TELEDYNE
MICROWAVE SOLUTIONS
Everywhereyoulook™

Rev. 5/10

AC572

5 TO 500 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values	AC572
High Output Level	+12.5 dBm
High Efficiency	29 mA at +5 Volts
High Third Order I.P.	+31 dBm at +8 Volts
Low Noise Figure	3.4 dB
Power Supply Range	+5 to +8 Volts

High Performance Thin Film
Standard Size TO-8 Package

SPECIFICATIONS*

Parameter		Typical	Guaranteed 0 to 50 °C	Guaranteed -55 to +85 °C
Frequency (Min.)		**2-650 MHz**	**5-500 MHz**	**5-500 MHz**
Small Signal Gain (Min.)		15.2 dB	14.0 dB	13.5 dB
Gain Flatness (Max.)		< ±0.3 dB	±0.5 dB	±0.7 dB
Noise Figure (Max.)				
	Vcc = +5 V	3.4 dB	4.0 dB	5.0 dB
	Vcc = +8 V	4.3 dB	5.0 dB	5.5 dB
SWR (Max.)	Input/Output	< 1.3:1	1.7:1	1.8:1
Power Output (Min.)				
@ 1dB comp.	Vcc = +5 V	+12.5 dBm	+11.5 dBm	+11.0 dBm
	Vcc = +8 V	+16.5 dBm	+15.0 dBm	+14.5 dBm
Reverse Isolation		19.0 dB	—	—
DC Current (Max.)				
	Vcc = +5 V	29 mA	33 mA	35 mA
	Vcc = +8 V	48 mA	52 mA	53 mA

* Measured in a 50-ohm system at +5 Vdc unless otherwise specified.

INTERMODULATION PERFORMANCE

Typical @ 25 °C	Vcc = +5.0	Vcc = +8.0
Second Order Harmonic Intercept Point	+41 dBm	+50 dBm
Second Order Two Tone Intercept Point	+35 dBm	+44 dBm
Third Order Two Tone Intercept Point	+27 dBm	+31 dBm

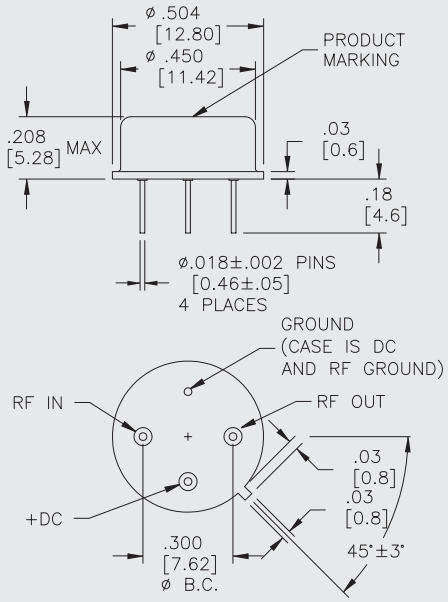
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to +125 °C
Maximum Case Temperature	+125 °C
Maximum DC Voltage	+9 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	+125 °C
Thermal Resistance[1] (θjc)	+81 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+13.4 °C

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

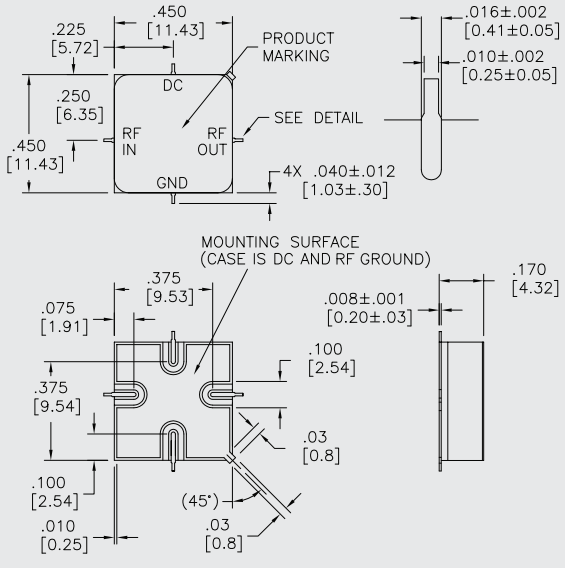
AC572

TO-8 Package for Amplifiers



AS572

SMTO-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

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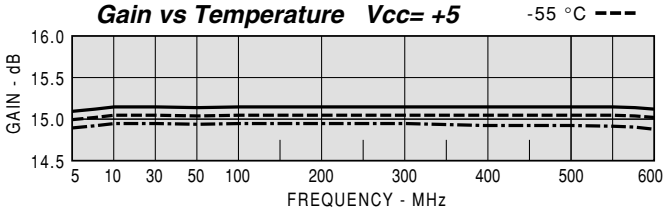
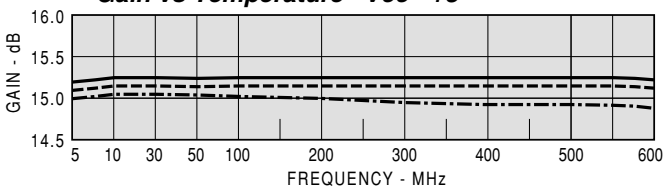
TYPICAL PERFORMANCE

KEY: +25 °C ——
+85 °C -·-·-
-55 °C - - -

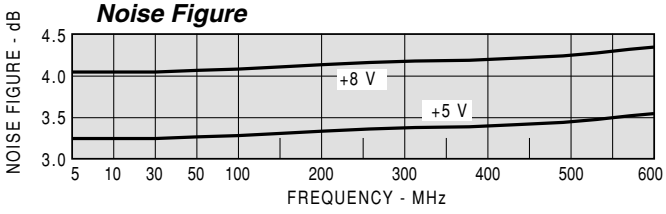
Gain vs Temperature Vcc= +5



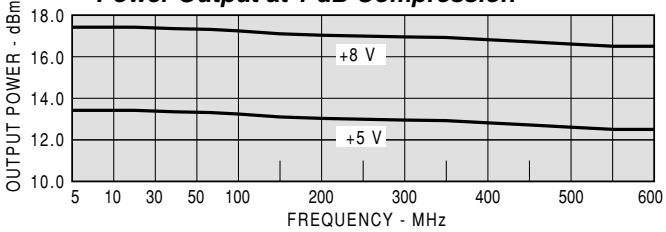
Gain vs Temperature Vcc= +8



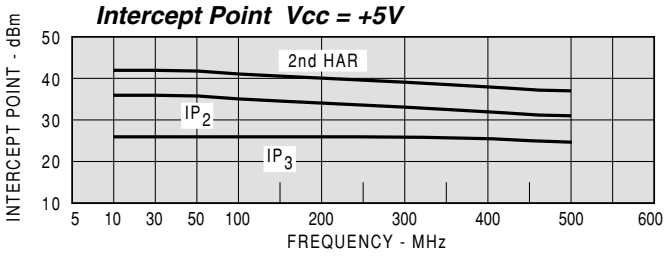
Noise Figure



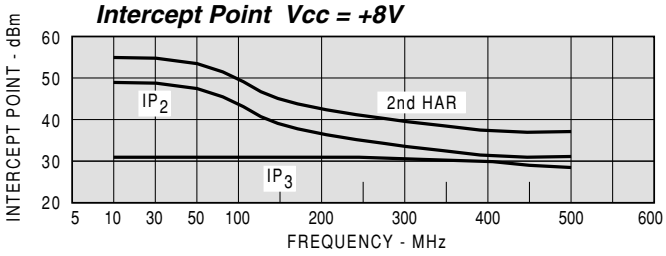
Power Output at 1 dB Compression



Intercept Point Vcc = +5V



Intercept Point Vcc = +8V



TYPICAL AUTOMATIC TEST DATA

Model: AC572 Vcc=+5V Icc=29.04

FREQ MHZ	SWR IN	SWR OUT	GAIN DB	DELAY NSEC	REV/ISO DB
2	1.44	1.32	15.2		-19.3
5	1.25	1.15	15.2		-19.4
10	1.22	1.12	15.2	2.512	-19.4
100	1.22	1.08	15.1	0.714	-19.6
200	1.23	1.07	15.0	0.624	-19.4
300	1.25	1.07	15.0	0.616	-19.0
400	1.27	1.10	14.9	0.628	-19.0
500	1.24	1.21	15.0	0.656	-18.5
600	1.14	1.42	15.0	0.687	-17.9

LINEAR S-PARAMETERS

Model: AC572 Vcc=+5V Icc=29.04

FREQ.	S11		S21		S12		S22	
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
2	0.18	-117.7	5.74	-162.3	0.108	20.0	0.14	140.9
5	0.11	-147.8	5.76	-174.2	0.107	8.0	0.07	152.8
10	0.10	-161.1	5.76	-179.1	0.107	4.0	0.05	160.0
100	0.10	-174.2	5.70	157.8	0.104	-9.0	0.04	159.3
200	0.10	-162.0	5.65	135.3	0.107	-21.0	0.03	157.1
300	0.11	-164.7	5.61	113.4	0.112	-30.0	0.04	-176.6
400	0.12	-167.5	5.59	90.7	0.112	-43.0	0.05	-153.0
500	0.11	-170.0	5.61	67.4	0.118	-51.0	0.09	-162.5
600	0.07	177.8	5.63	42.4	0.127	-67.0	0.17	177.1
700	0.01	53.5	5.66	14.8	0.140	-83.0	0.28	148.9

Model: AC572 Vcc=+8V Icc=48.13

FREQ MHZ	SWR IN	SWR OUT	GAIN DB	DELAY NSEC	REV/ISO DB
2	1.52	1.39	15.4		-19.6
5	1.31	1.20	15.4		-19.6
10	1.28	1.18	15.5	2.630	-19.8
100	1.25	1.15	15.4	0.709	-19.8
200	1.23	1.13	15.3	0.613	-19.6
300	1.20	1.09	15.3	0.600	-19.4
400	1.19	1.03	15.3	0.616	-19.3
500	1.15	1.05	15.3	0.649	-19.4
600	1.11	1.19	15.3	0.670	-18.5

LINEAR S-PARAMETERS

Model: AC572 Vcc=+8V Icc=48.13

FREQ.	S11		S21		S12		S22	
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
2	0.21	-119.6	5.91	-161.3	0.105	21.0	0.16	146.7
5	0.13	-151.1	5.92	-174.1	0.104	7.0	0.09	158.5
10	0.12	-164.5	5.94	-178.8	0.103	3.0	0.08	162.7
100	0.11	178.3	5.88	158.4	0.102	-10.0	0.07	148.7
200	0.10	-177.6	5.83	136.3	0.105	-21.0	0.06	123.3
300	0.09	-176.4	5.80	114.5	0.107	-31.0	0.04	105.7
400	0.09	-169.7	5.81	92.5	0.108	-45.0	0.01	65.9
500	0.07	-159.2	5.79	69.1	0.108	-53.0	0.03	-137.6
600	0.05	-138.7	5.81	45.0	0.119	-68.0	0.09	-172.5
700	0.05	-83.9	5.85	18.4	0.125	-86.0	0.18	151.8

Amplifier Phase Noise