

AC556 AC576

5 TO 500 MHz TO-8 CASCADABLE AMPLIFIERS

Typical Values	AC556	AC576
High Gain	28.5 dB	29.0 dB
Medium Output Level	+14.5 dBm	+15.0 dBm
High Third Order I.P.	+28.0 dBm	+29.0 dBm
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.)		5-600 MHz	5-500 MHz	5-500 MHz
Small Signal Gain (Min.)				
AC556	28.5 dB	27.5 dB	27.0 dB	27.0 dB
AC576	29.0 dB	28.0 dB	27.5 dB	27.5 dB
Gain Flatness (Max.)	±0.35 dB	±0.5 dB	±0.7 dB	±0.7 dB
Noise Figure (Max.)				
AC556	3.5 dB	4.2 dB	4.7 dB	4.7 dB
AC576	3.3 dB	4.0 dB	4.5 dB	4.5 dB
SWR (Max.)	Input/Output	1.5:1	1.8:1	2.0:1
Power Output (Min.) @ 1dB comp.				
AC556	+14.5 dBm	+14.0 dBm	+13.5 dBm	+13.5 dBm
AC576	+15.0 dBm	+14.5 dBm	+14.0 dBm	+14.0 dBm
Reverse Isolation		—	—	—
AC556	38.0 dB	—	—	—
AC576	37.0 dB	—	—	—
DC Current (Max.)	65.0 mA	68.0 mA	71.0 mA	71.0 mA

* Measured in a 50-ohm system at +15 Vdc unless otherwise specified.

INTERMODULATION PERFORMANCE

Typical @ 25 °C	AC556	AC576
Second Order Harmonic Intercept Point	+44 dBm	+48 dBm
Second Order Two Tone Intercept Point	+38 dBm	+42 dBm
Third Order Two Tone Intercept Point	+28 dBm	+29 dBm

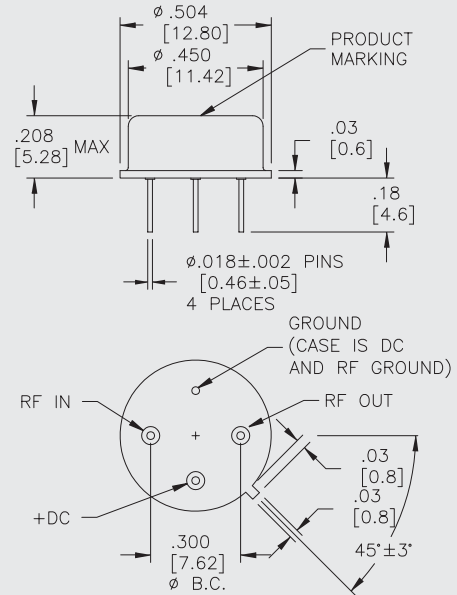
ABSOLUTE MAXIMUM RATINGS

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.)	40 Milliwatts
Maximum Peak Power (3µsec Max.)	0.5 Watt
Burn-in Temperature	+105 °C
Thermal Resistance ¹ (θ _{jc} ; AC556)	+39 °C/Watt
Thermal Resistance ¹ (θ _{jc} ; AC576)	+32 °C/Watt
Junction Temperature Rise Above Case (T _{jc} ; AC556)	+40.2 °C
Junction Temperature Rise Above Case (T _{jc} ; AC576)	+33.0 °C

¹Thermal resistance is based on total power dissipation.

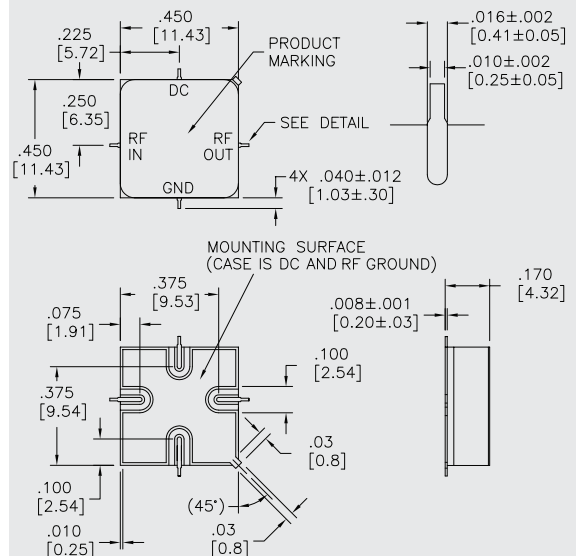
AC556/AC576

TO-8 Package for Amplifiers



AS556/AS576

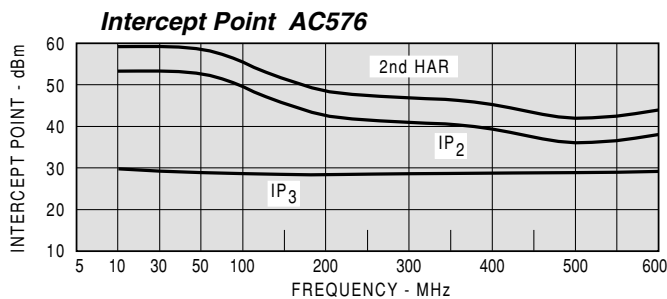
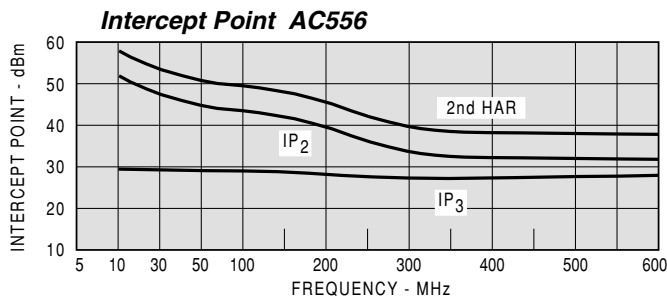
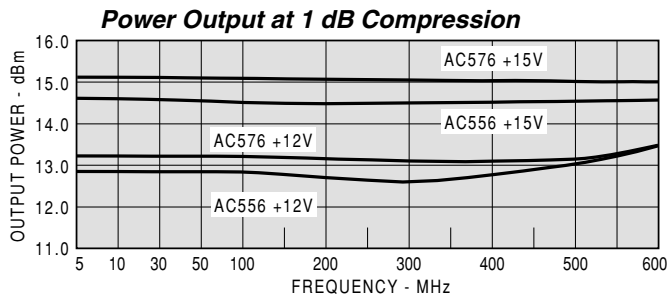
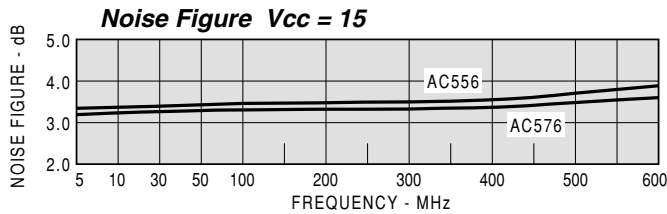
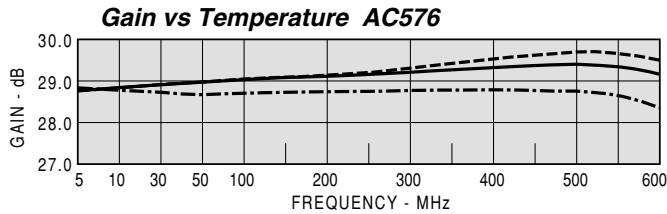
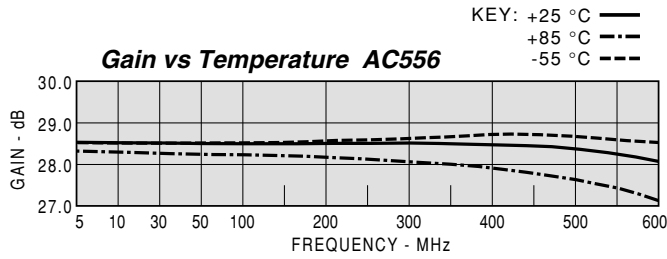
SMT0-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: AC556		Vcc=+15V			lcc=64.93
FREQ	SWR	SWR	GAIN	DELAY	REV/ISO
MHZ	IN	OUT	DB	NSEC	DB
2	1.63	2.05	27.3		-41.9
5	1.34	1.41	28.5		-40.3
10	1.31	1.28	28.7		-40.1
50	1.23	1.22	28.9	1.593	-40.1
100	1.27	1.20	28.8	1.153	-39.5
200	1.25	1.15	28.9	1.013	-40.0
300	1.23	1.05	28.7	0.990	-38.7
400	1.18	1.11	28.8	1.085	-37.5
500	1.20	1.40	28.7	1.113	-36.3
600	1.75	1.96	28.2	1.302	-34.8

Model: AC556

Vcc=+15V

lcc=64.93

FREQ.	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
2	0.24	-48.1	23.23	67.8	0.008	65.0	0.34	-87.0
5	0.15	-29.1	26.70	23.3	0.010	25.0	0.17	-115.3
10	0.13	-22.3	27.35	8.5	0.010	15.0	0.12	-139.8
50	0.10	6.0	27.80	-14.9	0.010	1.0	0.10	179.3
100	0.12	-4.6	27.55	-35.6	0.011	-0.0	0.09	163.2
200	0.11	8.3	27.98	-72.0	0.010	2.0	0.07	133.8
300	0.10	-7.7	27.30	-107.7	0.012	-8.0	0.03	104.1
400	0.08	-10.7	27.43	-146.6	0.013	-10.0	0.05	-97.7
500	0.09	-150.1	27.16	173.3	0.015	-16.0	0.17	-129.7
600	0.28	131.6	25.79	126.4	0.018	-33.0	0.32	-165.3
700	0.54	106.7	22.06	80.4	0.019	-57.0	0.48	155.2

Model: AC556		Vcc=+12V			lcc=51.69
FREQ	SWR	SWR	GAIN	DELAY	REV/ISO
MHZ	IN	OUT	DB	NSEC	DB
2	1.60	2.07	27.0		-41.7
5	1.38	1.42	28.2		-40.2
10	1.33	1.28	28.4		-39.8
50	1.32	1.22	28.5	1.612	-40.3
100	1.36	1.20	28.6	1.152	-39.6
200	1.22	1.14	28.6	1.021	-39.7
300	1.21	1.04	28.4	0.998	-38.0
400	1.15	1.15	28.4	1.089	-37.1
500	1.18	1.50	28.4	1.127	-35.7
600	1.88	2.19	27.9	1.335	-33.9

Model: AC576		Vcc=+15V			lcc=66.67
FREQ	SWR	SWR	GAIN	DELAY	REV/ISO
MHZ	IN	OUT	DB	NSEC	DB
2	1.49	1.73	27.5		-40.0
5	1.24	1.16	28.7		-38.3
10	1.19	1.08	28.9		-38.0
50	1.18	1.03	29.0	1.813	-37.8
100	1.18	1.04	29.0	1.076	-37.8
200	1.19	1.08	29.1	1.014	-37.6
300	1.19	1.14	29.3	1.033	-37.2
400	1.19	1.25	29.3	1.088	-36.6
500	1.27	1.43	29.3	1.147	-35.8
600	1.51	1.74	29.1	1.212	-35.1

Model: AC576		Vcc=+12V			lcc=52.74
FREQ	SWR	SWR	GAIN	DELAY	REV/ISO
MHZ	IN	OUT	DB	NSEC	DB
2	1.47	1.69	27.2		-39.7
5	1.26	1.16	28.4		-38.1
10	1.22	1.08	28.5		-37.9
50	1.21	1.03	28.6	1.808	-37.6
100	1.20	1.04	28.6	1.080	-37.6
200	1.21	1.08	28.8	1.019	-37.4
300	1.22	1.15	28.9	1.040	-36.8
400	1.25	1.28	29.0	1.099	-36.2
500	1.35	1.51	29.0	1.162	-35.2
600	1.62	1.91	28.7	1.232	-34.3