

AC2566

200 TO 2500 MHz TO-8 CASCADABLE AMPLIFIER

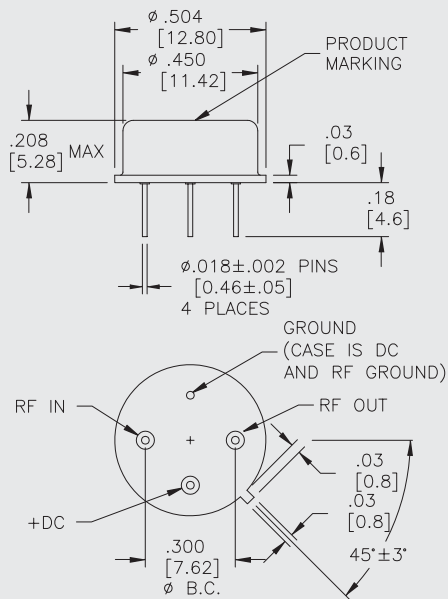
Typical Values

High Gain - Two Stages	18.5 dB
High Output Power	+19.5 dBm
High Third Order I.P.	+31 dBm
High Performance Thin Film	
Standard Size TO-8	

AC2566

AC2566

TO-8 Package for Amplifiers



SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency (Min.)	100-2600 MHz	200-2500 MHz	200-2500 MHz
Small Signal Gain (Min.)	18.5 dB	17.5† dB	17.0† dB
Gain Flatness (Max.)	±0.25 dB	±0.7 dB	±1.0 dB
Noise Figure (Max.)	4.7^ dB	5.2^ dB	5.7^ dB
SWR (Max.)	Input/Output < 1.5:1	2.0:1	2.0:1
Power Output (Min.) @ 1dB comp.			
200-2000 MHz	+19.5 dBm	+18.0 dBm	+17.5 dBm
2000-2500 MHz	+18.5 dBm	+17.5 dBm	+17.0 dBm
DC Current (Max.)	133.0 mA	140.0 mA	145.0 mA

* Measured in a 50-ohm system at +15 Vdc unless otherwise specified.
^ 1.3 dB higher below 600 MHz. †1.0 dB lower at 200 MHz.

INTERMODULATION PERFORMANCE

Typical @ 25 °C

Second Order Harmonic Intercept Point	+55 dBm
Second Order Two Tone Intercept Point	+50 dBm
Third Order Two Tone Intercept Point	+31 dBm

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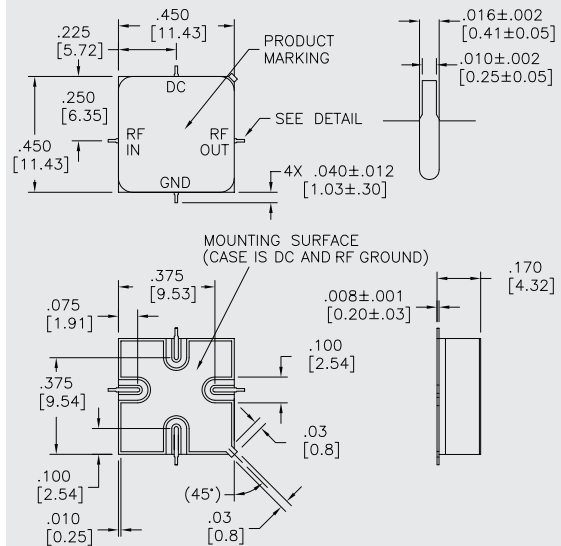
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to +125 °C
Maximum Case Temperature	+125 °C
Maximum DC Voltage	+18 Volts
Maximum Continuous RF Input Power	+13 dBm
Maximum Short Term Input Power (1 Minute Max.)	100 Milliwatts
Maximum Peak Power (3 μsec Max.)	0.5 Watt
Burn-in Temperature	+125 °C
Thermal Resistance ¹ (θjc)	+31 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+55.4 °C

¹Thermal resistance is based on total power dissipation.

AS2566

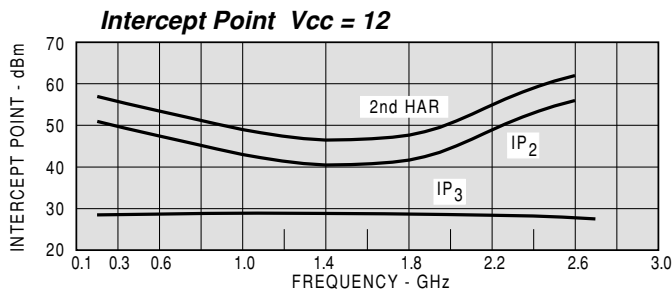
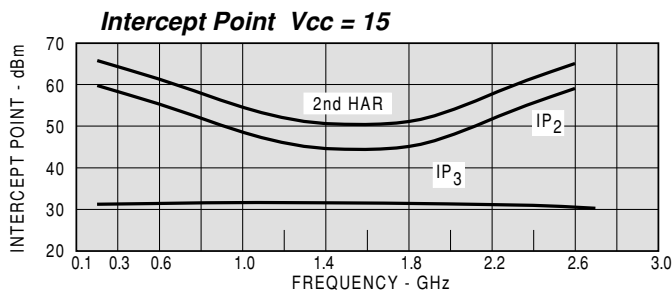
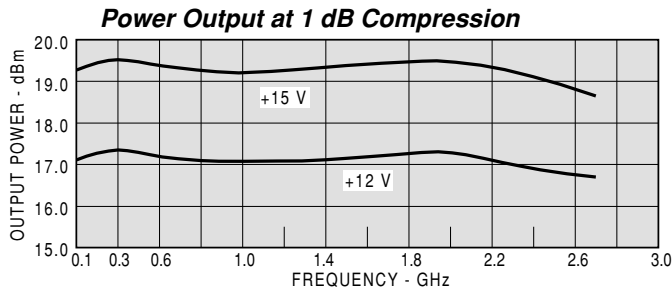
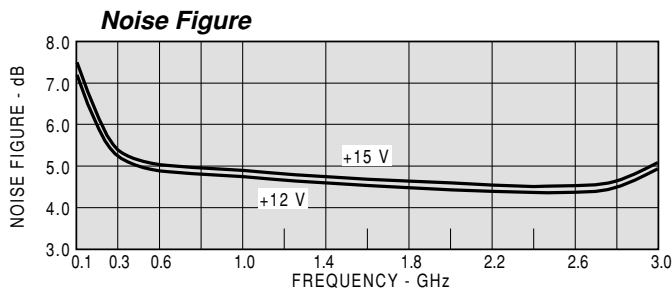
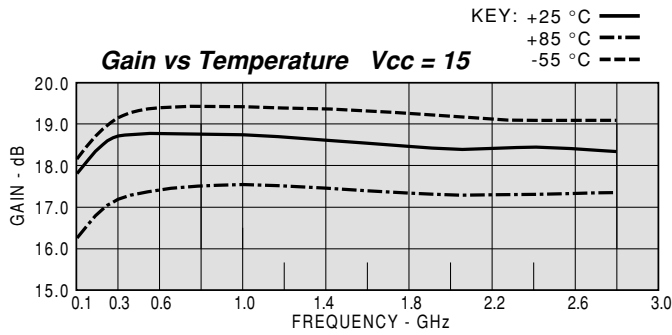
SMT0-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: AC2566				Vcc= +15V			lcc= 134.05
FREQ	SWR	SWR	GAIN	PHASE	DELAY	REV/ISO	
MHZ	IN	OUT	DB	DEG	NSEC	DB	
100	1.33	1.11	17.97	20		-35.2	
200	1.24	1.11	18.77	-6	0.62	-35.5	
400	1.21	1.14	18.94	-38	0.40	-35.6	
600	1.20	1.19	18.98	-64	0.34	-35.5	
800	1.19	1.22	18.91	-88	0.33	-35.5	
1000	1.17	1.24	18.84	-113	0.33	-35.5	
1200	1.17	1.25	18.76	-137	0.33	-35.3	
1400	1.14	1.23	18.63	-160	0.34	-35.2	
1600	1.12	1.20	18.44	177	0.31	-34.9	
1800	1.11	1.16	18.35	154	0.32	-34.3	
2000	1.09	1.12	18.47	131	0.36	-33.8	
2200	1.07	1.17	18.69	107	0.34	-33.0	
2400	1.04	1.33	18.80	82	0.35	-32.5	
2600	1.09	1.59	18.85	56	0.37	-31.2	
2800	1.25	1.89	19.03	27	0.45	-30.8	

Model: AC2566				Vcc= +15V				lcc= 134.05
FREQ.	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.14	-51.4	7.91	20.0	0.017	-4.1	0.05	-150.1
200	0.11	-36.9	8.68	-6.4	0.017	-4.8	0.05	-158.8
400	0.09	-31.1	8.85	-38.1	0.017	-7.3	0.06	-162.3
600	0.09	-34.9	8.89	-63.7	0.017	-11.9	0.08	-166.6
800	0.09	-44.6	8.82	-88.4	0.017	-13.9	0.10	-176.1
1000	0.08	-53.2	8.75	-112.6	0.017	-20.3	0.11	173.1
1200	0.08	-65.7	8.67	-136.5	0.017	-25.0	0.11	160.1
1400	0.07	-77.0	8.54	-160.2	0.017	-31.9	0.10	148.2
1600	0.06	-93.3	8.36	176.6	0.018	-39.1	0.09	130.8
1800	0.05	-98.3	8.27	153.9	0.019	-48.5	0.07	103.8
2000	0.04	-102.4	8.39	131.0	0.020	-61.5	0.05	52.7
2200	0.03	-113.4	8.60	107.5	0.022	-73.4	0.08	-11.3
2400	0.02	130.2	8.71	82.2	0.024	-87.2	0.14	-41.3
2600	0.04	69.0	8.76	56.3	0.028	-13.4	0.23	-57.3
2800	0.11	66.3	8.94	26.6	0.029	-120.2	0.31	-80.7
3000	0.22	40.0	9.00	-2.6	0.029	-133.3	0.37	-100.2

Model: AC2566				Vcc= +12V			lcc= 113.18
FREQ	SWR	SWR	GAIN	PHASE	DELAY	REV/ISO	
MHZ	IN	OUT	DB	DEG	NSEC	DB	
100	1.35	1.22	18.01	16		-35.8	
200	1.28	1.23	18.66	-11	0.63	-36.1	
400	1.25	1.24	18.73	-45	0.44	-36.0	
600	1.25	1.28	18.78	-74	0.39	-35.9	
800	1.23	1.30	18.70	-101	0.38	-35.8	
1000	1.21	1.32	18.62	-128	0.37	-35.7	
1200	1.19	1.32	18.55	-155	0.37	-35.2	
1400	1.16	1.30	18.42	179	0.37	-35.0	
1600	1.15	1.28	18.26	153	0.35	-34.7	
1800	1.11	1.25	18.21	127	0.37	-33.8	
2000	1.10	1.20	18.34	101	0.40	-33.1	
2200	1.08	1.20	18.58	75	0.39	-32.3	
2400	1.09	1.31	18.72	46	0.38	-31.7	
2600	1.16	1.55	18.82	16	0.42	-30.5	
2800	1.35	1.79	18.96	-17	0.50	-30.1	

Model: AC2566				Vcc= +12V				lcc= 113.18
FREQ.	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	0.15	-46.8	7.95	15.6	0.016	-3.6	0.10	-164.6
200	0.12	-35.5	8.57	-11.3	0.016	-6.7	0.10	-175.6
400	0.11	-38.2	8.64	-45.2	0.016	-10.7	0.11	173.5
600	0.11	-47.0	8.69	-73.5	0.016	-17.1	0.12	165.9
800	0.10	-61.6	8.61	-100.8	0.016	-21.4	0.13	154.9
1000	0.10	-75.7	8.53	-127.7	0.016	-29.1	0.14	143.2
1200	0.09	-91.3	8.46	-154.6	0.017	-37.4	0.14	129.7
1400	0.07	-108.7	8.33	178.9	0.018	-47.8	0.13	116.3
1600	0.07	-128.9	8.18	152.6	0.018	-57.5	0.12	99.3
1800	0.05	-146.3	8.13	126.9	0.020	-69.4	0.11	76.0
2000	0.05	-155.0	8.26	101.1	0.022	-84.3	0.09	40.2
2200	0.04	176.9	8.50	74.5	0.024	-100.1	0.09	-12.1
2400	0.04	105.4	8.63	46.1	0.026	-118.4	0.14	-54.3
2600	0.08	59.7	8.73	16.3	0.030	-137.8	0.21	-80.4
2800	0.15	29.2	8.87	-17.0	0.031	-157.6	0.28	-110
3000	0.29	-0.7	8.8	-49.4	0.031	-174.6	0.34	-134.7