

AC2058

200 TO 2000 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values

High Output Power	AC2058 +19.0 dBm
High Third Order Intercept	+33.0 dBm
High Performance Thin Film Standard Size TO-8 Package	

SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency (Min.)	100-2100 MHz	200-2000 MHz	200-2000 MHz
Small Signal Gain (Min.)	10.5 dB	10.0 dB	9.5 dB
Gain Flatness (Max.)	±0.25 dB	±0.5 dB	±0.7 dB
Noise Figure (Max.)	4.0^ dB	4.5^ dB	5.0^ dB
SWR (Max.) Input/Output	< 1.5:1	1.7:1	1.8:1
Power Output (Min.) @ 1dB comp.	+19.0 dBm	+17.0 dBm	+16.5 dBm
Reverse Isolation	19.0 dB	—	—
DC Current (Max.)	75.0 mA	78.0 mA	81.0 mA

* Measured in a 50-ohm system at +15 Vdc unless otherwise specified.
^ 2.0 dB higher below 400 MHz.

INTERMODULATION PERFORMANCE

Typical @ 25 °C

Second Order Harmonic Intercept Point	AC2058 +48 dBm
Second Order Two Tone Intercept Point	+42 dBm
Third Order Two Tone Intercept Point	+33 dBm

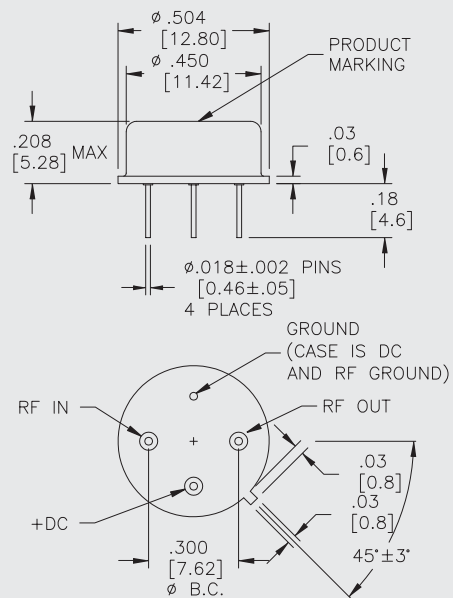
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to +125 °C
Maximum Case Temperature	+125 °C
Maximum DC Voltage	+18 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	+85 °C
Thermal Resistance¹ (θjc)	+50 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+58.2 °C

¹ Thermal resistance is based on total power dissipation.

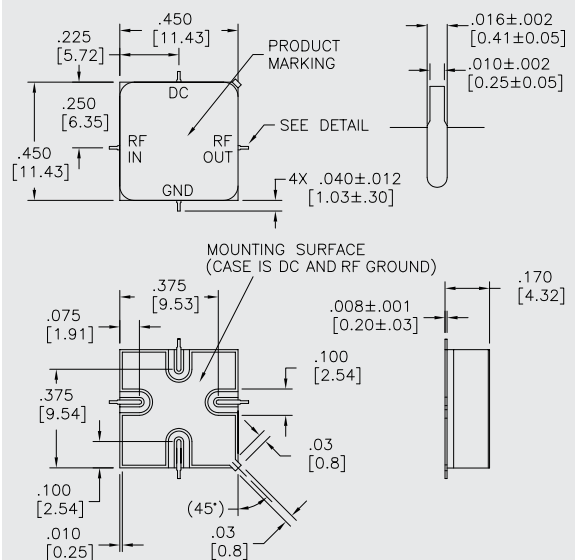
AC2058

TO-8 Package for Amplifiers



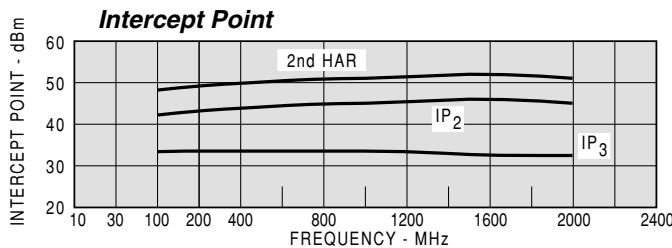
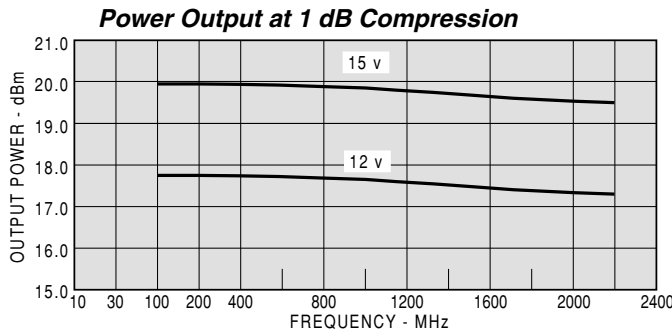
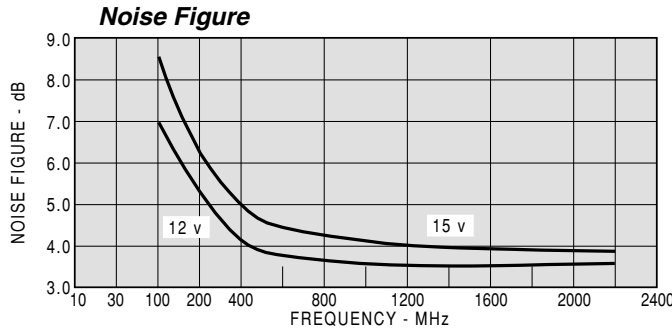
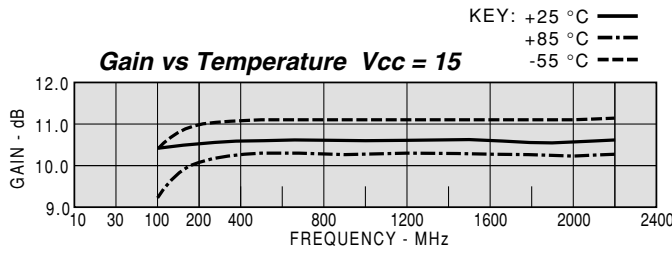
AS2058

SMT0-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE



TYPICAL AUTOMATIC TEST DATA

MODEL: AC2058				Vcc = +15V		Icc = 75.15 mA	
FREQ.	VSWR	VSWR	GAIN	GROUP DELAY	REV/ISO	DB	DB
MHZ	IN	OUT		NSEC			
200	1.50	1.22	10.5	0.270	-18.7		
400	1.42	1.22	10.6	0.270	-18.7		
600	1.41	1.22	10.6	0.239	-18.8		
800	1.38	1.22	10.6	0.230	-18.9		
1000	1.35	1.21	10.6	0.241	-19.0		
1200	1.30	1.17	10.6	0.236	-19.2		
1400	1.24	1.17	10.7	0.234	-19.3		
1600	1.18	1.21	10.6	0.242	-19.5		
1800	1.11	1.26	10.6	0.252	-19.8		
2000	1.13	1.34	10.6	0.256	-20.3		
2200	1.23	1.47	10.6	0.266	-20.5		

MODEL: AC2058				Vcc = +15V				Icc = 75.15 mA	
FREQ.	S11		S21		S12		S22		
MHZ	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG	
200	0.20	-22.1	3.35	168.6	0.117	-12	0.10	174.7	
400	0.17	-37.2	3.39	149.4	0.116	-23	0.10	144.2	
600	0.17	-35.5	3.37	132.2	0.115	-34	0.10	120.1	
800	0.16	-44.1	3.38	115.6	0.113	-45	0.10	100.0	
1000	0.15	-56.3	3.38	98.3	0.112	-57	0.09	78.4	
1200	0.13	-70.7	3.40	81.2	0.110	-68	0.08	51.1	
1400	0.11	-91.7	3.42	64.5	0.109	-81	0.08	11.7	
1600	0.08	-123.9	3.38	47.1	0.106	-93	0.10	-23.4	
1800	0.05	-162.6	3.40	28.9	0.102	-106	0.12	-52.9	
2000	0.06	120.7	3.41	10.4	0.097	-120	0.15	-81.4	
2200	0.10	72.2	3.39	-8.8	0.090	-133	0.19	-110.4	
2400	0.17	36.3	3.22	-29.7	0.082	-145	0.24	-134.1	

MODEL: AC2058				Vcc = +12V		Icc = 62.15 mA	
FREQ.	VSWR	VSWR	GAIN	GROUP DELAY	REV/ISO	DB	DB
MHZ	IN	OUT		NSEC			
200	1.50	1.29	10.5	0.269	-18.9		
400	1.44	1.28	10.6	0.269	-18.9		
600	1.43	1.28	10.6	0.237	-19.0		
800	1.41	1.28	10.6	0.231	-19.1		
1000	1.35	1.28	10.6	0.242	-19.2		
1200	1.29	1.22	10.7	0.235	-19.3		
1400	1.26	1.19	10.7	0.234	-19.4		
1600	1.19	1.20	10.5	0.245	-19.6		
1800	1.13	1.23	10.7	0.252	-19.8		
2000	1.14	1.29	10.7	0.256	-20.1		
2200	1.24	1.39	10.7	0.268	-20.7		

MODEL: AC2058				Vcc = +12V				Icc = 62.15 mA	
FREQ.	S11		S21		S12		S22		
MHZ	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG	
200	0.20	-21.4	3.36	168.5	0.114	-12	0.13	174.1	
400	0.18	-27.1	3.40	149.3	0.113	-22	0.12	146.6	
600	0.18	-37.4	3.38	132.0	0.112	-33	0.12	124.6	
800	0.17	-45.3	3.39	115.5	0.111	-44	0.12	105.6	
1000	0.15	-59.1	3.40	98.1	0.110	-54	0.11	85.9	
1200	0.13	-71.5	3.42	81.1	0.109	-65	0.10	62.9	
1400	0.11	-95.7	3.43	64.2	0.107	-78	0.09	31.0	
1600	0.09	-130.0	3.41	46.7	0.105	-90	0.09	-4.1	
1800	0.06	-168.0	3.44	28.5	0.102	-103	0.10	-37.7	
2000	0.07	129.2	3.43	9.8	0.099	-116	0.12	-70.6	
2200	0.11	77.2	3.42	-9.2	0.092	-129	0.16	-103.0	
2400	0.17	37.4	3.25	-30.4	0.088	-141	0.21	-129.1	