

AC2034 10 TO 2000 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values

High Gain	18.0 dB
Low Noise Figure	4.0 dB
Low SWR	< 1.5:1
Medium Output Level	+7.0 dBm
High Performance Thin Film	
Standard Size TO-8	

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SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50° C	-55 to +85° C
Frequency (Min.)	8-2100 MHz	10-2000 MHz	10-2000 MHz
Small Signal Gain (Min.)	18.0 dB	17.0 dB	16.0 dB
Gain Flatness (Max.)	±0.3 dB	±0.7 dB	±1.0 dB
Noise Figure (Max.)	4.0 dB	4.8 dB	5.3 dB
SWR (Max.) Input/Output	< 1.5:1	1.8:1	2.0:1
Power Output (Min.) @ 1dB comp.	+7.0 dBm	+6.5 dBm	+6.0 dBm
DC Current (Max.)	34.0 mA	37.0 mA	40.0 mA

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* Measured in a 50-ohm system at +15 Vdc unless otherwise specified.

INTERMODULATION PERFORMANCE

(Typical @ 25° C)

Second Order Harmonic Intercept Point	+47 dBm
Second Order Two Tone Intercept Point	+41 dBm
Third Order Two Tone Intercept Point	+20 dBm

AC2034

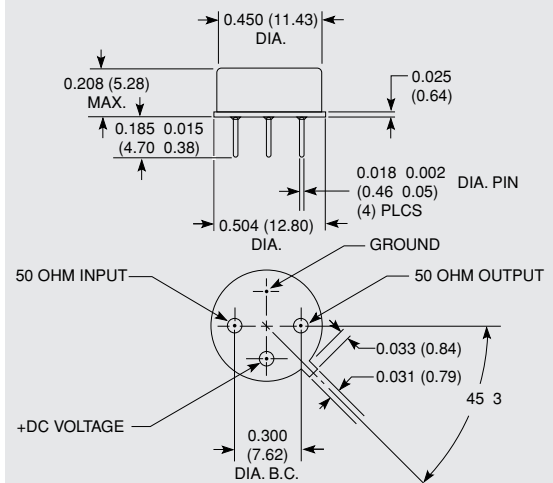
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to +125° C
Maximum Case Temperature	+125° C
Maximum DC Voltage	+18 Volts
Maximum Continuous RF Input Power	+10 dBm
Maximum Short Term Input Power (1 Minute Max.)	50 Milliwatts
Maximum Peak Power (3 μsec Max.)	0.5 Watt
Burn-in Temperature	+125° C
Thermal Resistance¹ (θjc)	+43° C/Watt
Junction Temperature Rise Above Case (Tjc)	+23.8 C

¹ Thermal resistance is based on total power dissipation.

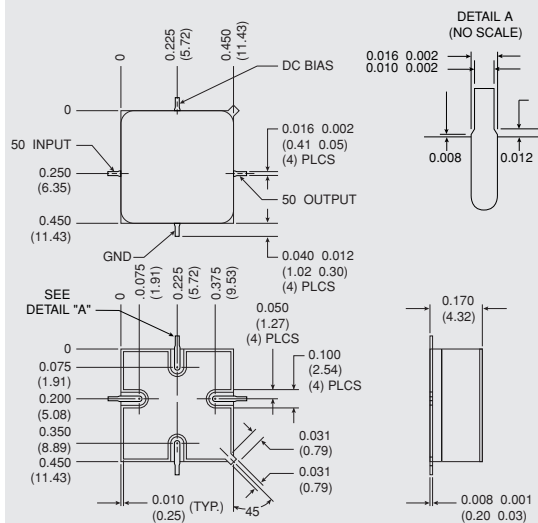
AC2034

TO-8 Package for Amplifiers



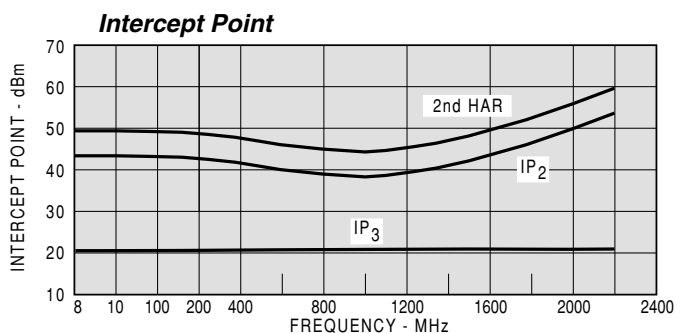
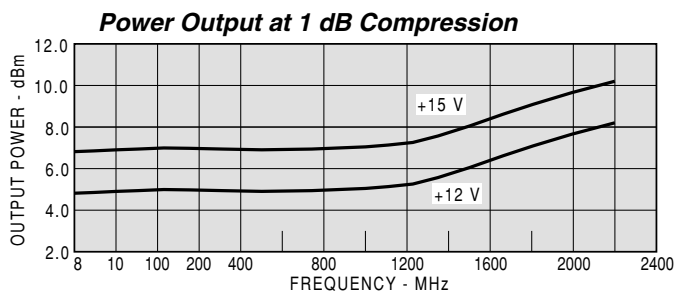
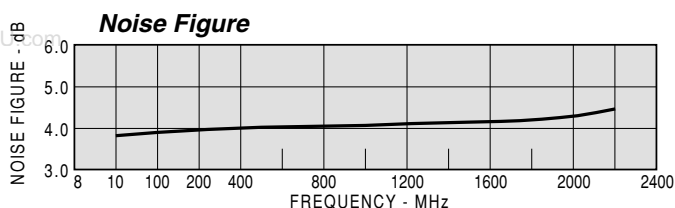
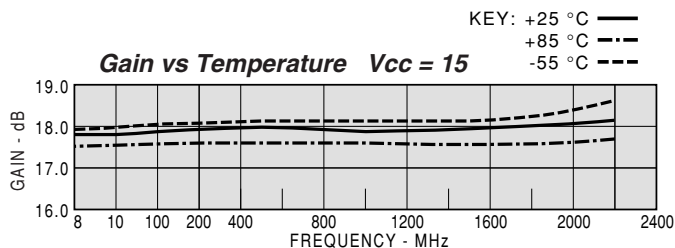
AS2034

SMT0-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES (MILLIMETERS)

TYPICAL PERFORMANCE



TYPICAL AUTOMATIC TEST DATA

MODEL: AC2034			Vcc = +15V		Icc = 34.05 mA	
FREQ	VSWR	VSWR	GAIN	GROUP DELAY	REV/ISO	
MHZ	IN	OUT	DB	NSEC	DB	
5	1.30	1.34	17.8		-31.0	
10	1.20	1.21	18.1		-30.7	
100	1.13	1.15	18.2	0.816	-30.4	
300	1.13	1.17	18.2	0.473	-30.6	
500	1.17	1.20	18.2	0.477	-30.7	
700	1.18	1.24	18.2	0.454	-31.0	
900	1.26	1.24	18.3	0.470	-31.6	
1100	1.29	1.22	18.3	0.473	-32.0	
1300	1.30	1.12	18.3	0.471	-32.4	
1500	1.31	1.04	18.2	0.468	-33.3	
1700	1.30	1.12	18.2	0.479	-33.4	
1900	1.50	1.24	18.1	0.451	-34.2	
2000	1.60	1.30	18.2	0.461	-34.2	
2100	1.75	1.30	18.4	0.474	-34.8	
2200	2.03	1.49	18.9	0.546	-34.3	

MODEL: AC2034			$V_{cc} = +15V$		$I_{cc} = 34.05 \text{ mA}$	
FREQ	S11	S21	S12	S22		
MHZ	MAG	ANG	MAG	ANG	MAG	ANG
5	0.16	-109.0	7.77	24.9	0.028	36
10	0.09	-131.1	8.01	11.0	0.029	18
100	0.06	172.7	8.09	-15.4	0.030	-5
300	0.06	151.0	8.12	-49.5	0.029	-14
500	0.08	140.1	8.16	-83.5	0.029	-27
700	0.08	116.8	8.11	-116.3	0.028	-35
900	0.11	98.1	8.21	-150.1	0.026	-46
1100	0.13	95.2	8.23	175.7	0.025	-58
1300	0.13	89.4	8.21	141.8	0.024	-66
1500	0.13	90.8	8.15	108.1	0.022	-77
1700	0.16	97.5	8.16	73.7	0.021	-91
1900	0.20	85.7	8.02	41.1	0.020	-102
2000	0.23	83.4	8.12	24.6	0.020	-105
2100	0.27	75.3	8.36	7.7	0.018	-109
2200	0.34	63.5	8.81	-12.2	0.019	-118
2300	0.40	51.3	9.41	-33.1	0.019	-114
2400	0.49	35.8	9.41	-57.3	0.021	-117

MODEL: AC2034			Vcc = +12V		Icc = 27.37 mA	
FREQ	VSWR	VSWR	GAIN	GROUP DELAY	REV/ISO	
MHZ	IN	OUT	DB	NSEC	DB	
5	1.35	1.34	17.3		-30.7	
10	1.18	1.21	17.6		-30.3	
100	1.09	1.15	17.7	0.814	-30.3	
300	1.10	1.17	17.7	0.478	-30.1	
500	1.14	1.20	17.8	0.475	-30.4	
700	1.14	1.23	17.7	0.459	-30.9	
900	1.19	1.23	17.8	0.476	-31.4	
1100	1.26	1.20	17.8	0.480	-31.9	
1300	1.33	1.11	17.8	0.474	-32.4	
1500	1.35	1.00	17.7	0.473	-33.2	
1700	1.48	1.11	17.7	0.481	-33.0	
1900	1.62	1.24	17.6	0.460	-33.8	
2000	1.77	1.29	17.6	0.465	-33.6	
2100	1.95	1.36	17.9	0.465	-33.9	
2200	2.21	1.45	18.3	0.557	-33.7	

MODEL: AC2034			$V_{cc} = +12V$		$I_{cc} = 27.37 \text{ mA}$	
FREQ	S11	S21	S12	S22		
MHZ	MAG	ANG	MAG	ANG	MAG	ANG
5	0.15	-103.1	7.31	24.3	0.15	35
10	0.08	-123.5	7.57	10.8	0.10	17
100	0.04	178.5	7.65	-15.5	0.07	-4
300	0.05	157.1	7.69	-49.9	0.08	-15
500	0.06	144.1	7.73	-84.2	0.09	-27
700	0.07	126.2	7.70	-117.4	0.10	-37
900	0.09	107.5	7.78	-151.5	0.10	-47
1100	0.11	101.3	7.81	173.8	0.08	-58
1300	0.14	102.6	7.76	139.9	0.05	-68
1500	0.15	103.7	7.69	105.7	0.00	-79
1700	0.19	101.1	7.68	70.9	0.05	-94
1900	0.24	86.9	7.56	38.0	0.11	-99
2000	0.28	81.4	7.62	21.3	0.13	-104
2100	0.32	71.9	7.85	3.7	0.15	-110
2200	0.38	60.7	8.23	-16.4	0.18	-117
2300	0.44	48.1	8.69	-37.7	0.22	-112
2400	0.52	32.6	8.57	-62.0	0.25	-118