr> <td>30dB</td> <td>+/-0.75dB</td> <td>+/-1.0dB</td> <td>+/-1.25dB</td> </tr> <tr> <td>40dB</td> <td>+/-1.0dB</td> <td>+/-1.25dB</td> <td>+/-1.5dB</td> </tr> </tbody> </table>	50HFP-XX-25					DC-6GHz	6-12.4GHz	12.4-18GHz	3, 6dB	+/-0.3dB	+/-0.5dB	+/-0.75dB	10, 20dB	+/-0.5dB	+/-0.75dB	+/-1.0dB	30dB	+/-0.75dB	+/-1.0dB	+/-1.25dB	40dB	+/-1.0dB	+/-1.25dB	+/-1.5dB	1.2:1 DC-6 GHz 1.3:1 6-12.4 GHz 1.4:1 12.4-18 GHz
50HFP-XX-25																												
	DC-6GHz	6-12.4GHz	12.4-18GHz																									
3, 6dB	+/-0.3dB	+/-0.5dB	+/-0.75dB																									
10, 20dB	+/-0.5dB	+/-0.75dB	+/-1.0dB																									
30dB	+/-0.75dB	+/-1.0dB	+/-1.25dB																									
40dB	+/-1.0dB	+/-1.25dB	+/-1.5dB																									
50HFP-XXX-50	DC-18 GHz	3, 6, 10, 20, 30 and 40 dB	<table border="1"> <thead> <tr> <th colspan="4">50HFP-XX-50</th> </tr> <tr> <th></th> <th>DC-6GHz</th> <th>6-12.4GHz</th> <th>12.4-18GHz</th> </tr> </thead> <tbody> <tr> <td>3, 6dB</td> <td>+/-0.75dB</td> <td>+/-0.75dB</td> <td>+/-0.75dB</td> </tr> <tr> <td>10, 20dB</td> <td>+/-0.75dB</td> <td>+/-0.75dB</td> <td>+/-1.0dB</td> </tr> <tr> <td>30dB</td> <td>+/-0.75dB</td> <td>+/-1.0dB</td> <td>+/-1.25dB</td> </tr> <tr> <td>40dB</td> <td>+/-1.0dB</td> <td>+/-1.25dB</td> <td>+/-1.5dB</td> </tr> </tbody> </table>	50HFP-XX-50					DC-6GHz	6-12.4GHz	12.4-18GHz	3, 6dB	+/-0.75dB	+/-0.75dB	+/-0.75dB	10, 20dB	+/-0.75dB	+/-0.75dB	+/-1.0dB	30dB	+/-0.75dB	+/-1.0dB	+/-1.25dB	40dB	+/-1.0dB	+/-1.25dB	+/-1.5dB	1.25:1 DC-6 GHz 1.35:1 6-12.4 GHz 1.45:1 12.4-18 GHz
50HFP-XX-50																												
	DC-6GHz	6-12.4GHz	12.4-18GHz																									
3, 6dB	+/-0.75dB	+/-0.75dB	+/-0.75dB																									
10, 20dB	+/-0.75dB	+/-0.75dB	+/-1.0dB																									
30dB	+/-0.75dB	+/-1.0dB	+/-1.25dB																									
40dB	+/-1.0dB	+/-1.25dB	+/-1.5dB																									

* (XXX) insert attenuation value - Consult Factory for other dB Values

Model	Impedance	Input Power (average)	Peak Power	Operating Temperature	RF Connectors
50HFP-XXX-10	50 Ohms	10 Watts	500 Watts	-65° C to +125° C	SMA or N
50HFP-XXX-25	50 Ohms	25 Watts	500 Watts	-65° C to +125° C	SMA or N
50HFP-XXX-50	50 Ohms	50 Watts Uni-directional	500 Watts	-65° C to +125° C	SMA or N



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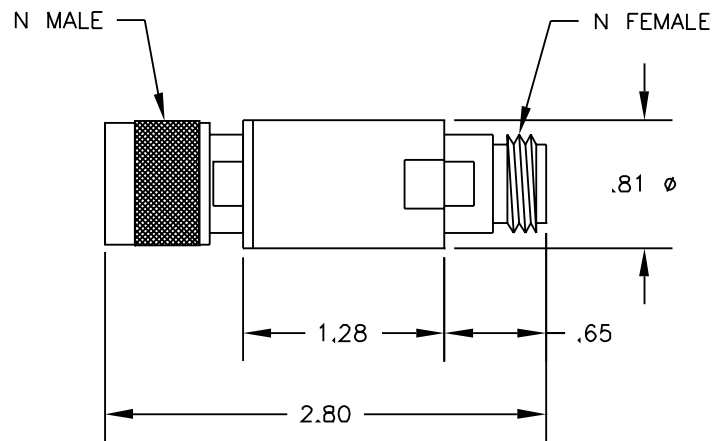
50 Ohm DC Passing Attenuators

Model	Frequency Range	Attenuation Values *	Attenuation Accuracy	VSWR (maximum)	RF Connectors	Input Power (average)
50FFD-XXX	600-1950 MHz	1-30 dB	+/- 0.25 dB	1.3:1	N, TNC, BNC or SMA	+21 dBm
50FFP-XXX	400-2500 MHz	1-10 dB	+/- 0.4 dB	1.4:1	N, TNC, BNC or SMA	+21 dBm

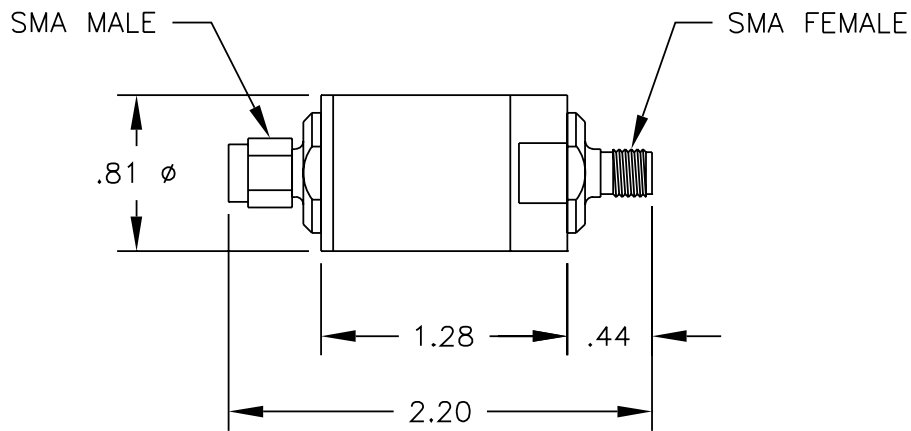
* (XXX) insert attenuation value - Consult Factory for other dB Values

Model	Impedance	Operating Temperature	Insertion Loss @ 10MHz	DC Ratings	DC Resistance (Input to Output)
50FFD-XXX	50 Ohms	-40° C to +85° C	0.75 dB nominal	4 Amps/150 Volts	0.05 Ohms nominal
50FFP-XXX	50 Ohms	-40° C to +85° C	0.75 dB nominal	4 Amps/150 Volts	0.05 Ohms nominal

50FFD-XXX N / 50FFP-XXX N



50FFD-XXX SMA / 50FFP-XXX SMA



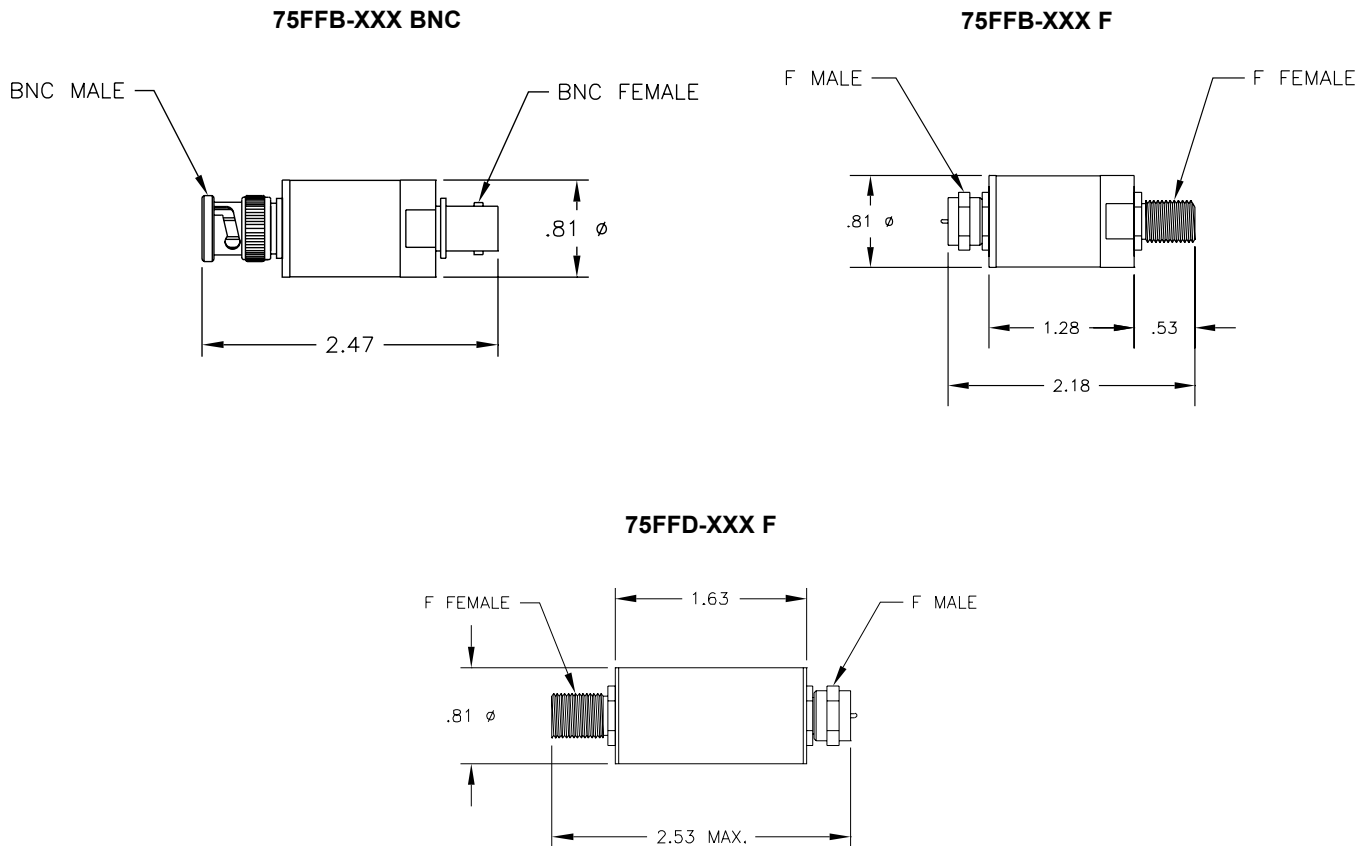
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75 Ohm DC Passing Attenuators

Model	Frequency Range	Attenuation Values *	Attenuation Accuracy	VSWR (maximum)	RF Connectors	Input Power (average)
75FFB-XXX	950-2150 MHz	3-20 dB	+/- 0.5 dB	1.5:1	BNC or F	1 Watt
75FFD-XXX	450-2000 MHz	3-20 dB	+/- 0.5 dB	1.4:1	BNC or F	1 Watt

* (XXX) insert attenuation value - Consult Factory for other dB Values

Model	Impedance	Operating Temperature	Insertion Loss @ 10MHz	DC Ratings	DC Resistance (Input to Output)
75FFB-XXX	75 Ohms	-40° C to +85° C	0.75 dB nominal	2 Amps/50 Volts	0.1 Ohms nominal
75FFD-XXX	75 Ohms	-40° C to +85° C	0.75 dB nominal	4 Amps/50 Volts	0.1 Ohms nominal



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Fixed Attenuator Kits

Model	Frequency Range	Impedance	Attenuators and Accessories	RF Connectors	Calibration Frequencies DC-18 GHz Models Only
50KFA-005	DC-2200 MHz	50 Ohms	one each: 1,2,3,6,10 and 20 dB Fixed Attenuators one each: 50 Ohm and 75 Ohm Feedthru Terminations one each: Impedance Matching Pad one each: N male to BNC female adapter one each: N female to BNC male adapter	BNC male/female	
50KFA-006	DC-2200 MHz	50 Ohms	one each: 1,2,3,6,10 and 20 dB Fixed Attenuators one each: BNC female to SMA male adapter one each: BNC male to SMA female adapter one each: N female to SMA male adapter	SMA male/female	
50KFA-008	DC-18 GHz	50 Ohms	one each: 50HF-003 N one each: 50HF-006 N one each: 50HF-010 N one each: 50HF-020 N	N male/female	DC, 4 GHz, 8 GHz, 12.4 GHz and 18 GHz
50KFA-014	DC-18 GHz	50 Ohms	one each: 50HF-003 SMA one each: 50HF-006 SMA one each: 50HF-010 SMA one each: 50HF-020 SMA	SMA male/female	DC, 4 GHz, 8 GHz, 12.4 GHz and 18 GHz
50KFA-074	DC-2200 MHz	50 Ohms	one each: 3,6,10 and 20 dB one each: male termination	BNC, N or SMA male/female	



JFW designs Attenuator Kits for a wide range of applications.

Kits can include: Attenuators, Terminations, DC Blocks, Adapters and Mismatches. Please contact us for a cost effective solution for your requirement.

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2 Watt Fixed Attenuators FP Series

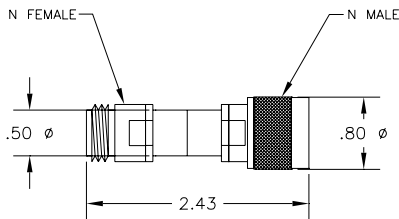
Model	Frequency Range	Attenuation Values *	Attenuation Accuracy	VSWR (maximum)	RF Connectors
50FP-XXX-H2	DC-2000 MHz	1 thru 30 dB in any 1 dB increment	+/- 0.3 dB or 2%	1.1:1 DC-500 MHz 1.3:1 500-2000 MHz	BNC, N, SMA, 7/16, TNC or rev. pol.TNC
50FP-XXX-H2	DC-2000 MHz	31 thru 65 dB in any 1 dB increment	+/- 0.4 dB DC-500 MHz +/- 0.8 dB 500-1000 MHz +/- 1.0 dB 1000-2000 MHz	1.1:1 DC-500 MHz 1.3:1 500-2000 MHz	BNC, N, SMA, 7/16, TNC or rev. pol.TNC
50FP-XXX-H3	DC-3000 MHz	1 thru 30 dB in any 1 dB increment	+/- 0.3 dB or 2%	1.3:1	BNC, N, SMA, 7/16, TNC
50FP-XXX-H4	DC-4000 MHz	1 thru 30 dB in any 1 dB increment	+/- 0.3 dB or 2% DC-2000 MHz +/- 0.4 dB or 2% 2000-4000 MHz	1.15:1 DC-2000 MHz 1.25:1 2000-4000 MHz	BNC, N, TNC or SMA
50FP-XXX-H6	DC-6000 MHz	1 thru 20 dB in any 1 dB increment	+/- 0.3 dB DC-3000 MHz +/- 0.4 dB 3000-4000 MHz +/- 0.5 dB 4000-6000 MHz	1.15:1 DC-3000 MHz 1.30:1 3000-4000 MHz 1.35:1 4000-6000 MHz	N or SMA

* (XXX) insert attenuation value

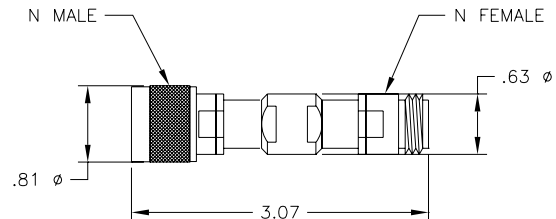
Common Specifications

Impedance	Input Power (average)	Peak Power	Operating Temperature
50 Ohms	2 Watts @ +25° C (derate to 1 Watt @ +85° C)	1000 Watts	-55° C to +100° C

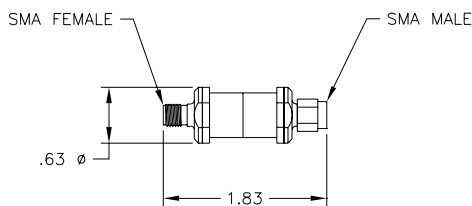
50FP-XXX-XX N (1-30 dB)



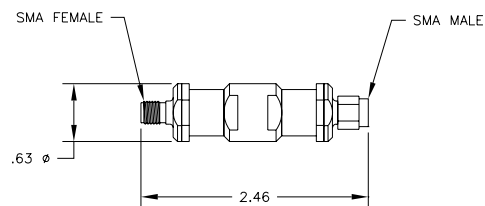
50FP-XXX-H2 N (31-65 dB)



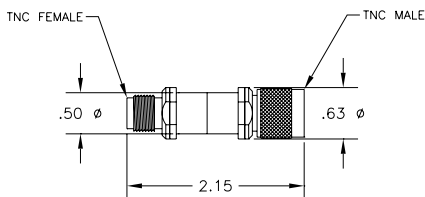
50FP-XXX-XX SMA (1-30 dB)



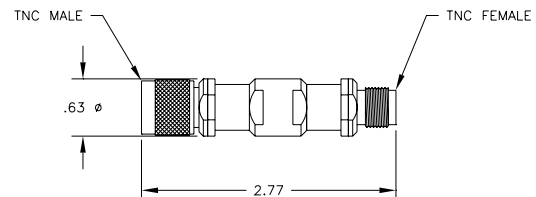
50FP-XXX-H2 SMA (31-65 dB)



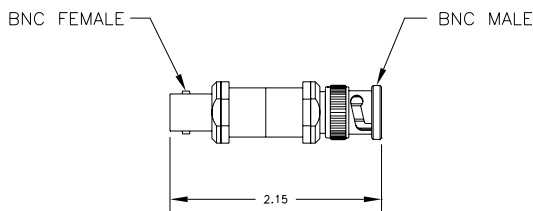
50FP-XXX-XX TNC (1-30 dB)



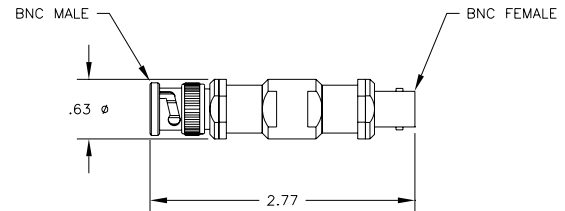
50FP-XXX-H2 TNC (31-65 dB)



50FP-XXX-XX BNC (1-30 dB)



50FP-XXX-H2 BNC (31-65 dB)



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5 Watt Fixed Attenuators FPE Series

LOW COST!

Model	Frequency Range	Attenuation Values *	Attenuation Accuracy	VSWR (maximum)	RF Connectors
50FPE-XXX	DC-6000 MHz	1 thru 40 dB in any 1 dB increment	+/- 0.30 dB DC-3000 MHz +/- 0.40 dB 3000-4000 MHz +/- 0.50 dB 4000-6000 MHz	1.1:1 DC-1000 MHz 1.2:1 1000-3000 MHz 1.3:1 3000-5000 MHz 1.35:1 5000-6000 MHz	N, TNC, SMA or reverse polarity TNC
50FPE-XXX	DC-4000 MHz	41 thru 60 dB in any 1 dB increment	+/- 0.75 dB	1.25:1	N, TNC, SMA or reverse polarity TNC
50FPE-XXX	DC-4000 MHz	1 thru 40 dB in any 1 dB increment	+/- 0.30 dB DC-3000 MHz +/- 0.40 dB 3000-4000 MHz	1.1:1 DC-1000 MHz 1.2:1 1000-3000 MHz 1.3:1 3000-4000 MHz	BNC

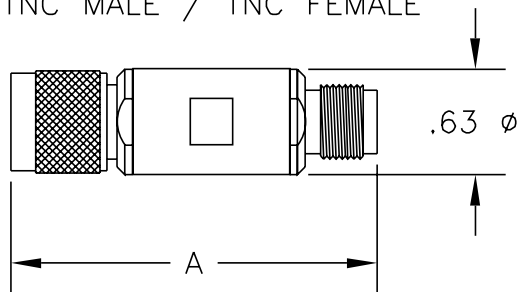
* (XXX) insert attenuation value

Common Specifications

Impedance	Input Power (average)	Peak Power	Operating Temperature
50 Ohms	5 Watts @ +25° C (derate to 1 Watt @ +85° C)	1000 Watts	-55° C to +100° C

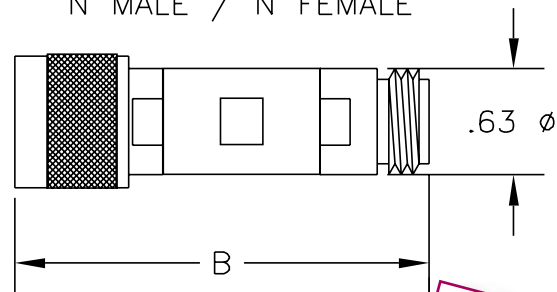
50FPE-XXX TNC

TNC MALE / TNC FEMALE



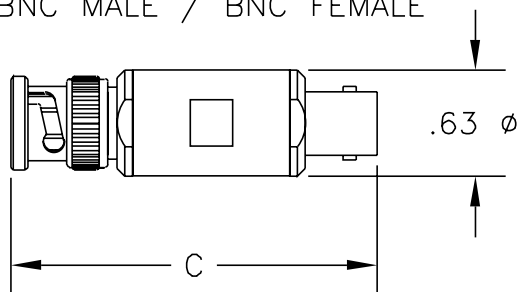
50FPE-XXX N

N MALE / N FEMALE



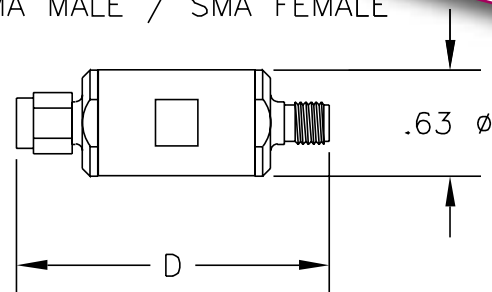
50FPE-XXX BNC

BNC MALE / BNC FEMALE



50FPE-XXX SMA

SMA MALE / SMA FEMALE



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ATTENUATION	DIM: A	DIM: B	DIM: C	DIM: D
0-20 dB	2.16	2.45	2.16	1.85
21-60 dB	2.57	2.86	2.57	2.26

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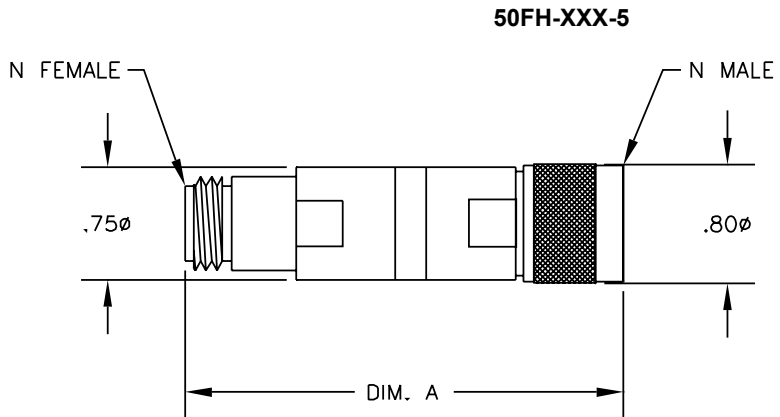
High Peak Power

5 & 10 Watt Fixed Attenuators FH Series

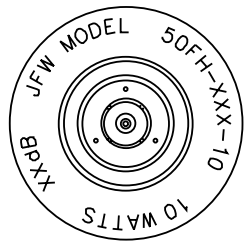
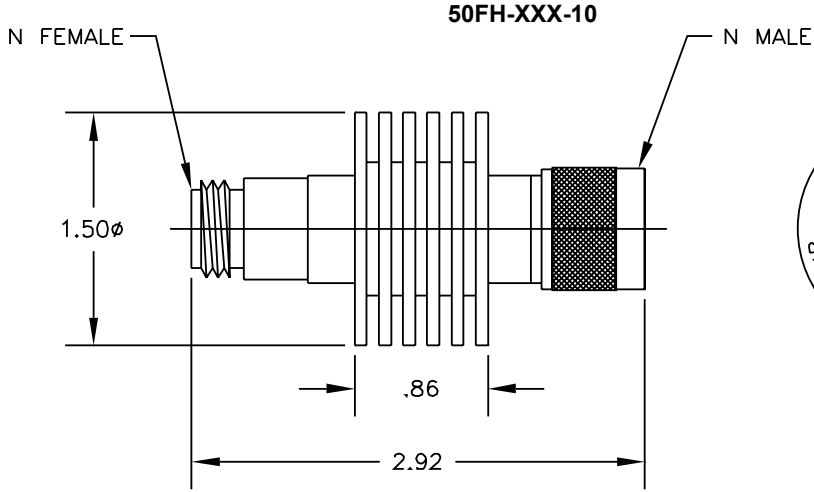
Model	Frequency Range	Attenuation Values *	Attenuation Accuracy	VSWR (maximum)	RF Connectors
50FH-XXX-5	DC-2000 MHz	1 thru 20 dB in any 1 dB increment	+/- 0.2 dB DC-500 MHz +/- 0.5 dB 500-1000 MHz +/- 0.8 dB 1000-2000 MHz	1.1:1 DC-500 MHz 1.2:1 500-1000 MHz 1.5:1 1000-2000 MHz	BNC, N, TNC, 7/16 or SMA
50FH-XXX-5	DC-1000 MHz	21 thru 60 dB in any 1 dB increment	+/- 0.5 dB or 2% DC-500 MHz +/- 4% 500-1000 MHz	1.2:1	BNC, N, TNC, 7/16 or SMA
50FH-XXX-10	DC-2000 MHz	1 thru 20 dB in any 1 dB increment	+/- 0.2 dB DC-500 MHz +/- 0.5 dB 500-1000 MHz +/- 0.8 dB 1000-2000 MHz	1.1:1 DC-500 MHz 1.2:1 500-1000 MHz 1.5:1 1000-2000 MHz	BNC, N, TNC, 7/16 or SMA

* (XXX) insert attenuation value

Model	Impedance	Input Power (average)	Peak Power	Operating Temperature
50FH-XXX-5	50 Ohms	5 Watts	2000 Watts	-55° C to +100° C
50FH-XXX-10	50 Ohms	10 Watts	2000 Watts	-55° C to +100° C



dB VALUE	DIM. A
0-30 dB	2.92
31-60 dB	4.04



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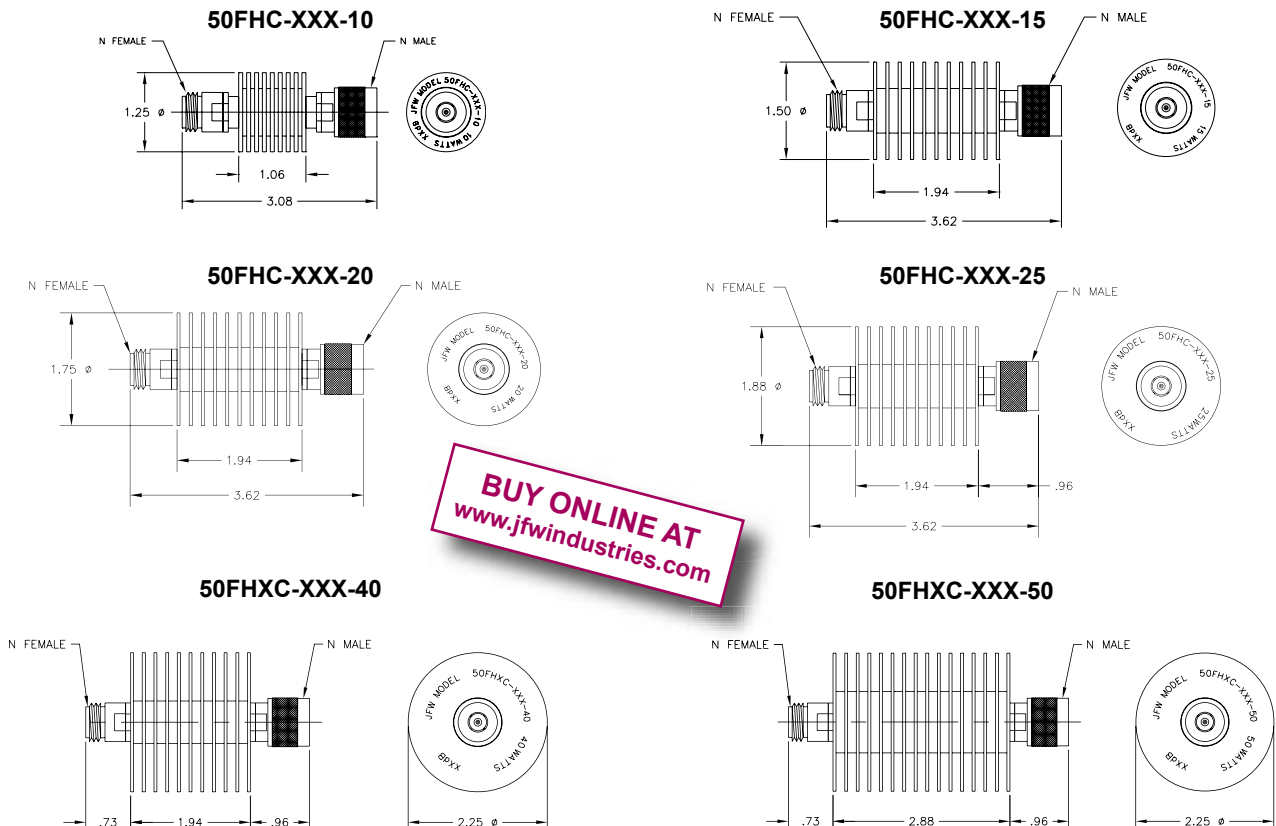
Medium Power Fixed Attenuators FHC Series

Model	Input Power (average)	Input Power Derating (average)	Impedance	RF Connectors
50FHC-XXX-10	10 Watts @ +25° C	5.0 Watts @ +70° C	50 Ohms	N, BNC, SMA, TNC or reverse polarity TNC
50FHC-XXX-15	15 Watts @ +25° C	7.5 Watts @ +70° C	50 Ohms	N, BNC, SMA, TNC, 7/16 or reverse polarity TNC
50FHC-XXX-20	20 Watts @ +25° C	10.0 Watts @ +70° C	50 Ohms	N, BNC, SMA, TNC, 7/16 or reverse polarity TNC
50FHC-XXX-25	25 Watts @ +25° C	12.5 Watts @ +70° C	50 Ohms	N, BNC, SMA, TNC, 7/16 or reverse polarity TNC
50FHXC-XXX-40	40 Watts @ +25° C	20.0 Watts @ +70° C	50 Ohms	N, BNC, SMA, TNC, 7/16 or reverse polarity TNC
50FHXC-XXX-50	50 Watts @ +25° C	25.0 Watts @ +70° C	50 Ohms	N, BNC, SMA, TNC, 7/16 or reverse polarity TNC

* (XXX) insert attenuation value

Common Specifications

Attenuation Values*	Frequency Range	Attenuation Accuracy	VSWR (maximum)	Peak Power	Operating Temperature
1 thru 30 dB in any 1 dB increment	DC-4000 MHz	DC-1000 MHz +/- 0.25 dB 1-20 dB +/- 0.5 dB 21-30 dB 1000-4000 MHz +/- 0.5 dB 1-20 dB +/- 0.75 dB 21-30 dB	1.15:1 DC-1000 MHz 1.35:1 1000-4000 MHz	1000 Watts	-55° C to +100° C
31 thru 60 dB in any 1 dB increment	DC-3000 MHz	+/- 2% DC-2000 MHz +/- 3% 2000-3000 MHz	1.15:1 DC-1000 MHz 1.35:1 1000-3000 MHz	1000 Watts	-55° C to +100° C



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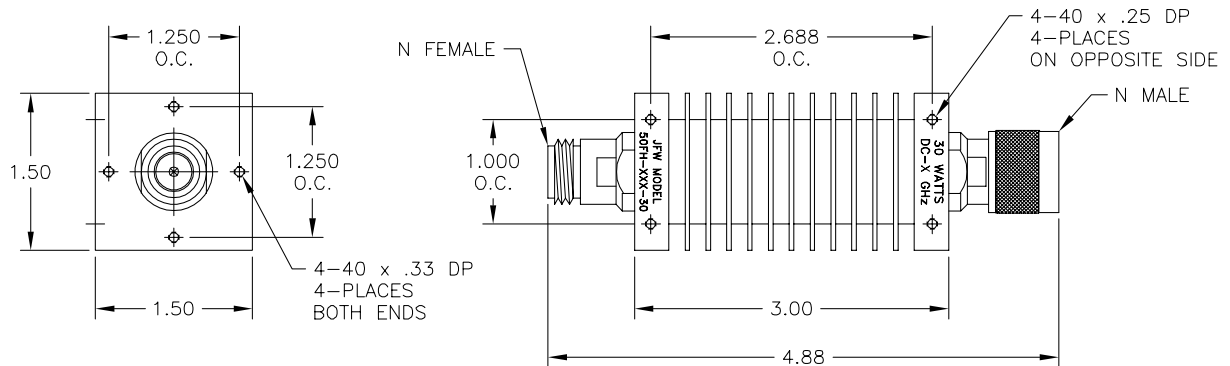
30 & 50 Watt Fixed Attenuators FH Series

Model	Frequency Range	Attenuation Values *	Attenuation Accuracy	VSWR (maximum)	RF Connectors
50FH-XXX-30	DC-2000 MHz	1 thru 50 dB in any 1 dB increment	+/- 0.5 dB	1.3:1 DC-1000 MHz 1.4:1 1000-2000 MHz	BNC, N, TNC, 7/16 or SMA
50FH-XXX-30-3	DC-3000 MHz	1 thru 50 dB in any 1 dB increment	+/- 0.5 dB	1.4:1	BNC, N, TNC, 7/16 or SMA
50FH-XXX-50	DC-2000 MHz	1 thru 50 dB in any 1 dB increment	+/- 0.5 dB	1.3:1 DC-1000 MHz 1.4:1 1000-2000 MHz	BNC, N, TNC, 7/16 or SMA
50FH-XXX-50-3	DC-3000 MHz	1 thru 50 dB in any 1 dB increment	+/- 0.5 dB	1.4:1	BNC, N, TNC, 7/16 or SMA

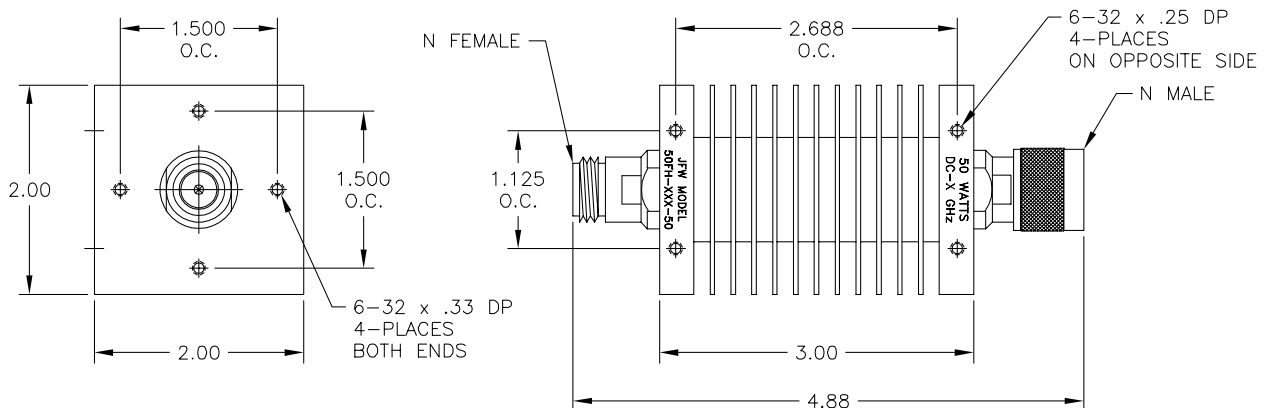
* (XXX) insert attenuation value

Model	Impedance	Input Power (average)	Peak Power	Operating Temperature
50FH-XXX-30 and -30-3	50 Ohms	30 Watts @ +25° C	1000 Watts	-55° C to +100° C
50FH-XXX-50 and -50-3	50 Ohms	50 Watts @ +25° C	1000 Watts	-55° C to +100° C

50FH-XXX-30



50FH-XXX-50



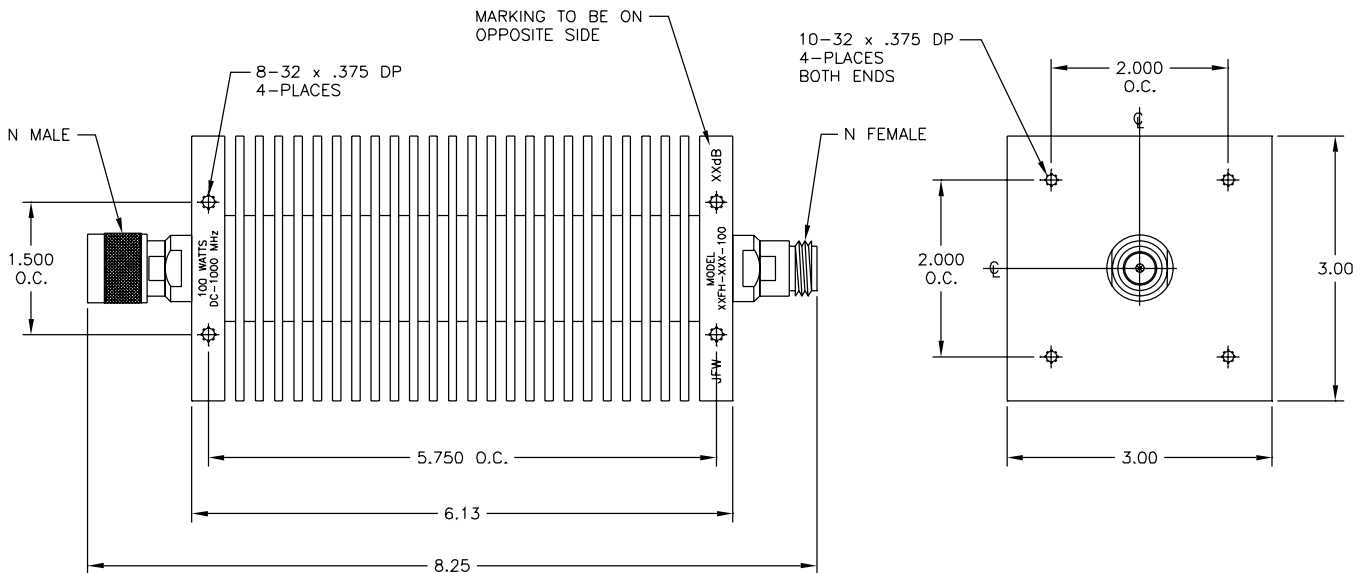
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100 Watt Fixed Attenuators FH Series

Model	Frequency Range	Attenuation Values *	Attenuation Accuracy	VSWR (maximum)	RF Connectors
50FH-XXX-100	DC-1000 MHz	1 thru 50 dB in any 1 dB increment	+/- 0.3 dB	1.2:1	SMA, BNC, N, TNC or 7/16
50FH-XXX-100-2	DC-2000 MHz	1 thru 50 dB in any 1 dB increment	+/- 0.5 dB	1.3:1 DC-1000 MHz 1.4:1 1000-2000 MHz	SMA, BNC, N, TNC or 7/16
50FH-XXX-100-3	DC-3000 MHz	1 thru 50 dB in any 1 dB increment	+/- 0.5 dB	1.4:1	SMA, BNC, N, TNC or 7/16

* (XXX) insert attenuation value

Common Specifications			
Impedance	Input Power (average)	Peak Power	Operating Temperature
50 Ohms	100 Watts @ +25° C (derate to 50 Watts @ +85° C)	1000 Watts	-55° C to +100° C



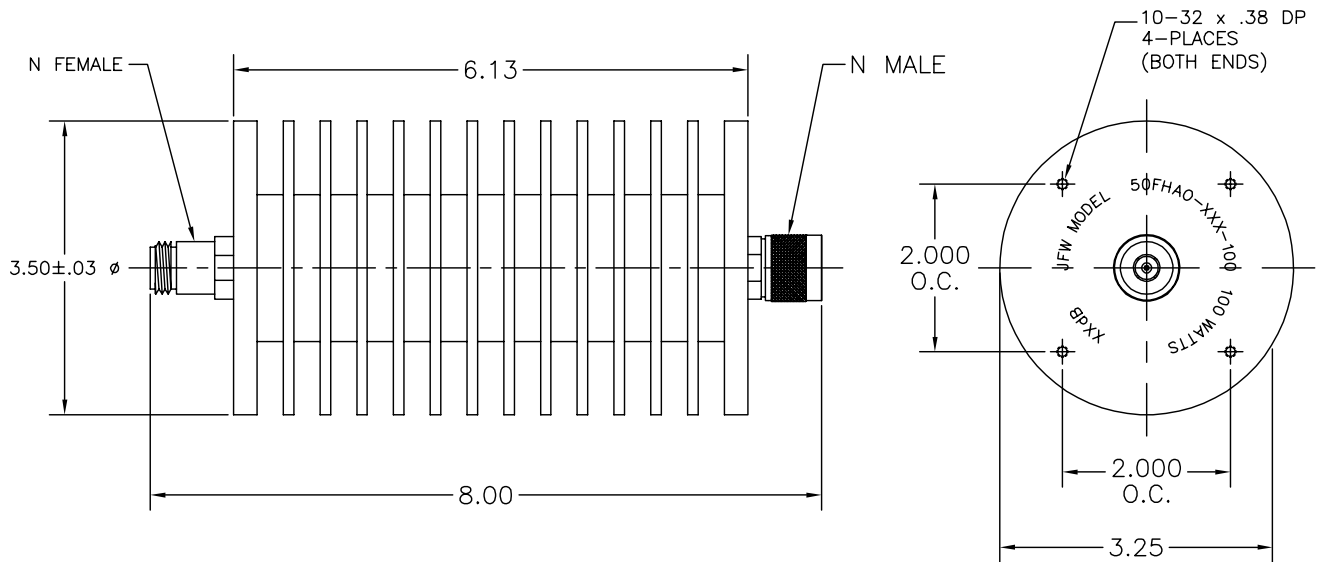
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100 Watt Fixed Attenuator FHAO Series

Model	Frequency Range	Attenuation Values *	Attenuation Accuracy	VSWR (maximum)	RF Connector
50FHAO-XXX-100	DC-3000 MHz	1 dB or 2 dB	+/- 0.5 dB	1.4:1	N or 7/16
50FHAO-XXX-100	DC-3000 MHz	3 thru 5 dB in any 1 dB increment	+/- 0.3 dB DC-2000 MHz +/- 0.5 dB 2000-3000 MHz	1.3:1 DC-2000 MHz 1.4:1 2000-3000 MHz	N or 7/16
50FHAO-XXX-100	DC-3000 MHz	6 thru 50 dB in any 1 dB increment	+/- 0.3 dB DC-2000 MHz +/- 0.5 dB 2000-3000 MHz	1.2:1 DC-2000 MHz 1.3:1 2000-3000 MHz	N or 7/16

* (XXX) insert attenuation value

Impedance	RF Input Power (average)	Peak Power	Operating Temperature
50 Ohms	100 Watts @ +25° C (derate to 50 Watts @ +85° C)	1000 Watts	-55° C to +100° C



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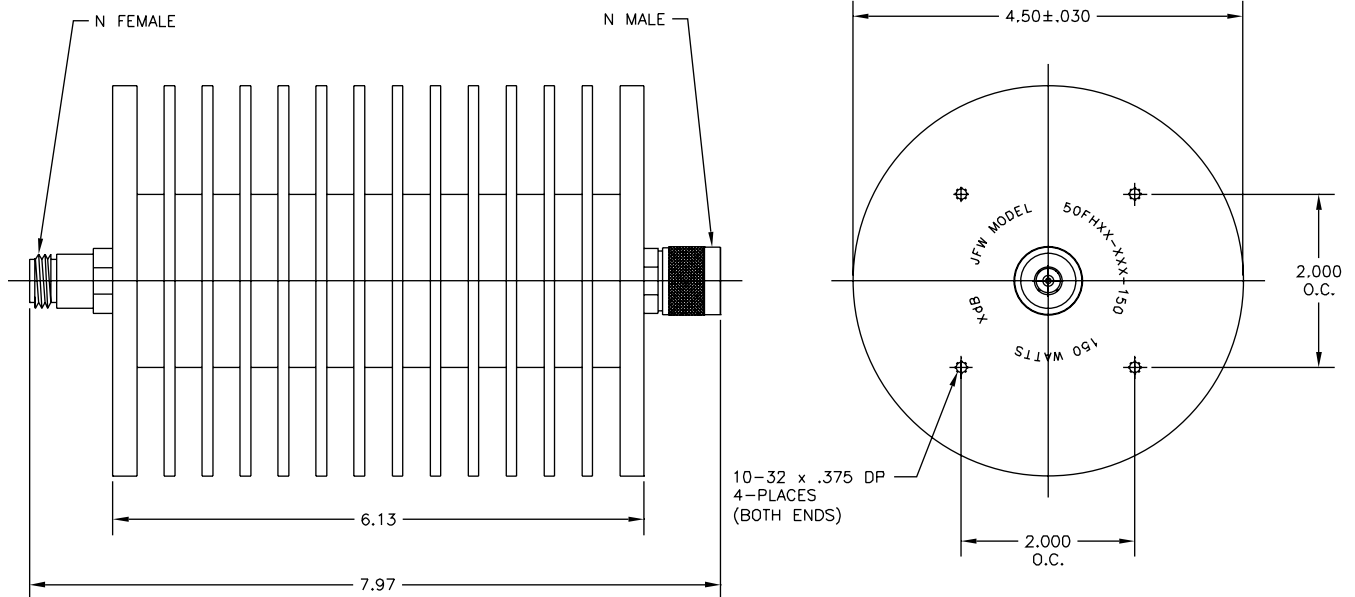
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150 Watt Fixed Attenuator FHAO Series

Model	Frequency Range	Attenuation Values *	Attenuation Accuracy	VSWR (maximum)	RF Connector
50FHAO-XXX-150	DC-3000 MHz	1 dB or 2 dB	+/- 0.5 dB	1.4:1	N or 7/16
50FHAO-XXX-150	DC-3000 MHz	3 thru 5 dB in any 1 dB increment	+/- 0.3 dB DC-2000 MHz +/- 0.5 dB 2000-3000 MHz	1.3:1 DC-2000 MHz 1.4:1 2000-3000 MHz	N or 7/16
50FHAO-XXX-150	DC-3000 MHz	6 thru 50 dB in any 1 dB increment	+/- 0.3 dB DC-2000 MHz +/- 0.5 dB 2000-3000 MHz	1.2:1 DC-2000 MHz 1.3:1 2000-3000 MHz	N or 7/16

* (XXX) insert attenuation value

Impedance	RF Input Power (average)	Peak Power	Operating Temperature
50 Ohms	150 Watts @ +25° C (derate to 75 Watts @ +85° C)	1000 Watts	-55° C to +100° C



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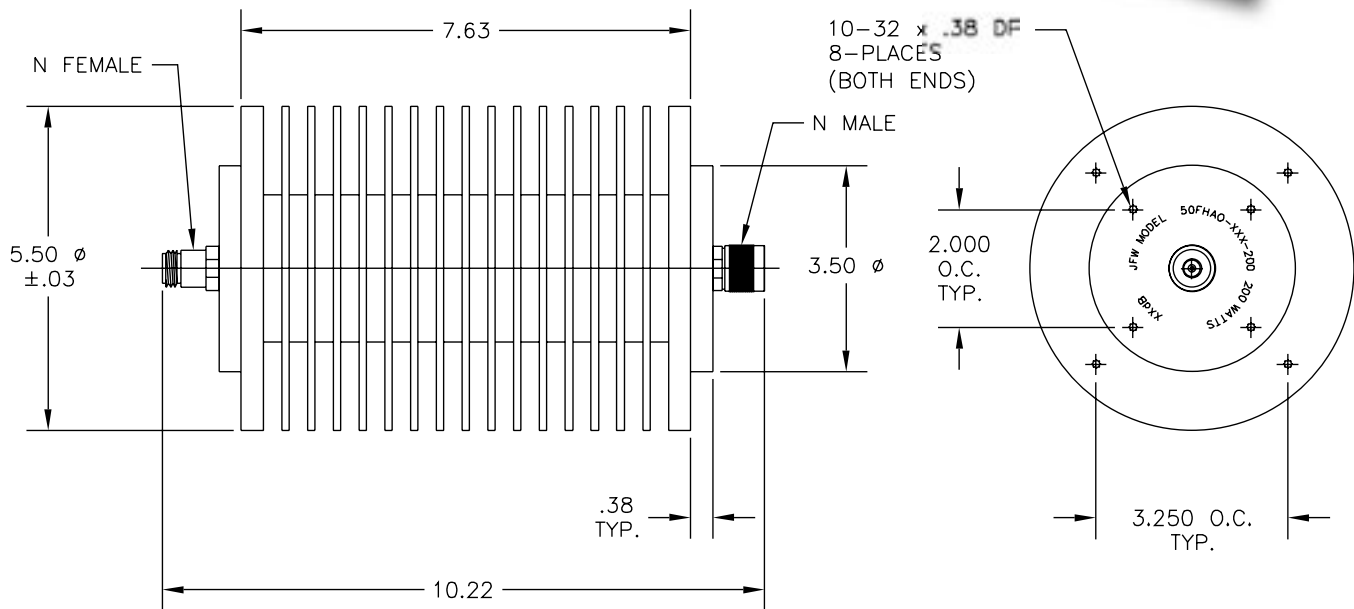
200 Watt Fixed Attenuator FHAO Series

Model	Frequency Range	Attenuation Values *	Attenuation Accuracy	VSWR (maximum)	RF Connector
50FHAO-XXX-200	DC-3000 MHz	1 dB or 2 dB	+/- 0.5 dB	1.4:1	N or 7/16
50FHAO-XXX-200	DC-3000 MHz	3 thru 5 dB in any 1 dB increment	+/- 0.3 dB DC-2000 MHz +/- 0.5 dB 2000-3000 MHz	1.3:1 DC-2000 MHz 1.4:1 2000-3000 MHz	N or 7/16
50FHAO-XXX-200	DC-3000 MHz	6 thru 50 dB in any 1 dB increment	+/- 0.3 dB DC-2000 MHz +/- 0.5 dB 2000-3000 MHz	1.2:1 DC-2000 MHz 1.3:1 2000-3000 MHz	N or 7/16

* (XXX) insert attenuation value

Impedance	Input Power (average)	Peak Power	Operating Temperature
50 Ohms	200 Watts @ +25° C (derate to 100 Watts @ +85° C)	1000 Watts	-55° C to +100° C

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300 Watt Fixed Attenuators FH Series

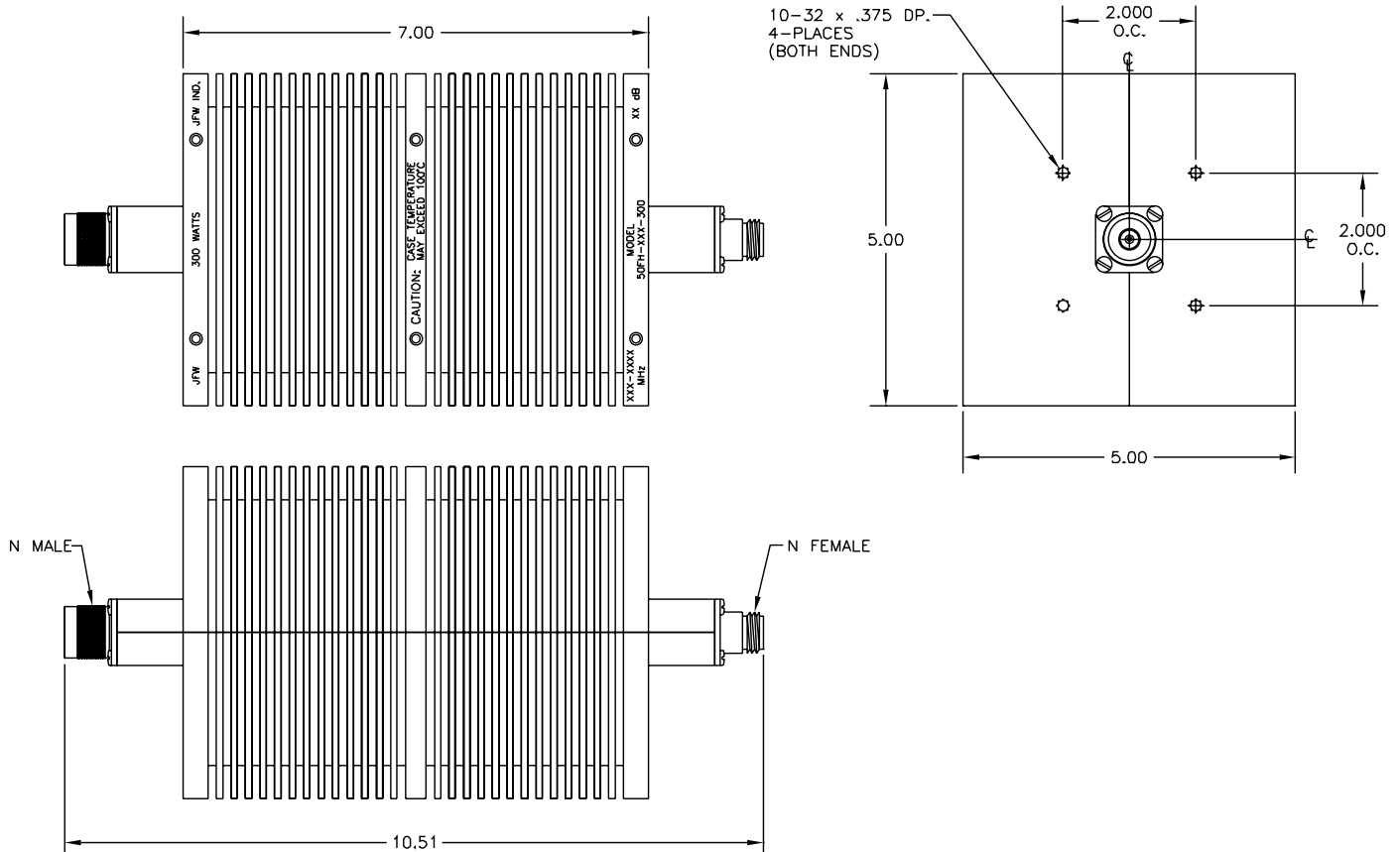
High Peak Power

Model	Frequency Range	Attenuation Values *	Attenuation Accuracy	VSWR (maximum)	RF Connectors
50FH-XXX-300	DC-1000 MHz	1 thru 30 dB in any 1 dB increment	+/- 0.5 dB or 2%	1.3:1	BNC, N, TNC or 7/16
50FH-XXX-300	DC-1000 MHz	31 thru 50 dB in any 1 dB increment	+/- 0.2 dB or 1% DC-250 MHz +/- 0.3 dB or 2% 250-500 MHz +/- 0.5 dB or 3% 500-1000 MHz	1.1:1 DC-250 MHz 1.15:1 250-500 MHz 1.25:1 500-1000 MHz	BNC, N, TNC or 7/16
50FH-XXX-300-2	DC-2000 MHz	3 thru 40 dB in any 1 dB increment	+/- 0.5 dB or 3%	1.4:1	N, TNC or 7/16

* (XXX) insert attenuation value

Common Specifications

Impedance	Input Power (average)	Peak Power	Operating Temperature
50 Ohms	300 Watts @ +25° C (derate to 75 Watts @ +85° C)	2000 Watts	-55° C to +100° C

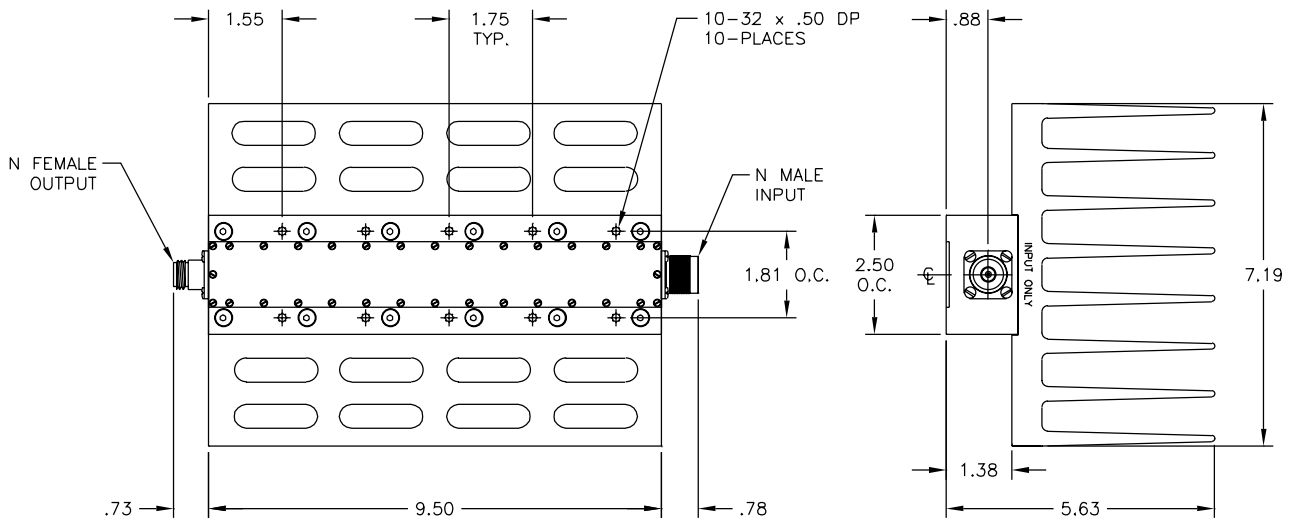


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500 Watt Fixed Attenuators FHDQ Series

Model	Frequency Range	Attenuation Values *	Attenuation Accuracy	VSWR (maximum)	RF Connectors
50FHDQ-XXX-500	DC-1000 MHz	3 thru 40 dB in any 1 dB increment	+/- 0.5 dB	1.2:1	N, TNC or 7/16
50FHDQ-XXX-500-3	DC-3000 MHz	10, 20, 25, 30 or 40 dB	10 dB +/- 0.5 dB 20 dB +/- 0.6 dB 25 dB +/- 0.7 dB 30 dB +/- 0.8 dB 40 dB +/- 0.8 dB	1.2:1 DC-1000 MHz 1.25:1 1000-1500 MHz 1.35:1 1500-3000 MHz	N, TNC or 7/16
* (XXX) insert attenuation value (other attenuation values available upon request)					

Common Specifications				
Impedance	Input Power (average) (uni-directional)	Reverse Power (average)	Peak Power	Operating Temperature
50 Ohms	500 Watts @ +25° C (derate to 50 Watts @ +100° C)	125 Watts @ +25° C	2500 Watts	-55° C to +100° C



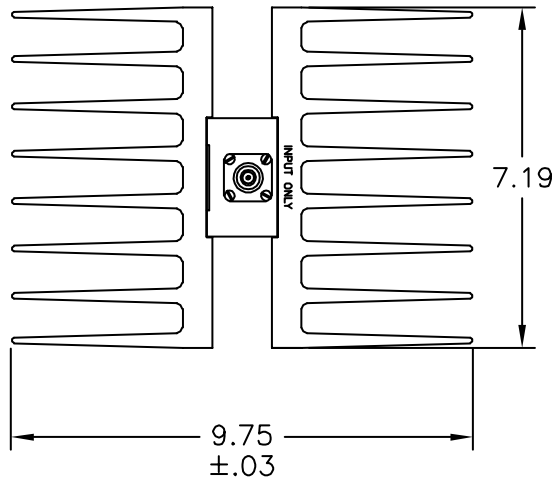
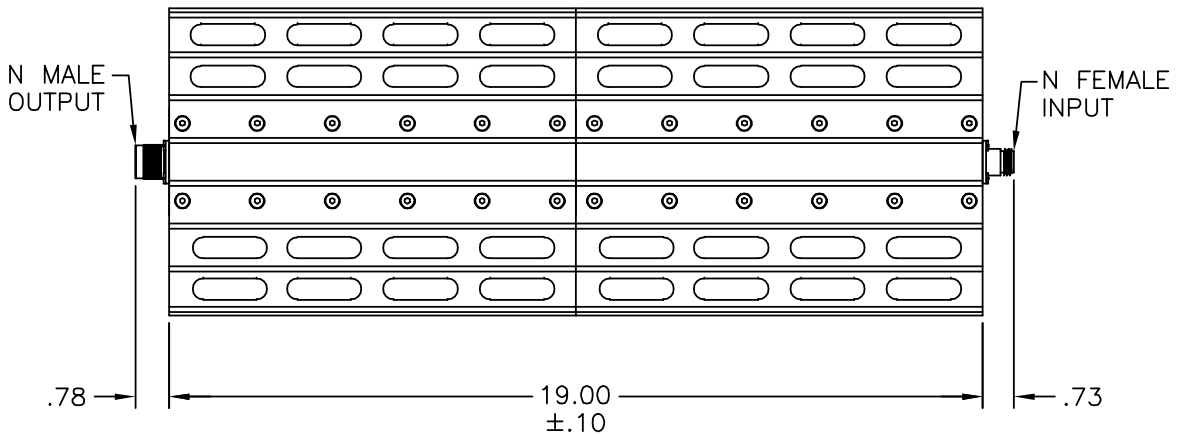
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1000 Watt Fixed Attenuators

Model	Frequency Range	Attenuation Values *	Attenuation Accuracy	VSWR (maximum)	RF Connectors
50FHIE-XXX-1000	DC-3000 MHz	20, 30 and 40 dB	+/- 1.5 dB	1.4:1	N or 7/16
50FHIQ-XXX-1000	DC-1000 MHz	10, 20 and 30 dB	+/- 1.0 dB	1.3:1	N or 7/16

* (XXX) insert attenuation value
(other attenuation values available upon request)

Common Specifications				
Impedance	Input Power (average) (uni-directional)	Reverse Power (average)	Peak Power	Operating Temperature
50 Ohms	1000 Watts average @ +25° C Derated linearly to 100 Watts @ +100° C	125 Watts @ +25° C	4000 Watts	-55° C to +100° C



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