

# AC618

## 10 TO 600 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values	AC618
High Gain .....	32.0 dB
Low Noise .....	2.8 dB
Medium Output Level .....	+19.0 dBm
High Reverse Isolation .....	39 dB
High Efficiency	
High Performance Thin Film	
Standard Size TO-8 Package	

### SPECIFICATIONS\*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency (Min.)	5-700 MHz	10-600 MHz	10-600 MHz
Small Signal Gain (Min.)	32.0 dB	31.0 dB	30.0 dB
Gain Flatness (Max.)	±0.4 dB	±0.7 dB	±0.8 dB
Noise Figure (Max.)	2.8 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	39.0 dB	—	—
DC Current (Max.)	85 mA	90 mA	93 mA

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

### INTERMODULATION PERFORMANCE

Typical @ 25 °C; 300 MHz	AC618
Second Order Harmonic Intercept Point .....	+55 dBm
Second Order Two Tone Intercept Point .....	+50 dBm
Third Order Two Tone Intercept Point .....	+32 dBm

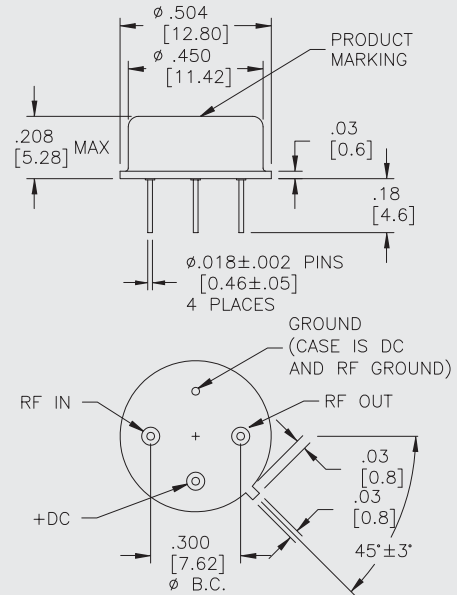
### ABSOLUTE MAXIMUM RATINGS

Storage Temperature .....	-62 to +125 °C
Maximum Case Temperature .....	+125 °C
Maximum DC Voltage .....	+13 Volts
Maximum Continuous RF Input Power .....	+10 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 <sup>1</sup> (θjc) .....	+18.3 °C/Watt
Junction Temperature Rise Above Case (Tjc) .....	+21 °C

<sup>1</sup> Thermal resistance is based on total power dissipation.

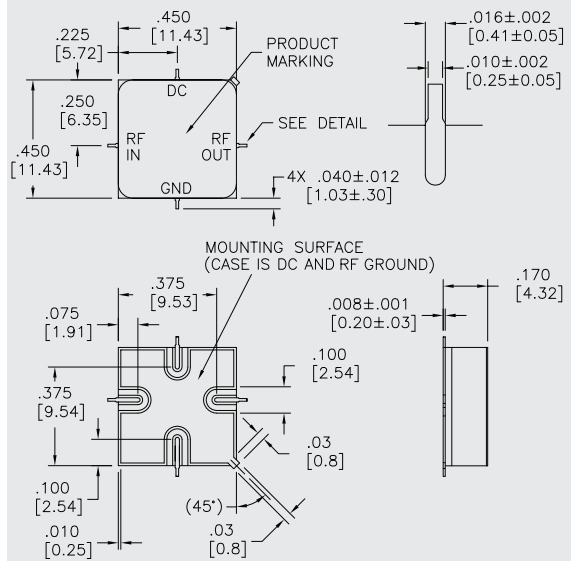
### AC618

#### TO-8 Package for Amplifiers



### AS618

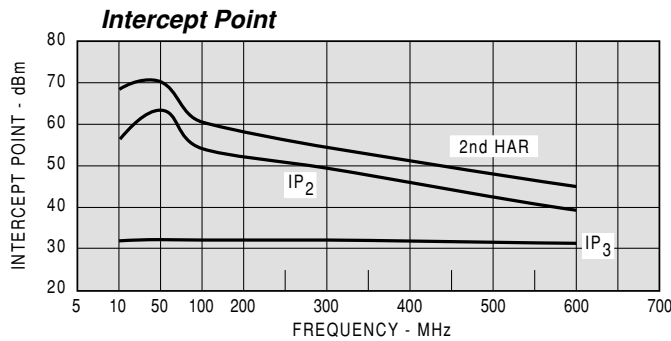
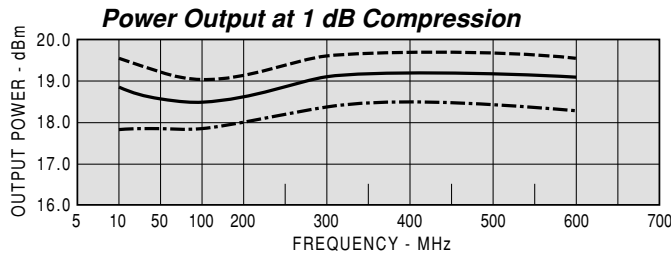
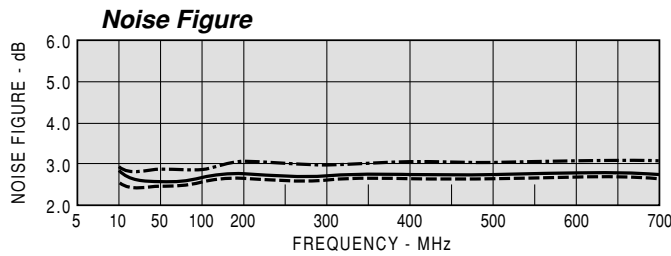
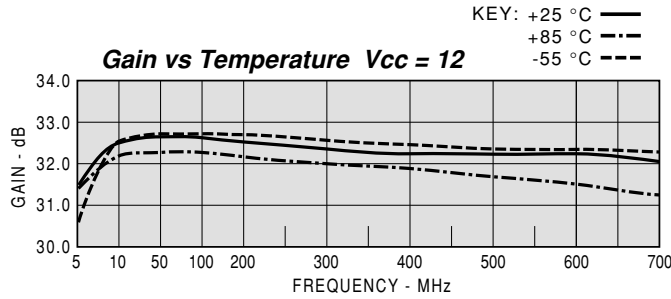
#### SMT0-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

**TYPICAL PERFORMANCE**

**TYPICAL AUTOMATIC TEST DATA**



Model: AC618 Vcc=+12V Icc=85.75

FREQ MHZ	SWR IN	SWR OUT	GAIN DB	PHASE DEG	GROUP DELAY NSEC	REV/ISO DB
5	1.62	1.95	31.34	62.00		-40.30
10	1.25	1.32	32.43	28.00		-41.30
30	1.15	1.11	32.59	2.00		-39.10
50	1.15	1.09	32.60	-8.00	1.30	-39.80
100	1.15	1.08	32.60	-24.00	0.93	-39.60
200	1.13	1.09	32.51	-54.00	0.81	-39.40
300	1.09	1.10	32.38	-81.00	0.77	-39.30
400	1.05	1.14	32.36	-109.00	0.76	-38.70
500	1.08	1.13	32.34	-137.00	0.78	-38.40
600	1.12	1.13	32.35	-166.00	0.81	-38.50
700	1.17	1.11	32.26	163.00	0.85	-38.10

Model: AC618 Vcc=+12V Icc=85.75

LINEAR S-PARAMETERS

FREQ. MHZ	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5	0.24	-173.60	36.91	62.30	0.01	63.20	0.32	140.30
10	0.11	164.80	41.85	28.50	0.01	35.70	0.14	88.50
30	0.07	170.80	42.62	1.80	0.01	-0.90	0.05	25.80
50	0.07	167.80	42.64	-7.50	0.01	14.90	0.04	1.00
100	0.07	157.30	42.67	-24.30	0.01	-8.90	0.04	-32.80
200	0.06	135.00	42.23	-53.50	0.01	-3.20	0.04	-76.40
300	0.04	89.00	41.61	-81.10	0.01	-21.50	0.05	-110.00
400	0.03	24.90	41.47	-108.60	0.01	-13.20	0.06	-145.40
500	0.04	-60.80	41.38	-136.70	0.01	-29.30	0.06	-168.20
600	0.06	-90.50	41.44	-165.90	0.01	-26.70	0.06	-179.80
700	0.08	-116.50	41.02	163.50	0.01	-23.70	0.05	-166.10