

# AP1207

## 10 TO 1200 MHz SMTO-8 CASCADABLE AMPLIFIER

**Typical Values**

High Second Order I.P.	<b>AP1207</b> +65 dBm
High Third Order I.P.	+41 dBm
High Output Level	+25.5 dBm
Low Noise Figure	2.8 dB
High Performance Thin Film	
Standard Size SMTO-8 Package	

### SPECIFICATIONS\*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency (Min.)	10-1400 MHz	10-1200 MHz	10-1200 MHz
Small Signal Gain (Min.)	11.5 dB	10.5 dB	10.0 dB
Gain Flatness (Max.)	±0.2 dB	±0.5 dB	±0.7 dB
Noise Figure (Max.) 100-1200 MHz	2.8 dB	3.5 dB	4.0 dB
SWR (Max.) Input/Output	<1.5:1	1.8:1^	2.0:1^
Power Output (Min.) @ 1dB comp.	+25.5 dBm	+24.5 dBm	+24.0 dBm
Reverse Isolation	18.0 dB	—	—
DC Current (Max.)	188 mA	195 mA	203 mA

\* Measured in a 50-ohm system at +15 Vdc unless otherwise specified.  
^ 0.1:1 higher below 20 MHz.

### INTERMODULATION PERFORMANCE

Typical @ 25 °C; 300 MHz

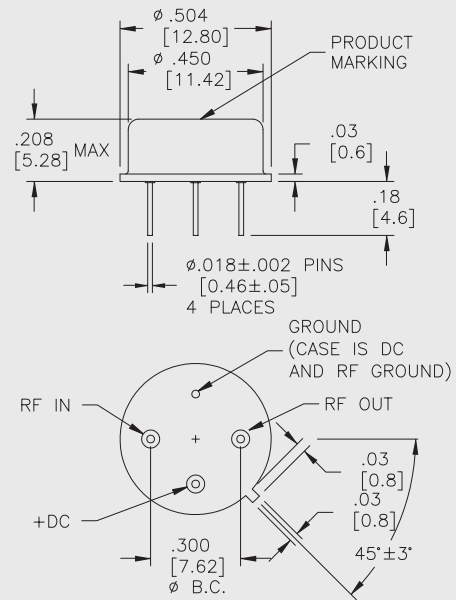
Second Order Harmonic Intercept Point	<b>AP1207</b> +71 dBm
Second Order Two Tone Intercept Point	+65 dBm
Third Order Two Tone Intercept Point	+41 dBm

### ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to 125 °C
Maximum Case Temperature	+125 °C
Maximum DC Voltage	+17 Volts
Maximum Continuous RF Input Power	+17 dBm
Maximum Short Term Input Power (1 Minute Max.)	+100 Milliwatts
Burn-in Temperature	+100 °C
Thermal Resistance (θjc)	+33.2 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+40 °C

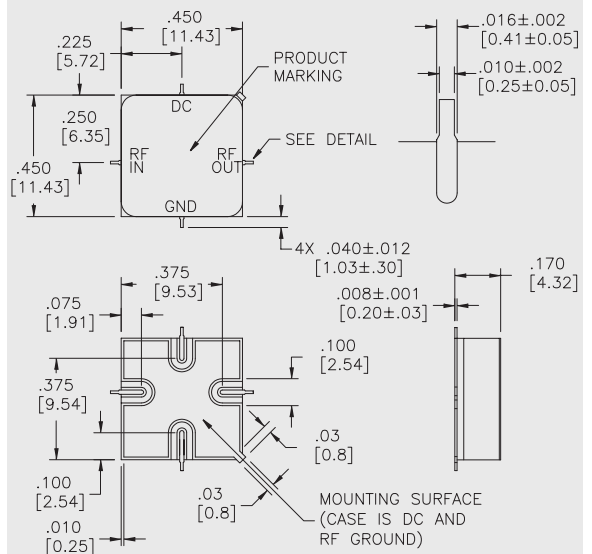
### AP1207

#### TO-8 Package for Amplifiers



### APS1207

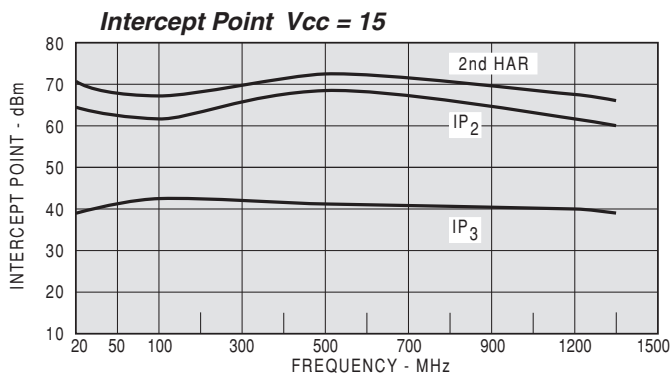
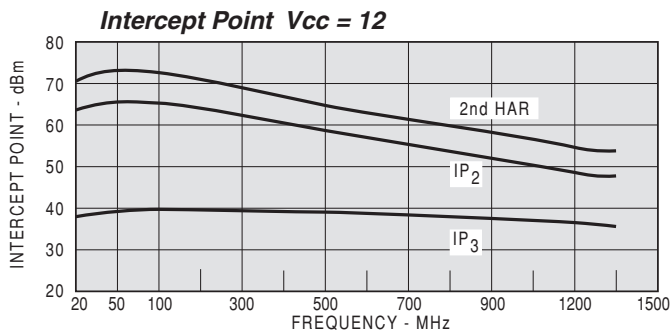
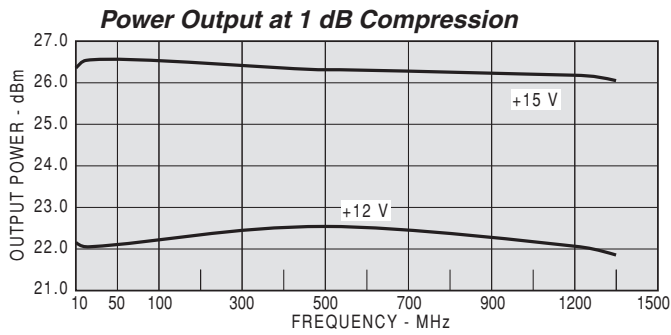
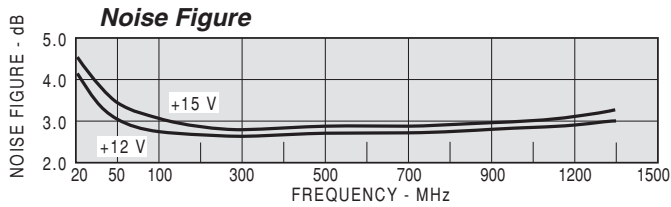
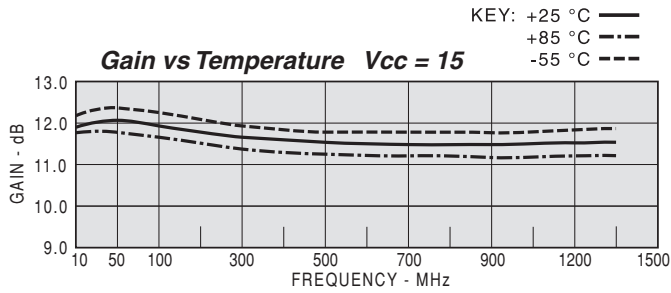
#### SMTO-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

**TYPICAL PERFORMANCE**

**TYPICAL AUTOMATIC TEST DATA**



Model: AP1207			Vcc=+15V			Icc=188.0	
FREQ	SWR	SWR	GAIN	PHASE	GROUP DELAY	REV/ISO	
MHZ	IN	OUT	DB	DEG	NSEC	DB	
10	1.56	1.64	11.95	-157	15.00	-18.1	
30	1.13	1.44	12.05	-176	2.70	-18.1	
50	1.06	1.44	12.01	179	0.72	-18.2	
100	1.02	1.42	11.92	170	0.46	-18.2	
200	1.05	1.37	11.67	160	0.29	-17.9	
300	1.05	1.40	11.67	149	0.30	-18.0	
400	1.07	1.41	11.61	138	0.29	-18.0	
500	1.10	1.40	11.51	129	0.27	-18.1	
600	1.11	1.40	11.51	118	0.29	-17.9	
700	1.12	1.38	11.50	108	0.28	-17.8	
800	1.13	1.36	11.49	98	0.28	-18.0	
900	1.15	1.33	11.46	88	0.28	-18.1	
1000	1.16	1.29	11.48	77	0.29	-18.1	
1100	1.17	1.23	11.45	67	0.29	-18.0	
1200	1.19	1.18	11.47	56	0.30	-18.3	
1300	1.18	1.13	11.47	45	0.30	-18.5	
1400	1.18	1.13	11.42	34	0.31	-18.6	

Model: AP1207			Vcc=+15V				Icc=188.0	
FREQ	S11		S21		S12		S22	
MHZ	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
10	0.22	-80.8	3.96	-156.7	0.124	23.4	0.24	162.9
30	0.06	-87.5	4.01	-176.2	0.124	5.9	0.18	168.0
50	0.03	-80.1	3.98	178.6	0.123	3.7	0.18	165.3
100	0.01	-6.2	3.95	170.4	0.123	-2.4	0.17	154.6
200	0.02	13.9	3.83	159.8	0.127	-8.6	0.16	139.9
300	0.03	30.6	3.83	148.9	0.126	-13.4	0.17	123.9
400	0.03	48.0	3.81	138.4	0.126	-17.5	0.17	107.3
500	0.05	45.3	3.76	128.6	0.124	-22.6	0.17	92.7
600	0.05	38.8	3.76	118.3	0.127	-26.8	0.17	81.7
700	0.06	34.6	3.76	108.1	0.128	-30.7	0.16	69.2
800	0.06	30.5	3.75	97.9	0.126	-36.9	0.15	56.2
900	0.07	24.0	3.74	87.7	0.125	-41.8	0.14	42.9
1000	0.07	17.5	3.75	77.3	0.125	-46.7	0.12	28.5
1100	0.08	7.9	3.74	66.8	0.126	-51.8	0.10	13.3
1200	0.08	-0.4	3.74	56.0	0.122	-57.1	0.08	-10.0
1300	0.08	-12.4	3.74	45.2	0.118	-61.5	0.06	-44.6
1400	0.08	-24.6	3.73	34.1	0.118	-66.5	0.06	-96.0

Model: AP1207			Vcc=+12V			Icc=187.0	
FREQ	SWR	SWR	GAIN	PHASE	GROUP DELAY	REV/ISO	
MHZ	IN	OUT	DB	DEG	NSEC	DB	
2	5.92	12.70	1.36	-72	56.00	-28.4	
5	2.45	2.50	10.93	-132	56.00	-19.6	
10	1.53	1.79	11.83	-158	14.00	-19.0	
30	1.13	1.65	11.93	-176	2.60	-19.0	
50	1.07	1.65	11.89	178	0.72	-18.8	
100	1.04	1.63	11.80	170	0.45	-18.8	
200	1.06	1.54	11.54	159	0.30	-18.6	
300	1.06	1.56	11.53	148	0.31	-18.6	
400	1.07	1.56	11.48	138	0.29	-18.6	
500	1.08	1.53	11.37	128	0.28	-18.6	
600	1.09	1.51	11.36	117	0.29	-18.3	
700	1.09	1.49	11.32	107	0.28	-18.1	
800	1.09	1.46	11.29	97	0.29	-18.1	
900	1.09	1.42	11.22	86	0.29	-18.1	
1000	1.10	1.38	11.19	76	0.29	-17.8	
1100	1.10	1.32	11.15	65	0.30	-17.8	
1200	1.10	1.27	11.11	55	0.29	-17.7	
1300	1.10	1.22	11.08	44	0.30	-17.6	
1400	1.09	1.20	11.01	32	0.31	-17.4	