TELEDYNE
MICROWAVE SOLUTIONS
Everywhereyoulook™

Rev. 5/10

AC3057 10 TO 3000 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values	AC3057
Ultra Broad Bandwidth	10-3000 MHz
High Output Power at +5.0 volts	+20.0 dBm
Low Noise Figure Above 1000 MHz	3.8 dB
High Performance Thin Film	
Available in Surface Mount	

SPECIFICATIONS*

Parameter	Typical	Guaranteed 0 to 50 °C	Guaranteed -55 to +85 °C
Frequency (Min.)	10-3200 MHz	10-3000 MHz	10-3000 MHz
Small Signal Gain (Min.)	11.0 dB	10.5 dB	10.0 dB
Gain Flatness (Max.)	< ±0.3 dB	±0.7 dB	±0.9 dB
Noise Figure (Max.) 100-3000 MHz	3.8 dB	5.5 dB	6.0 dB
SWR (Max.) Input/Output	< 1.7:1	1.9:1†	2.0:1†
Power Output (Min.) @ 1dB comp.	+20.0^ dBm	+19.0^ dBm	+18.5^ dBm
Reverse Isolation	17.0 dB	—	—
DC Current (Max.)	95 mA	105.0 mA	110.0 mA

* Measured in a 50-ohm system at +5 Vdc unless otherwise specified.
^ 1.2 dBm lower above 1800 MHz. † 0.2 higher below 20 MHz.

INTERMODULATION PERFORMANCE

Typical @ 25 °C	+5 volts
Second Order Harmonic Intercept Point	+49 dBm
Second Order Two Tone Intercept Point	+43 dBm
Third Order Two Tone Intercept Point	+32 dBm

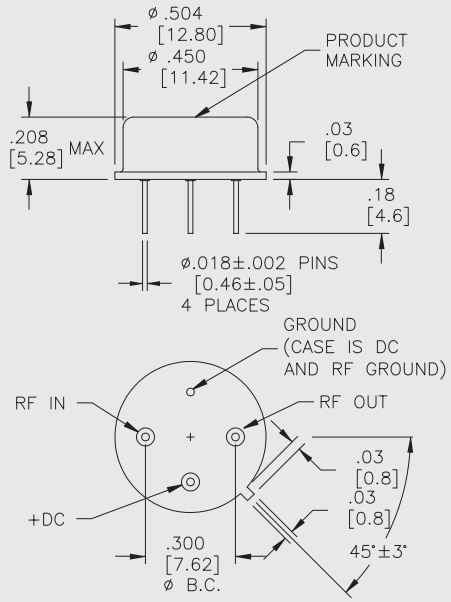
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to +125 °C
Maximum Case Temperature	+125 °C
Maximum DC Voltage	+7 Volts
Maximum Continuous RF Input Power	+20 dBm
Maximum Short Term Input Power (1 Minute Max.)	125 Milliwatts
Maximum Peak Power (3 µsec Max.)	0.5 Watt
Burn-in Temperature	+105 °C
Thermal Resistance[1] (θjc; Vcc = 5)	+71 °C/Watt
Junction Temperature Rise Above Case (Tjc; Vcc = 5)	+31.3 °C

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

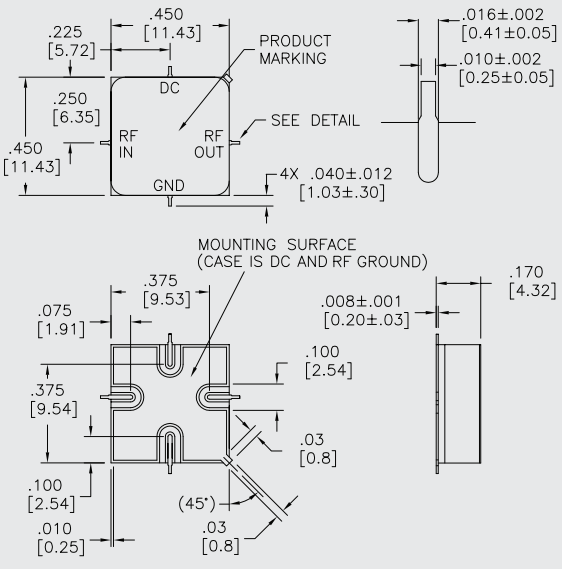
AC3057

TO-8 Package for Amplifiers



AS3057

SMTO-8 Package for Amplifiers

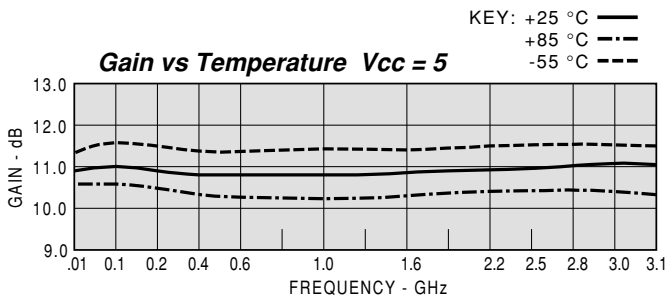


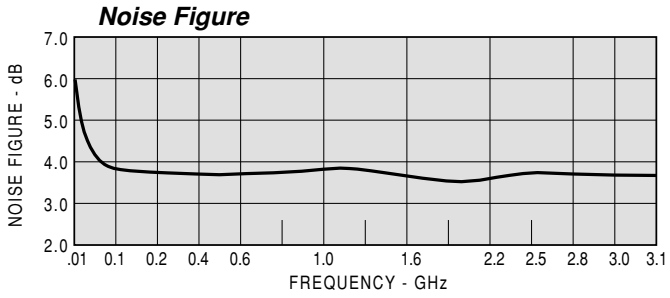
DIMENSIONS ARE IN INCHES [MILLIMETERS]

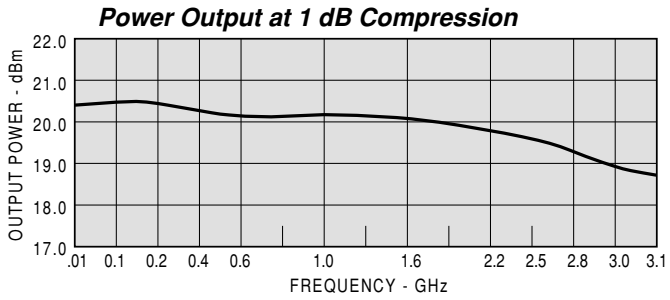
TELEDYNE
MICROWAVE SOLUTIONS
Everywhereyoulook™

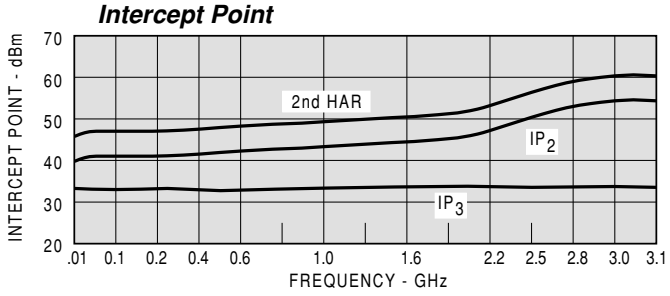
AC3057

TYPICAL PERFORMANCE









TYPICAL AUTOMATIC TEST DATA

Model: AC3057 Vcc=+5V Icc=78.22

FREQ MHZ	SWR IN	SWR OUT	GAIN DB	PHASE DEG	DELAY NSEC	REV/ISO DB
5	2.70	2.16	9.78	-129		-18.3
10	1.75	1.42	10.86	-155		-17.6
20	1.48	1.19	11.05	-170		-17.5
50	1.44	1.15	10.96	-179	0.90	-17.6
100	1.43	1.15	10.93	174	0.35	-17.7
200	1.43	1.15	10.86	165	0.25	-17.5
400	1.43	1.15	10.69	151	0.20	-17.4
600	1.42	1.18	10.69	136	0.20	-17.4
800	1.41	1.20	10.69	122	0.21	-17.4
1000	1.41	1.23	10.67	107	0.20	-17.5
1200	1.42	1.25	10.69	92	0.21	-17.4
1400	1.43	1.27	10.75	78	0.21	-17.4
1600	1.45	1.27	10.75	63	0.21	-17.4
1800	1.47	1.27	10.76	48	0.20	-17.3
2000	1.52	1.28	10.69	33	0.21	-17.3
2200	1.57	1.29	10.62	18	0.22	-17.3
2400	1.59	1.28	10.63	3	0.20	-17.2
2600	1.58	1.29	10.71	-13	0.23	-17.3
2800	1.56	1.30	10.94	-29	0.26	-17.0
3000	1.51	1.30	11.01	-44	0.20	-16.6
3200	1.47	1.28	10.91	-63	0.22	-16.7

LINEAR S-PARAMETERS

Model: AC3057 Vcc=+5V Icc=78.22

FREQ.	S11		S21		S12		S22	
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5	0.46	-45.0	3.08	-129.4	0.121	45.5	0.37	162.7
10	0.27	-42.2	3.49	-155.4	0.131	21.9	0.17	136.3
20	0.19	-26.6	3.57	-169.7	0.133	9.7	0.09	139.6
50	0.18	-11.5	3.53	-179.4	0.131	2.2	0.07	154.4
100	0.18	-7.2	3.52	174.3	0.131	-1.3	0.07	148.6
200	0.18	-6.2	3.49	165.4	0.133	-5.8	0.07	129.0
400	0.18	-11.2	3.43	150.5	0.134	-14.0	0.07	106.2
600	0.17	-16.4	3.42	136.2	0.134	-22.9	0.08	97.1
800	0.17	-21.6	3.43	121.6	0.134	-30.5	0.09	88.6
1000	0.17	-28.0	3.42	107.0	0.133	-38.6	0.10	75.9
1200	0.17	-32.7	3.42	92.3	0.134	-46.9	0.11	63.0
1400	0.18	-37.1	3.45	77.6	0.135	-54.5	0.12	54.1
1600	0.18	-42.0	3.45	63.0	0.134	-63.0	0.12	43.6
1700	0.18	-43.4	3.43	55.2	0.135	-68.2	0.12	36.4
1800	0.19	-48.4	3.45	48.2	0.137	-71.4	0.12	29.5
1900	0.20	-50.7	3.43	40.1	0.135	-76.8	0.12	22.1
2000	0.21	-52.6	3.42	32.7	0.136	-80.2	0.12	15.9
2200	0.22	-57.9	3.40	17.6	0.136	-89.9	0.13	6.5
2400	0.23	-63.1	3.40	3.2	0.138	-98.0	0.12	1.0
2600	0.23	-69.0	3.43	-12.9	0.137	-107.5	0.13	-1.1
2800	0.22	-74.7	3.52	-28.6	0.141	-117.7	0.13	-9.7
3000	0.20	-83.8	3.55	-44.4	0.148	-126.6	0.13	-14.7
3200	0.19	-93.2	3.51	-62.6	0.147	-137.0	0.12	-12.4