AP148 1 TO 200 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values	*AP148*
High Output Power	*> +25.0 dBm*
High Third Order I.P.	*+43 dBm*
High Performance Thin Film	
Standard Size TO-8	

SPECIFICATIONS*

Parameter	Typical	Guaranteed 0 to 50° C	Guaranteed -55 to 85° C
Frequency (Min.)	**1-300 MHz**	**1-200 MHz**	**1-200 MHz**
Small Signal Gain (Min.)	11.0 dB	10.5 dB	10.0 dB
Gain Flatness (Max.)	±0.2 dB	±0.4 dB	±0.6 dB
Noise Figure (Max.)	3.5 dB	4.2 dB	4.7 dB
SWR (Max.) Input/Output	<1.5:1	1.7:1	1.8:1
Power Output (Min.) @ 1dB comp.	> +25.0^ dBm	+24.5^ dBm	+24.0^ dBm
DC Current (Max.)	109.0 mA	115.0 mA	118.0 mA

* Measured in a 50-ohm system at +15 Vdc unless otherwise specified.
^ 0.5 dB lower below 30 MHz.

INTERMODULATION PERFORMANCE

Typical @ 25° C; 100 MHz	*AP148*
Second Order Harmonic Intercept Point	+65 dBm
Second Order Two Tone Intercept Point	+59 dBm
Third Order Two Tone Intercept Point	+43 dBm

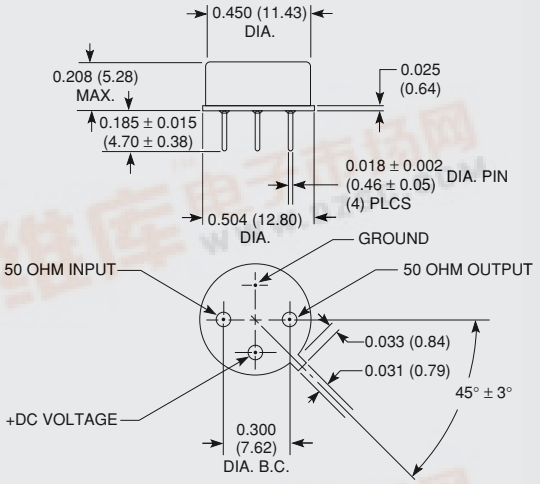
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to 125° C
Maximum Case Temperature	+125° C
Maximum DC Voltage	+17 Volts
Maximum Continuous RF Input Power	+17 dBm
Maximum Short Term Input Power (1 Minute Max.)	100 Milliwatts
Maximum Peak Power (3 µsec Max.)	0.5 Watt
Burn-in Temperature	+100° C
Thermal Resistance[1] (θjc)	+23° C/Watt
Junction Temperature Rise Above Case (Tjc)	+39.6° C

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

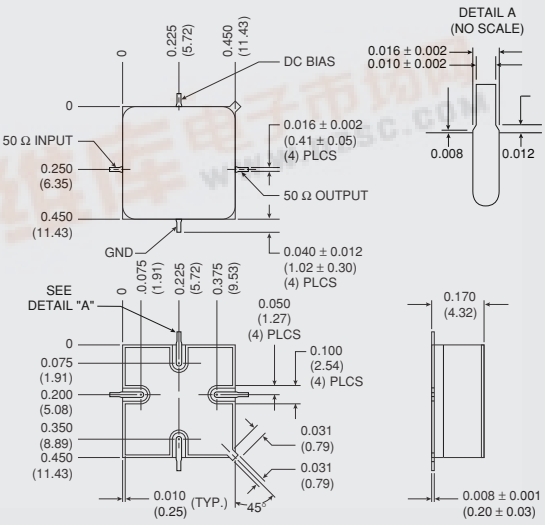
AP148

TO-8 Package for Amplifiers



APS148

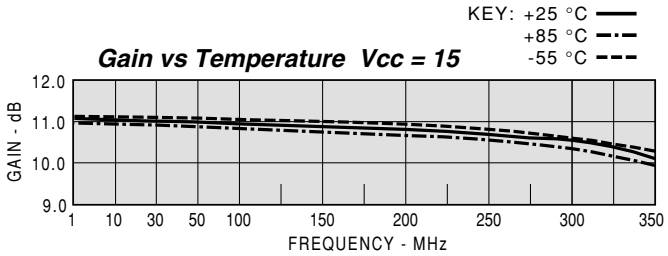
SMTO-8 Package for Amplifiers

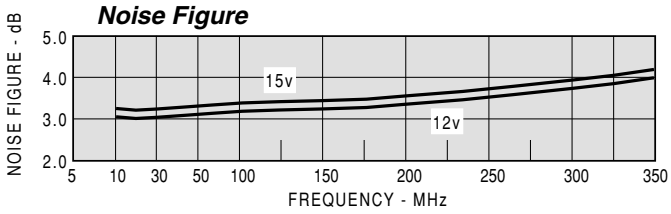


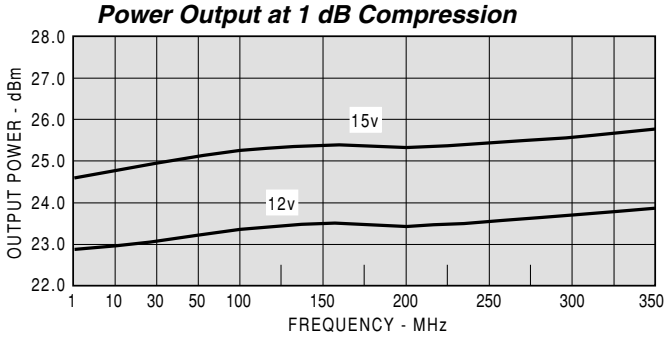
If DC is present on RF input/output, this model requires additional external blocking capacitors.

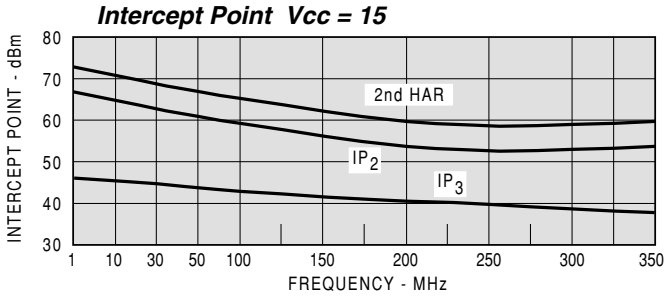
DIMENSIONS ARE IN INCHES (MILLIMETERS)

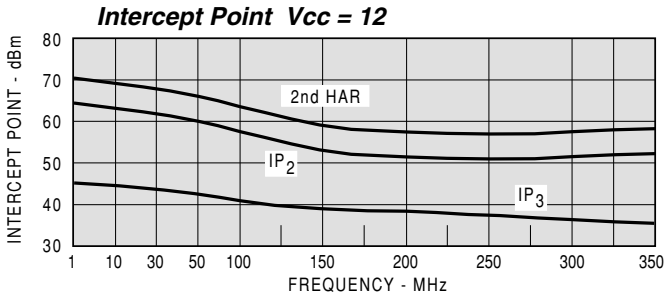
TYPICAL PERFORMANCE











TYPICAL AUTOMATIC TEST DATA

Model: AP148 Vcc=+15V Icc=108.29

FREQ MHZ	SWR IN	SWR OUT	GAIN DB	DELAY NSEC	REV/ISO DB
0.5	1.65	2.42	10.1		-14.0
1	1.19	1.32	11.4		-17.4
5	1.02	1.08	11.3	8.187	-18.7
10	1.01	1.07	11.3	1.511	-18.8
50	1.02	1.07	11.2	0.811	-18.9
100	1.05	1.09	11.2	0.741	-18.9
150	1.12	1.09	11.1	0.749	-19.0
200	1.23	1.09	11.1	0.771	-19.1
250	1.40	1.12	11.0	0.816	-19.2
300	1.67	1.23	10.7	0.866	-19.5

LINEAR S-PARAMETERS

Model: AP148 Vcc=+15V Icc=108.29

FREQ.	S11		S21		S12		S22	
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
0.5	0.24	-48.9	3.18	-144.1	0.199	171.0	0.42	176.6
1.0	0.09	-95.1	3.74	-167.1	0.135	164.0	0.14	109.9
5	0.01	-104.8	3.69	-178.9	0.116	175.0	0.04	50.9
10	0.00	-89.6	3.68	178.5	0.115	175.0	0.03	32.6
50	0.01	-91.3	3.65	167.4	0.114	166.0	0.04	17.3
100	0.03	-135.4	3.62	154.8	0.113	153.0	0.04	8.2
150	0.06	-157.9	3.60	142.0	0.112	139.0	0.04	-12.4
200	0.10	-175.0	3.58	128.9	0.111	125.0	0.04	-50.5
250	0.17	169.1	3.53	114.9	0.109	110.0	0.06	-102.2
300	0.25	153.9	3.44	100.0	0.106	94.0	0.10	-143.4
350	0.35	138.4	3.26	84.2	0.099	77.0	0.18	-172.1
350	0.46	122.6	2.98	67.8	0.090	58.0	0.27	164.5

Model: AP148 Vcc=+12V Icc=85.17

FREQ MHZ	SWR IN	SWR OUT	GAIN DB	DELAY NSEC	REV/ISO DB
0.5	1.47	1.93	11.2		-14.8
1	1.14	1.23	11.4		-17.7
5	1.01	1.07	11.3	7.102	-18.8
10	1.01	1.07	11.3	1.432	-18.8
50	1.02	1.08	11.2	0.807	-18.9
100	1.06	1.09	11.2	0.743	-18.9
150	1.12	1.10	11.1	0.752	-19.0
200	1.24	1.10	11.1	0.775	-19.1
250	1.42	1.13	10.9	0.820	-19.2
300	1.69	1.24	10.7	0.871	-19.5

LINEAR S-PARAMETERS

Model: AP148 Vcc=+12V Icc=85.17

FREQ.	S11		S21		S12		S22	
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
0.5	0.19	-71.2	3.65	-150.1	0.183	165.0	0.32	156.7
1.0	0.06	-100.5	3.72	-169.0	0.130	165.0	0.10	102.9
5	0.01	-105.6	3.68	-179.1	0.115	175.0	0.04	41.3
10	0.00	-79.7	3.67	178.4	0.115	176.0	0.03	25.9
50	0.01	-90.5	3.64	167.3	0.114	166.0	0.04	13.6
100	0.03	-133.7	3.61	154.6	0.113	153.0	0.04	4.6
150	0.06	-157.0	3.59	141.8	0.112	139.0	0.05	-15.8
200	0.11	-174.4	3.57	128.6	0.111	125.0	0.05	-53.2
250	0.17	169.6	3.52	114.5	0.109	110.0	0.06	-102.8
300	0.26	154.1	3.42	99.6	0.106	94.0	0.11	-143.2
350	0.36	138.6	3.24	83.7	0.099	76.0	0.18	-171.9
350	0.46	122.7	2.96	67.3	0.090	58.0	0.27	164.6