

AFT18092 6.0 TO 18.0 GHz 6 LEADED MICROWAVE AMPLIFIER

Typical Values	AFT18092
High Output Power	2 Watts
Medium Gain	23.0 dB
High Reverse Isolation	55 dB
6 Leaded Microwave Package	

SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +75 °C
Frequency (Min.)	6.0 - 18.0 GHz	6.0 - 18.0 GHz	6.0 - 18.0 GHz
Small Signal Gain (Min.)	23.0 dB	19.0 dB	19.0 dB
Gain Flatness (Max.)	±3.0 dB	±3.5 dB	±3.5 dB
Noise Figure (Max.)	12.0 dB	16.5 dB	17.5 dB
SWR (Max.) Input/Output:			
6000-7100 MHz	2.0:1 / 3.0:1	3.6:1	3.6:1
7100-8600 MHz	2.0:1 / 4.0:1	3.6:1 / 4.5:1	3.6:1 / 4.5:1
8600-17400 MHz	2.0:1 / 3.0:1	3.6:1	3.6:1
17400-18000 MHz	2.0:1 / 4.0:1	3.6:1 / 4.5:1	3.6:1 / 4.5:1
Power Output (Min.) @ 1dB comp.	+34.0 dBm	+32.0 dBm	+31.5 dBm
Reverse Isolation	55.0 dB	—	—
DC Current (Max.)	1200 mA	1400 mA	1400 mA

* Measured in a 50-ohm system at +8 Vdc @ 1200 mA unless otherwise specified.
Guaranteed only to +75°C.

INTERMODULATION PERFORMANCE

Typical @ 25 °C; 6000 MHz	AFT18092
Second Order Harmonic Intercept Point	+65 dBm
Second Order Two Tone Intercept Point	+59 dBm
Third Order Two Tone Intercept Point	+37 dBm

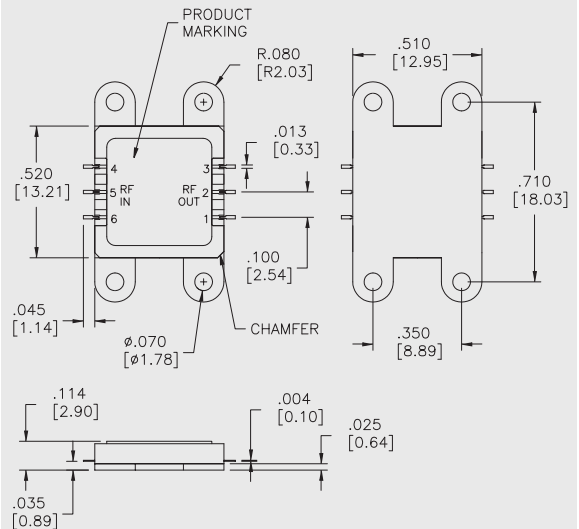
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-65° to +150 °C
Maximum Case Temperature	+75 °C
Maximum DC Voltage	+9.0 Volts
Maximum Continuous RF Input Power	+26 dBm
Maximum Short Term Input Power (1 Minute Max.)	+26 dBm
Maximum Peak Power (3 μsec Max.)	+26 dBm
Thermal Resistance ¹ (θjc)	+7.77 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+75 °C

¹ Thermal resistance is based on total power dissipation.

AFT18092

6 Leaded Package for Amplifiers



Pin #1: V_D Pin #4: V_G
Pin #2: RF Output Pin #5: RF Input
Pin #3: V_D Pin #6: NC

Biasing Instructions:

1. Make sure that no RF is being applied
2. Set drain voltage equal to zero volts
3. Turn gate voltage to -3.0 volts
4. Turn drain voltage to +8.0 volts
5. At this point, the drain current should be less than 100 mA
6. Adjust gate voltage up (closer to zero) until the current reaches 1200 mA
7. RF may now be applied

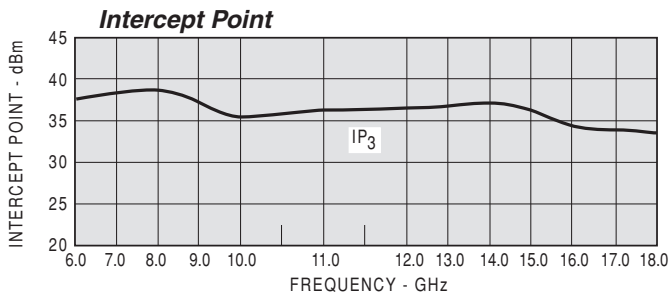
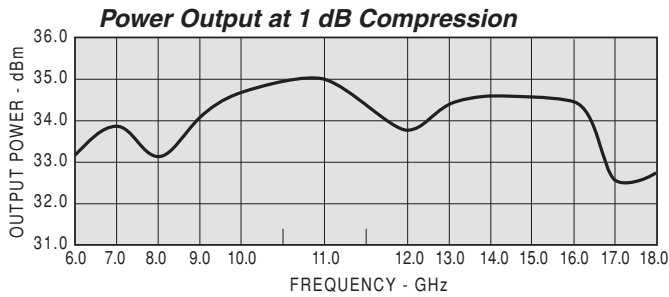
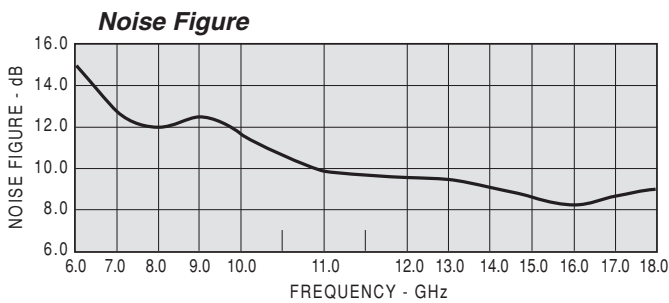
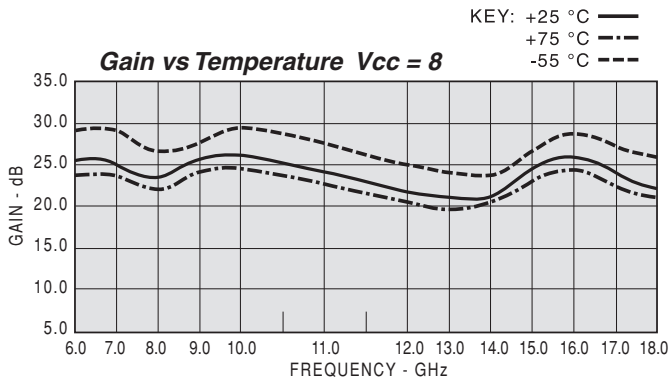
To de-Bias:

1. Remove RF
2. Turn drain voltage to zero volts
3. Turn gate voltage to zero volts

DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: AFT18092 $V_{cc}=+8V$

FREQ	SWR	SWR	GAIN	PHASE	GROUP DELAY	lcc=1200.0
MHZ	IN	OUT	DB	DEG	NSEC	REV/ISO
6000	1.60	1.66	25.69	-89.88	0.939	-63.91
6500	1.46	1.85	26.08	110.60	0.764	-57.55
7000	1.81	2.51	25.03	-12.18	0.595	-59.06
7500	1.91	3.31	24.31	-121.64	0.546	-63.40
8000	1.73	3.60	23.71	141.39	0.561	-63.84
8500	1.60	3.31	24.12	58.22	0.536	-61.25
9000	1.66	2.48	25.42	-24.50	0.487	-63.27
9500	1.91	1.70	26.57	-115.67	0.524	-72.12
10000	1.99	1.31	26.17	154.00	0.486	-60.17
10500	1.92	1.20	25.34	69.86	0.459	-57.00
11000	1.88	1.23	24.24	-9.72	0.429	-56.64
11500	1.95	1.34	23.14	-85.77	0.419	-53.58
12000	2.06	1.49	21.97	-157.22	0.387	-52.62
12500	2.20	1.66	21.51	136.53	0.366	-51.89
13000	2.28	1.80	21.31	66.60	0.440	-51.56
13500	2.18	1.97	20.80	0.78	0.339	-50.26
14000	1.91	2.29	21.30	-67.33	0.360	-48.98
14500	1.51	2.81	22.67	-136.08	0.403	-49.40
15000	1.06	3.36	24.59	145.65	0.461	-50.28
15500	1.43	3.24	25.45	62.31	0.478	-52.44
16000	1.86	2.31	26.00	-27.65	0.520	-56.75
16500	1.81	1.90	24.76	-118.60	0.474	-55.87
17000	1.52	2.05	24.16	156.21	0.466	-49.89
17500	1.17	2.37	23.83	60.11	0.584	-49.44
18000	1.28	2.86	22.28	-34.30	0.539	-50.81