

AFT20012 6.0 TO 20.0 GHz 6 LEADED MICROWAVE AMPLIFIER

Typical Values	AFT20012
Low DC Power Consumption	0.5 Watt
Medium Gain	17.0 dB
6 Leaded Microwave Package	

SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency (Min.)	6.0 - 20.0 GHz	6.0 - 20.0 GHz	6.0 - 20.0 GHz
Small Signal Gain (Min.)	17.0 dB	14.0 dB	14.0 dB
Gain Flatness (Max.)	±0.8 dB	±1.5 dB	±1.5 dB
Noise Figure (Max.)	8.5 dB	10.8 dB	11.6 dB
SWR (Max.)	2.0:1	2.3:1	2.3:1
Power Output (Min.) @ 1dB comp.	+13.0 dBm	+10.8 dBm	+11.0 dBm
Reverse Isolation	45.0 dB	—	—
DC Current (Max.)	95 mA	100 mA	110 mA

* Measured in a 50-ohm system at +5 Vdc @ 95 mA unless otherwise specified.

INTERMODULATION PERFORMANCE

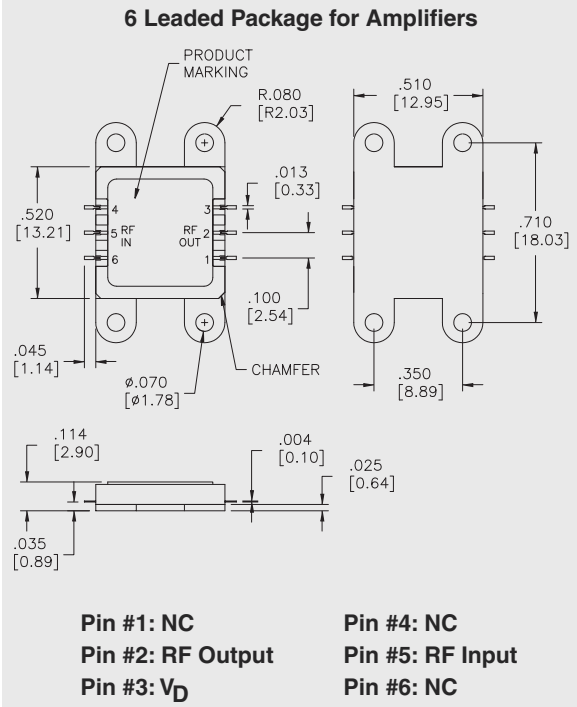
Typical @ 25 °C; 6000 MHz	AFT20012
Second Order Harmonic Intercept Point	+48 dBm
Second Order Two Tone Intercept Point	+42 dBm
Third Order Two Tone Intercept Point	+29 dBm

ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-65° to 165 °C
Maximum Case Temperature	+85 °C
Maximum DC Voltage	+7.5 Volts
Maximum Continuous RF Input Power	+20 dBm
Maximum Short Term Input Power (1 Minute Max.)	+20 dBm
Maximum Peak Power (3 μsec Max.)	+20 dBm
Thermal Resistance ¹ (θ _{jc})	+70 °C/Watt
Junction Temperature Rise Above Case (T _{jc})	+55 °C

¹ Thermal resistance is based on total power dissipation.

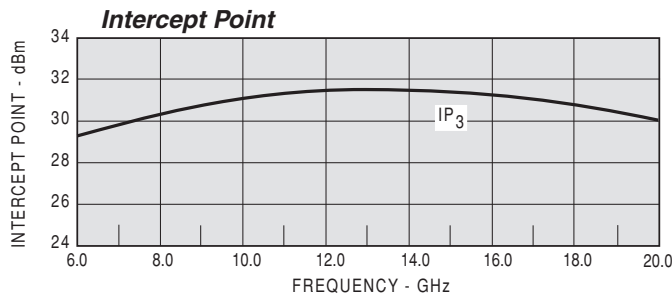
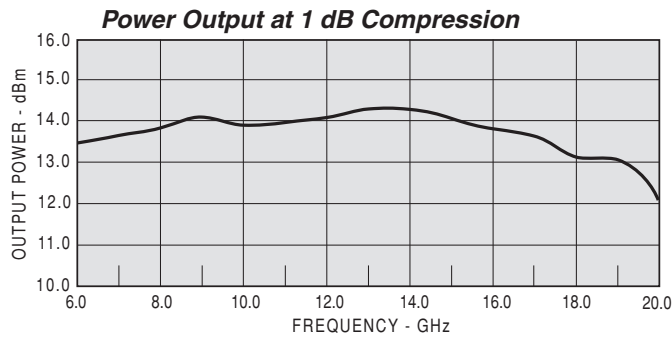
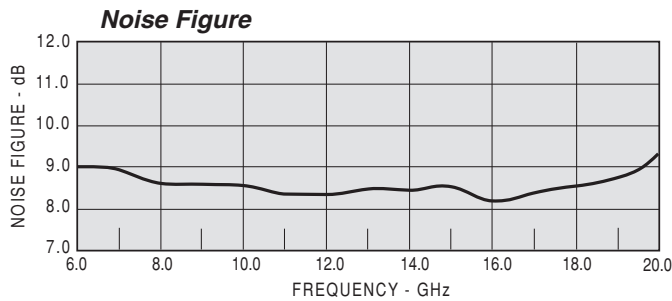
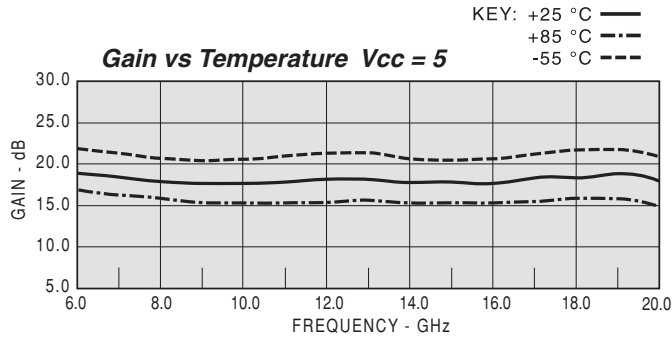
AFT20012



DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: AFT20012			Vcc=+5V			Icc=94.56	
FREQ	SWR	SWR	GAIN	PHASE	GROUP DELAY	REV/ISO	
MHZ	IN	OUT	DB	DEG	NSEC	DB	
6000	1.83	1.18	18.90	-103.28	0.391	-54.07	
6500	1.58	1.08	18.89	-173.74	0.384	-54.65	
7000	1.28	1.12	18.42	121.20	0.348	-55.21	
7500	1.09	1.23	18.02	60.31	0.326	-52.64	
8000	1.02	1.25	17.91	00.19	0.341	-50.87	
8500	1.08	1.28	17.75	-57.13	0.328	-50.43	
9000	1.10	1.29	17.57	-113.21	0.325	-50.98	
9500	1.07	1.30	17.56	-169.06	0.307	-50.33	
10000	1.04	1.32	17.65	135.51	0.311	-49.99	
10500	1.04	1.33	17.74	80.36	0.307	-50.62	
11000	1.03	1.33	17.82	25.13	0.307	-48.46	
11500	1.02	1.29	17.99	-30.00	0.314	-47.79	
12000	1.08	1.21	18.00	-85.50	0.308	-47.41	
12500	1.15	1.14	17.94	-141.20	0.311	-46.04	
13000	1.28	1.20	17.88	163.46	0.322	-45.87	
13500	1.42	1.31	17.68	109.66	0.283	-46.15	
14000	1.52	1.40	17.41	55.42	0.290	-45.82	
14500	1.62	1.50	17.45	02.25	0.299	-44.83	
15000	1.68	1.64	17.67	-51.43	0.302	-44.66	
15500	1.62	1.81	17.60	-106.23	0.305	-44.34	
16000	1.48	1.99	17.56	-160.07	0.295	-44.63	
16500	1.37	2.13	17.98	147.39	0.283	-43.70	
17000	1.31	2.14	18.39	88.48	0.294	-43.61	
17500	1.32	2.10	18.27	25.67	0.365	-44.05	
18000	1.31	1.92	18.22	-27.55	0.310	-43.49	
18500	1.28	1.64	19.00	-85.41	0.360	-43.29	
19000	1.49	1.42	18.69	-151.06	0.380	-43.76	
19500	1.62	1.45	18.21	146.98	0.297	-44.48	
20000	1.39	1.57	17.88	83.60	0.344	-44.89	