



Data Sheet AFF150-XX Rev A

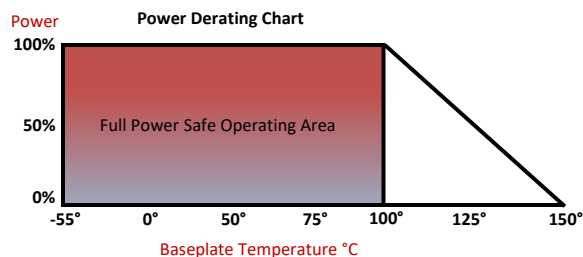
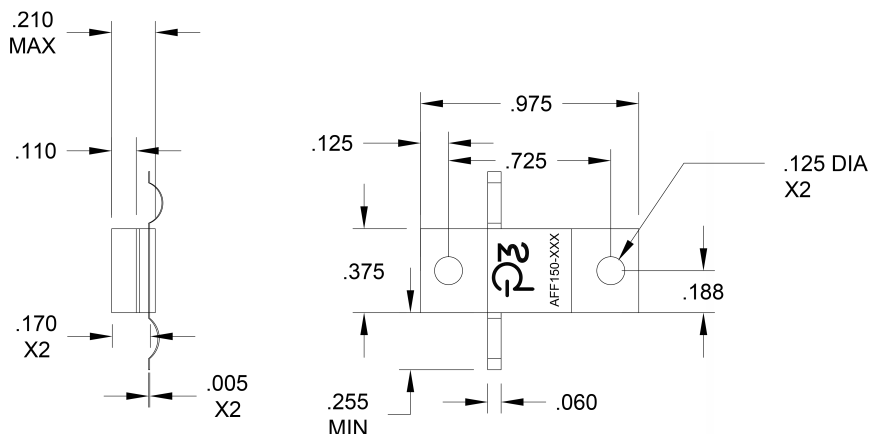
DC - 3.0 GHz.
Model AFF150-XX

XX= Attenuation Values 0 - 30 dB

Example: **AFF150-1 (1dB)**
AFF150-2R5 (2.5dB)
AFF150-12 (12dB)

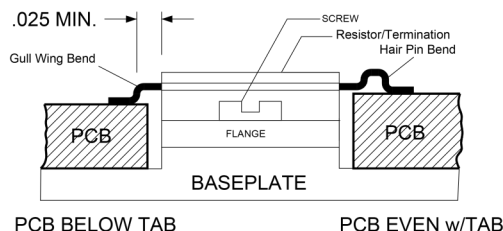


HYBR-FILM Full Flange Attenuators are the high performance RF & Microwave power film resistive products on the market today. Designed to be bolted down to a heat-sink or a plated-thru hole printed circuit board, offer the highest power and frequency stability than any other supplier. Power ratings up to 200 watts combined with versatile industry standard configurations allow for easy design-in solutions or replacing older outdated marginal devices that may have degraded or drifted over time. Applications include Medical, Broadcast, Industrial, Commercial Wireless, Military and Space. The **P3** library of designs allows for modifications of standard designs to be made quickly and inexpensively to meet specific requirements with short delivery times. Please contact the factory for any special requirements or frequency ranges.



Specifications subject to change without notice

SUGGESTED MOUNTING AND TAB STRESS RELIEF METHOD



SCREW SIZING CHART

THREAD SIZE	TORQUE SETTING
2-56	4 inch-pounds
4-40	6 inch-pounds
6-32	8-inch-pounds
8-32	12-inch-pounds

ELECTRICAL SPECIFICATION

Frequency Range: DC - 3.0 GHz.
Impedance: 50 Ω
Attenuation: See Chart 2nd Page
Average Power: 150W (See Power vs Temp. Chart)
Peak Power: 400 W (700µs pulse, 20% duty cycle)
VSWR: See Chart 2nd Page
Operating Temp.: -55° C to +150° C

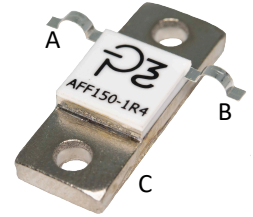
MECHANICAL SPECIFICATION

Flange Material: Copper, Nickel Plate Per QQN-290 99%
Substrate: Beryllium Oxide
Resistor Film: Hybrid Blended Thick Film
Cover Material: 96% Aluminum Oxide
Tab Material: 99.99% Silver, W=.060 x L=.150" x T= .005
Storage Temp: -55° C To +175° C



Standard Performance & Specification Chart

Custom Values Available Upon Request In 0.1 dB Increments



P3 Part Number	Attenuation (dB)	Frequency (GHz)	VSWR (Typ)	Resistance Ω (A-B)	Resistance Ω (A-C)	Resistance Ω (B-C)	Resistance Tolerance
AFF150-1	1 \pm 0.4	DC - 3.0	1.45:1	5.75	436.0	436.0	\pm 5%
AFF150-2	2 \pm 0.4	DC - 3.0	1.45:1	11.46	221.0	221.0	\pm 5%
AFF150-3	3 \pm 0.4	DC - 3.0	1.35:1	17.0	150.5	150.5	\pm 5%
AFF150-4	4 \pm 0.4	DC - 3.0	1.35:1	22.6	116.2	116.2	\pm 5%
AFF150-5	5 \pm 0.3	DC - 3.0	1.30:1	28.0	96.2	96.2	\pm 5%
AFF150-6	6 \pm 0.3	DC - 3.0	1.25:1	33.2	83.6	83.6	\pm 5%
AFF150-7	7 \pm 0.3	DC - 3.0	1.25:1	38.2	75.0	75.0	\pm 5%
AFF150-8	8 \pm 0.3	DC - 3.0	1.20:1	43.0	68.8	68.8	\pm 5%
AFF150-9	9 \pm 0.3	DC - 3.0	1.20:1	47.6	64.4	64.4	\pm 5%
AFF150-10	10 \pm 1.2	DC - 3.0	1.30:1	52.0	61.0	61.0	\pm 5%
AFF150-11	11 \pm 1.2	DC - 3.0	1.30:1	56.0	58.6	58.6	\pm 5%
AFF150-12	12 \pm 1.2	DC - 3.0	1.30:1	59.8	56.7	56.7	\pm 5%
AFF150-13	13 \pm 1.2	DC - 3.0	1.30:1	63.4	55.3	55.3	\pm 5%
AFF150-14	14 \pm 1.2	DC - 3.0	1.30:1	66.7	54.0	54.0	\pm 5%
AFF150-15	15 \pm 1.2	DC - 3.0	1.25:1	69.8	53.2	53.2	\pm 5%
AFF150-16	16 \pm 1.2	DC - 3.0	1.25:1	72.6	52.6	52.6	\pm 5%
AFF150-17	17 \pm 1.2	DC - 3.0	1.25:1	75.2	52.0	52.0	\pm 5%
AFF150-18	18 \pm 1.2	DC - 3.0	1.25:1	77.6	51.6	51.6	\pm 5%
AFF150-19	19 \pm 1.2	DC - 3.0	1.20:1	79.8	51.2	51.2	\pm 5%
AFF150-20	20 \pm 0.6	DC - 3.0	1.20:1	81.8	51.0	51.0	\pm 5%
AFF150-30	30 \pm 2.0	DC - 3.0	1.20:1	94.0	50.0	50.0	\pm 5%

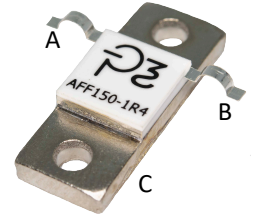
Specifications subject to change without notice

NOTES:

- 1). TEST DATA AND SPECIFICATIONS APPLY WHEN MOUNTED IN P3 TEST FIXTURE.
- 2). ALL TEST DATA IS TAKEN AT BASE-PLATED MAINTAINED @25°C USING A CALIBRATED NETWORK ANALYZER.
- 3). TEST FIXTURE DRAWING CAN BE PROVIDED UPON REQUEST.
- 4). A COMPLETE TEST FIXTURE MAY ALSO BE PURCHASED BY CONTACTING: sales@p3-rf.com



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RELIABILITY PERFORMANCE

<u>PARAMETER</u>	<u>TEST PERFORMED</u>	<u>FINDINGS</u>
Short Term Overload:	1.1x Rated Power For 5 Seconds	≤ 5.0% Resistance Variance
Load Life:	Apply 1/2 Power Under 40°C ±2°C 90 Minutes on/ 30 Minutes off. Repeat for 100 hours	≤ 5.0% Resistance Variance
Moisture Resistance:	MIL-PRF-55342 paragraph 4.8.9 95% RH, 25°C - 65°C	≤ 5.0% Resistance Variance
Terminal Strength:	MIL-STD-202 Method 211 Test Condition "A" 3lbs. Test Condition "B" 5 bends	No Significant Change
Solderability (Lead only):	MIL-STD-202 Method 208 Test C	>95% Covered
High Temperature Storage:	125°C ±2°C for 500 Hours	≤ 5.0% Resistance Shift No Significant Change
Thermal Shock:	-5°C to +150°C 30 Minutes Dwell, 5 Cycles	≤ 5.0% Resistance Shift No Significant Change

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