TELEDYNE
MICROWAVE SOLUTIONS
Everywhereyoulook™

Rev. 5/10

AC2348

10 TO 2300 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values	AC2348
High Output Level	> +18.0 dBm
High Third Order I.P.	+30.0 dBm
Low Noise Figure above 0.4 GHz	4.0 dB
High Performance Thin Film	
Standard Size TO-8	

SPECIFICATIONS*

Parameter	Typical	Guaranteed 0 to 50 °C	Guaranteed -55 to +85 °C
Frequency (Min.)	5-2500 MHz	10-2300 MHz	10-2300 MHz
Small Signal Gain (Min.)	9.0 dB	8.5 dB	8.0 dB
Gain Flatness (Max.)	±0.25 dB	±0.5 dB	±0.8 dB
Noise Figure (Max.) 200-2300 MHz	4.0 dB	4.8 dB	5.3 dB
SWR (Max.) Input	1.5:1	2.0:1	2.0:1
SWR (Max.) Output	< 1.3:1	1.7:1	1.8:1
Power Output (Min.) @ 1dB comp.	> +18.0 dBm	+17.5 dBm	+17.0 dBm
DC Current (Max.)	66.0 mA	70.0 mA	75.0 mA

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

INTERMODULATION PERFORMANCE

Typical @ 25 °C	AC2348
Second Order Harmonic Intercept Point	+46 dBm
Second Order Two Tone Intercept Point	+40 dBm
Third Order Two Tone Intercept Point	+30 dBm

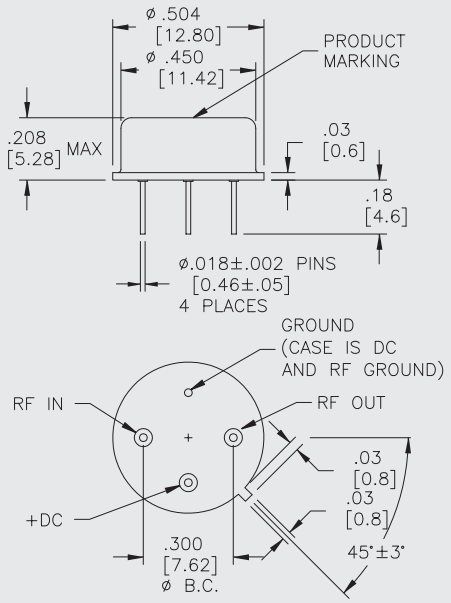
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to +125 °C
Maximum Case Temperature	+125 °C
Maximum DC Voltage	+17 Volts
Maximum Continuous RF Input Power	+13 dBm
Maximum Short Term Input Power (1 Minute Max.)	50 Milliwatts
Maximum Peak Power (3 µsec Max.)	0.5 Watt
Burn-in Temperature	+85 °C
Thermal Resistance[1] (θjc)	+48 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+50 °C

[1] Thermal resistance is based on total power dissipation.

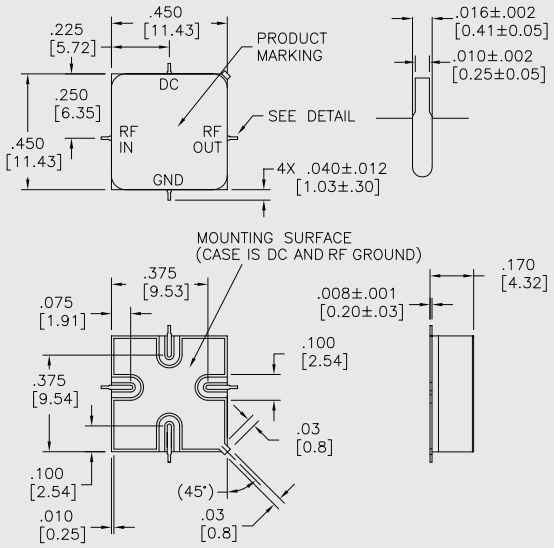
AC2348

TO-8 Package for Amplifiers



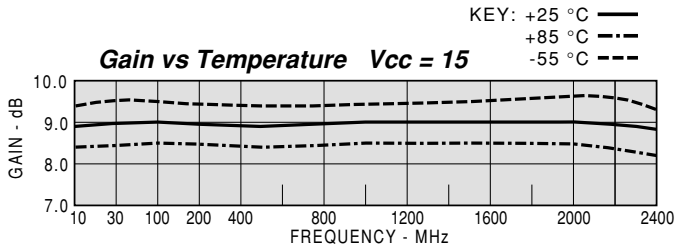
AS2348

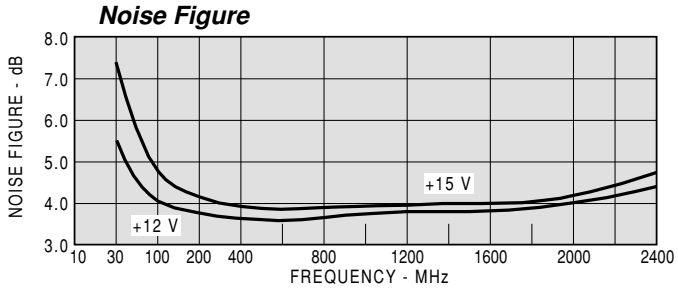
SMTO-8 Package for Amplifiers

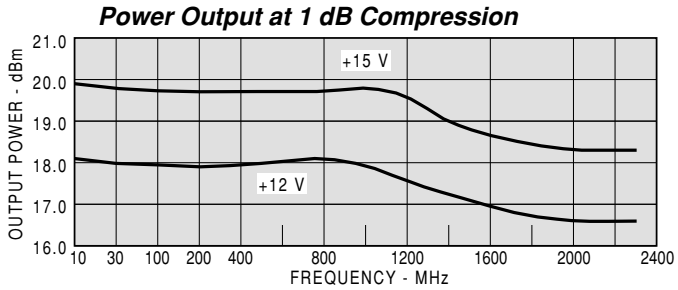


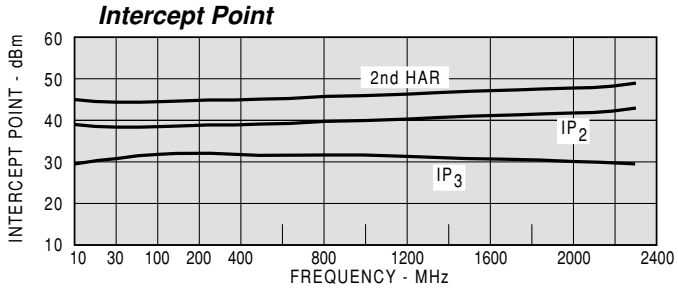
DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE









TYPICAL AUTOMATIC TEST DATA

MODEL: AC2348 Vcc = +15V Icc = 66.60 mA

FREQ. MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
5	1.90	1.09	9.0		-17.3
10	1.77	1.05	9.2		-17.3
100	1.71	1.04	9.2	0.649	-17.2
300	1.68	1.07	9.1	0.271	-17.3
500	1.62	1.11	9.1	0.263	-17.3
700	1.55	1.14	9.1	0.263	-17.3
900	1.49	1.19	9.1	0.266	-17.2
1100	1.42	1.21	9.1	0.267	-17.3
1300	1.33	1.22	9.1	0.272	-17.3
1500	1.25	1.20	9.1	0.272	-17.3
1700	1.12	1.18	9.2	0.281	-17.2
1900	1.03	1.14	9.2	0.291	-17.3
2000	1.10	1.13	9.3	0.295	-17.2
2100	1.21	1.14	9.1	0.319	-17.4
2200	1.37	1.19	9.1	0.306	-17.5
2300	1.56	1.24	9.1	0.329	-17.7
2400	1.77	1.30	8.7	0.323	-17.8
2500	2.00	1.36	8.9	0.307	-18.0

LINEAR S-PARAMETERS

MODEL: AC2348 Vcc = +15V Icc = 66.60 mA

FREQ.	S11		S21		S12		S22	
MHZ	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5	0.31	-27.5	2.82	-153.7	0.136	21	0.04	-92.9
10	0.28	-14.9	2.87	-167.4	0.137	11	0.02	-62.4
100	0.26	-6.7	2.88	171.3	0.137	-5	0.02	-45.2
300	0.25	-17.5	2.84	151.9	0.136	-18	0.03	-89.3
500	0.24	-29.0	2.84	132.9	0.137	-30	0.05	-109.3
700	0.22	-39.4	2.84	114.0	0.137	-42	0.07	-132.2
900	0.20	-47.1	2.85	94.8	0.137	-56	0.09	-152.3
1100	0.18	-60.8	2.86	75.6	0.317	-69	0.10	-167.9
1300	0.14	-69.5	2.86	55.8	0.137	-82	0.10	176.7
1500	0.11	-81.7	2.86	36.5	0.137	-96	0.09	164.5
1700	0.06	-95.1	2.88	16.1	0.138	-111	0.08	155.5
1900	0.01	-20.1	2.88	-4.6	0.137	-127	0.07	166.6
2000	0.05	25.8	2.91	-15.1	0.138	-135	0.06	178.0
2100	0.09	26.0	2.86	-26.9	0.134	-143	0.07	-167.9
2200	0.16	16.9	2.86	-38.0	0.133	-152	0.08	-156.6
2300	0.22	8.7	2.84	-49.7	0.130	-159	0.11	-154.2
2400	0.28	-5.0	2.73	-61.4	0.129	-167	0.13	-156.3
2500	0.33	-15.8	2.78	-72.5	0.126	-175	0.15	-154.8
2600	0.41	-23.5	2.76	-87.2	0.128	176	0.22	-159.9

MODEL: AC2348 Vcc = +12V Icc = 56.98 mA

FREQ. MHZ	VSWR IN	VSWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB
5	1.93	1.15	8.8		-17.6
10	1.80	1.08	8.9		-17.5
100	1.74	1.04	9.0	0.653	-17.5
300	1.69	1.07	8.9	0.270	-17.6
500	1.64	1.11	8.9	0.262	-17.5
700	1.57	1.15	8.9	0.263	-17.4
900	1.52	1.19	8.9	0.264	-17.3
1100	1.46	1.23	9.0	0.265	-17.3
1300	1.36	1.23	9.0	0.273	-17.1
1500	1.27	1.21	9.0	0.269	-17.0
1700	1.14	1.18	9.1	0.285	-16.9
1900	1.02	1.10	9.2	0.291	-16.9
2000	1.09	1.06	9.2	0.305	-16.6
2100	1.20	1.03	9.1	0.318	-16.8
2200	1.37	1.09	9.2	0.321	-16.8
2300	1.57	1.17	9.1	0.333	-17.0
2400	1.81	1.24	8.8	0.336	-17.0
2500	2.10	1.34	8.9	0.322	-17.1