TELEDYNE
MICROWAVE SOLUTIONS
Everywhereyoulook™

Rev. 5/10

AC718 100 TO 700 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values	AC718
High Gain	33.5 dB
Low Noise	2.6 dB
Medium Output Level	+19.0 dBm
High Reverse Isolation	+40 dB

High Performance Thin Film
Standard Size TO-8 Package

SPECIFICATIONS*

Parameter	Typical	Guaranteed 0 to 50 °C	Guaranteed -55 to +85 °C
Frequency (Min.)	**100-700 MHz**	**100-700 MHz**	**100-700 MHz**
Small Signal Gain (Min.)	33.5 dB	32.0 dB	31.5 dB
Gain Flatness (Max.)	±0.3 dB	±0.7 dB	±0.8 dB
Noise Figure (Max.)	2.6 dB	3.2 dB	3.7 dB
SWR (Max.) Input/Output	1.2:1	1.5:1	1.7:1
Power Output (Min.) @ 1dB comp.	+19.0 dBm	+18.0 dBm	+17.5 dBm
Reverse Isolation	40.0 dB	—	—
DC Current (Max.)	86 mA	90 mA	95 mA

* Measured in a 50-ohm system at +12 Vdc unless otherwise specified.

INTERMODULATION PERFORMANCE

Typical @ 25 °C; 400 MHz	AC718
Second Order Harmonic Intercept Point	+50 dBm
Second Order Two Tone Intercept Point	+44 dBm
Third Order Two Tone Intercept Point	+33 dBm

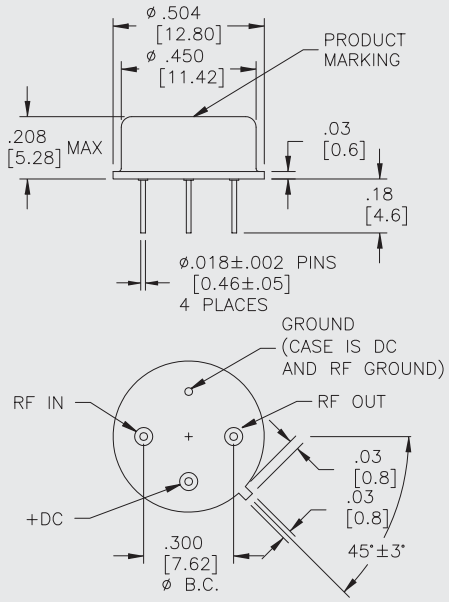
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to +125 °C
Maximum Case Temperature	+125 °C
Maximum DC Voltage	+17 Volts
Maximum Continuous RF Input Power	+6 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)	+15.5 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+16.7 °C

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

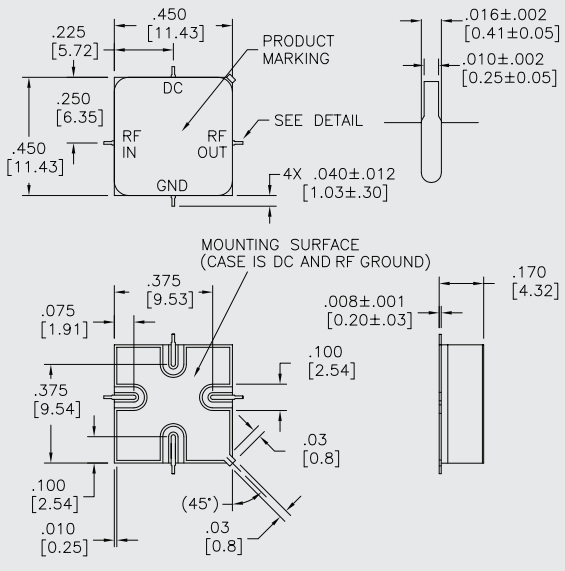
AC718

TO-8 Package for Amplifiers



AS718

SMTO-8 Package for Amplifiers

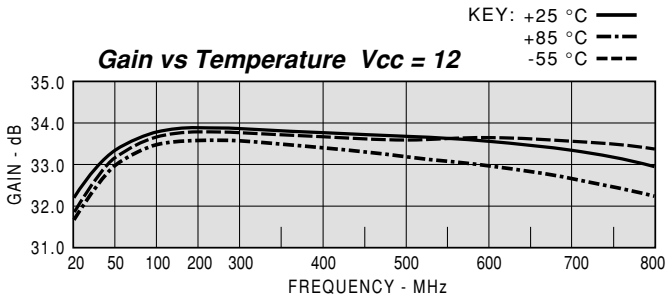


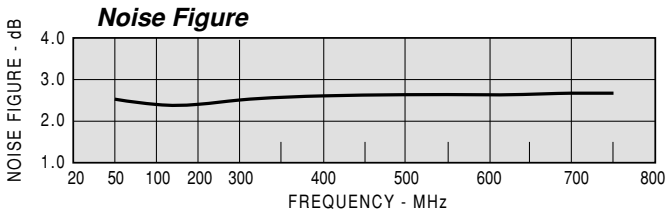
DIMENSIONS ARE IN INCHES [MILLIMETERS]

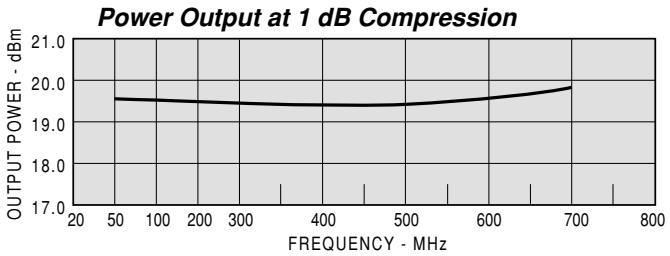
TELEDYNE
MICROWAVE SOLUTIONS
Everywhereyoulook™

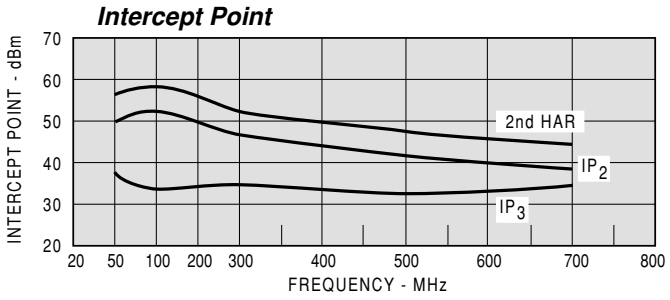
AC718

TYPICAL PERFORMANCE









TYPICAL AUTOMATIC TEST DATA

Model: AC718 Vcc=+12V Icc=86.53

FREQ MHZ	SWR IN	SWR OUT	GAIN DB	PHASE DEG	DELAY NSEC	REV/ISO DB
50	1.24	1.22	33.32	0		-39.6
100	1.25	1.26	33.75	-19	1.10	-41.1
150	1.26	1.27	33.84	-36	0.90	-38.8
200	1.26	1.26	33.85	-51	0.84	-40.8
250	1.25	1.26	33.84	-65	0.81	-42.0
300	1.24	1.24	33.83	-80	0.81	-44.4
350	1.21	1.23	33.78	-94	0.79	-39.9
400	1.20	1.21	33.72	-108	0.79	-40.9
450	1.19	1.18	33.68	-123	0.81	-40.0
500	1.18	1.16	33.60	-137	0.79	-40.5
550	1.18	1.10	33.52	-152	0.83	-40.1
600	1.18	1.06	33.47	-167	0.83	-41.1
650	1.19	1.06	33.39	178	0.86	-39.2
700	1.20	1.13	33.27	162	0.88	-40.4
750	1.23	1.24	33.09	145	0.92	-41.7

LINEAR S-PARAMETERS

Model: AC718 Vcc=+12V Icc=86.53

FREQ	S11		S21		S12		S22	
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
50	0.11	46.3	46.33	0.5	0.010	-15.6	0.10	-127.8
100	0.11	13.0	48.72	-19.4	0.009	-5.1	0.12	-161.9
150	0.12	-3.7	49.20	-35.6	0.012	8.3	0.12	-177.8
200	0.11	-19.5	49.26	-50.7	0.009	13.2	0.12	170.5
250	0.11	-32.5	49.19	-65.3	0.008	7.0	0.11	161.4
300	0.11	-44.7	49.14	-79.9	0.006	-9.2	0.11	154.2
350	0.10	-57.3	48.86	-94.0	0.010	-11.6	0.10	144.7
400	0.09	-71.0	48.55	-108.3	0.009	-2.8	0.09	139.4
450	0.09	-83.6	48.29	-122.8	0.010	-13.5	0.08	129.9
500	0.08	-102.5	47.84	-137.1	0.009	-7.5	0.07	123.8
550	0.08	-118.0	47.43	-152.0	0.010	-10.3	0.05	122.7
600	0.08	-133.2	47.16	-166.9	0.009	-19.1	0.03	139.2
650	0.09	-147.7	46.70	177.6	0.011	-22.7	0.03	-158.7
700	0.09	-166.2	46.08	161.8	0.009	-8.6	0.06	-138.6
750	0.10	179.9	45.16	145.2	0.008	-24.4	0.11	-143.4
800	0.12	167.6	44.05	128.2	0.011	-32.0	0.17	-151.1