AC272 10 TO 250 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values	*AC272*
Low Noise Figure	*2.0 dB*
High Output Level	*+18.5 dBm*
High Third Order I.P.	*+32 dBm*
High Efficiency	*23 mA Current Drain*

High Performance Thin Film
Standard Size TO-8

SPECIFICATIONS

Parameter	Typical	Guaranteed* 0 to 50° C	Guaranteed* -55 to +85° C
Frequency (Min.)	**10-300 MHz**	**10-250 MHz**	**10-250 MHz**
Small Signal Gain (Min.)	8.0 dB	7.5^ dB	7.0^ dB
Gain Flatness (Max.)	< ±0.2 dB	±0.5 dB	±0.7 dB
Noise Figure (Max.)	2.0 dB	2.5 dB	3.0 dB
SWR (Max.) Input/Output	<1.5:1	2.0:1	2.1:1
Power Output (Min.) @ 1dB comp. 30-150 MHz	+19.0 dBm	+18.0 dBm	+17.5 dBm
150-250 MHz	+18.5 dBm	+17.5 dBm	+17.0 dBm
DC Current (Max.)	23 mA	26 mA	28 mA

* Measured in a 50-ohm system at +15 Vdc unless otherwise specified.
^1.0 dB less below 30 MHz.

INTERMODULATION PERFORMANCE

Typical @ 25 ° C	*AC272*
Second Order Harmonic Intercept Point	+52 dBm
Second Order Two Tone Intercept Point	+46 dBm
Third Order Two Tone Intercept Point	+32 dBm

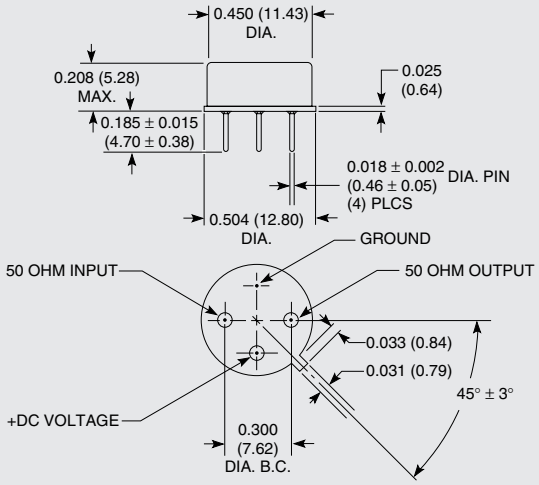
ABSOLUTE MAXIMUM RATINGS

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	+125° C
Thermal Resistance[1] (θjc)	+49° C/Watt
Junction Temperature Rise Above Case (Tjc)	+19.0° C

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

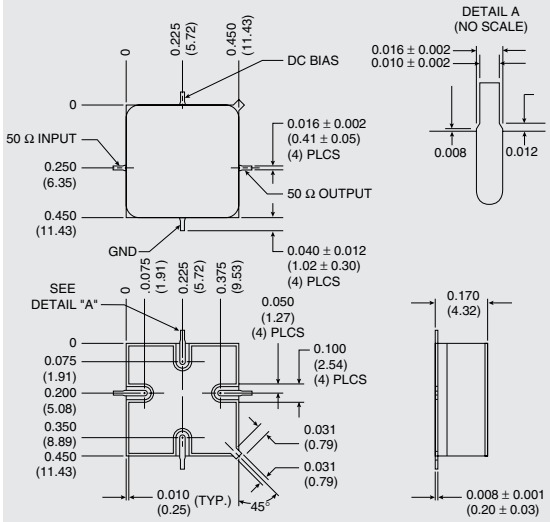
AC272

TO-8 Package for Amplifiers



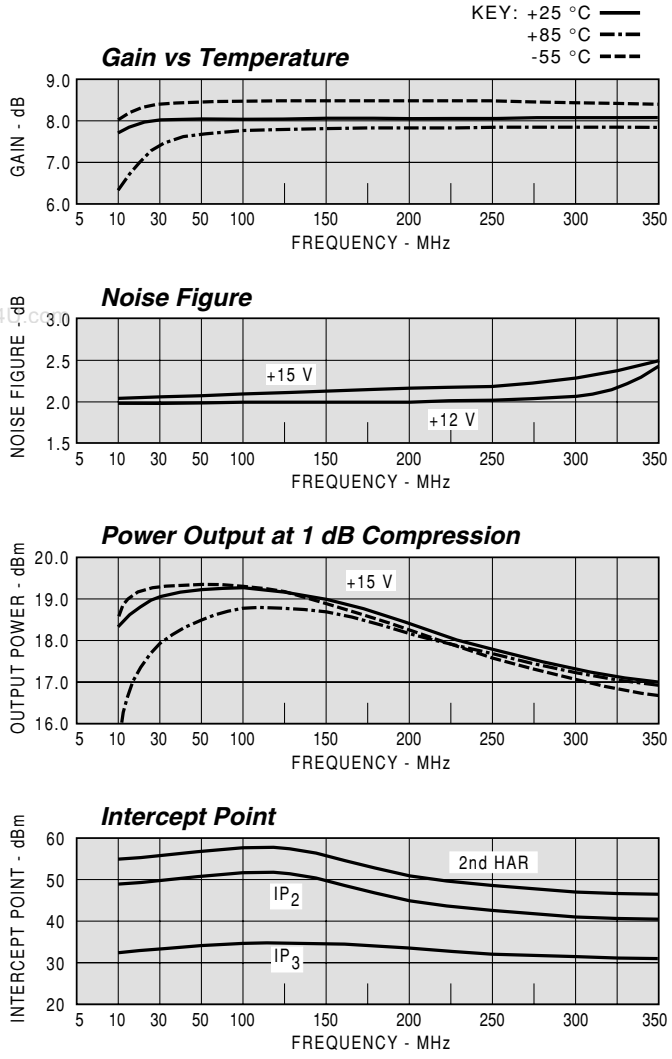
AS272

SMTO-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES (MILLIMETERS)

TYPICAL PERFORMANCE



TYPICAL AUTOMATIC TEST DATA

Model: AC272 Vcc=+15V Icc=23.00

FREQ MHZ	SWR IN	SWR OUT	GAIN DB	DELAY NSEC	REV/ISO DB
5	1.68	1.73	7.4		-11.5
10	1.40	1.41	7.8		-11.2
20	1.27	1.27	7.9	2.119	-11.0
50	1.19	1.18	8.1	0.902	-10.9
100	1.24	1.17	8.1	0.580	-10.9
150	1.33	1.21	8.1	0.556	-11.1
200	1.45	1.27	8.1	0.554	-11.2
250	1.62	1.37	8.1	0.549	-11.4
300	1.81	1.50	8.2	0.551	-11.6
350	2.07	1.67	8.1	0.602	-12.0

LINEAR S-PARAMETERS

Model: AC272 Vcc=+15V Icc=23.00

FREQ	S11		S21		S12		S22	
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5	0.25	137.5	2.34	23.1	0.267	24.0	0.27	143.2
10	0.17	141.3	2.45	10.8	0.277	11.0	0.17	141.1
20	0.12	151.8	2.50	3.3	0.282	3.0	0.12	146.0
50	0.09	173.5	2.55	-6.4	0.285	-6.0	0.08	162.1
100	0.11	-162.1	2.55	-16.8	0.283	-17.0	0.08	-175.3
150	0.14	-156.7	2.54	-26.8	0.280	-27.0	0.09	-160.8
200	0.18	-156.1	2.54	-36.8	0.275	-37.0	0.12	-154.9
250	0.24	-162.7	2.55	-46.6	0.270	-47.0	0.16	-154.6
300	0.29	-169.3	2.56	-56.5	0.262	-57.0	0.20	-158.4
350	0.35	-177.0	2.53	-67.4	0.252	-67.0	0.25	-164.2
400	0.41	173.7	2.52	-78.4	0.243	-78.0	0.31	-172.4
450	0.47	163.9	2.47	-89.7	0.229	-90.0	0.36	178.1

Model: AC272 Vcc=+12V Icc=17.87

FREQ MHZ	SWR IN	SWR OUT	GAIN DB	DELAY NSEC	REV/ISO DB
5	1.28	1.30	7.8		-11.1
10	1.22	1.22	8.0		-11.0
20	1.19	1.17	8.1	1.505	-10.9
50	1.17	1.15	8.2	0.791	-10.8
100	1.24	1.17	8.1	0.551	-10.9
150	1.35	1.23	8.1	0.559	-11.0
200	1.47	1.32	8.1	0.553	-11.2
250	1.65	1.43	8.1	0.554	-11.4
300	1.85	1.58	8.1	0.569	-11.7
350	2.15	1.77	8.0	0.614	-12.0

LINEAR S-PARAMETERS

Model: AC272 Vcc=+12V Icc=17.87

FREQ	S11		S21		S12		S22	
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5	0.12	153.6	2.46	13.8	0.278	14.0	0.13	157.5
10	0.10	160.6	2.51	5.9	0.283	6.0	0.10	158.6
20	0.09	167.8	2.54	0.5	0.286	0.0	0.08	163.8
50	0.08	-169.9	2.56	-8.1	0.287	-8.0	0.07	-179.1
100	0.11	-152.7	2.55	-18.1	0.285	-18.0	0.08	-160.1
150	0.15	-152.5	2.55	-28.0	0.280	-28.0	0.10	-151.1
200	0.19	-153.4	2.54	-38.1	0.275	-38.0	0.14	-149.2
250	0.24	-159.3	2.55	-48.1	0.269	-48.0	0.18	-151.6
300	0.30	-169.0	2.54	-58.2	0.260	-58.0	0.23	-157.2
350	0.36	-176.9	2.51	-69.2	0.250	-69.0	0.28	-164.2
400	0.42	173.0	2.49	-80.2	0.239	-80.0	0.34	-172.9
450	0.48	163.0	2.44	-91.9	0.225	-91.0	0.39	177.0