

AR2568

50 TO 2500 MHz TO-8B CASCADABLE AMPLIFIER

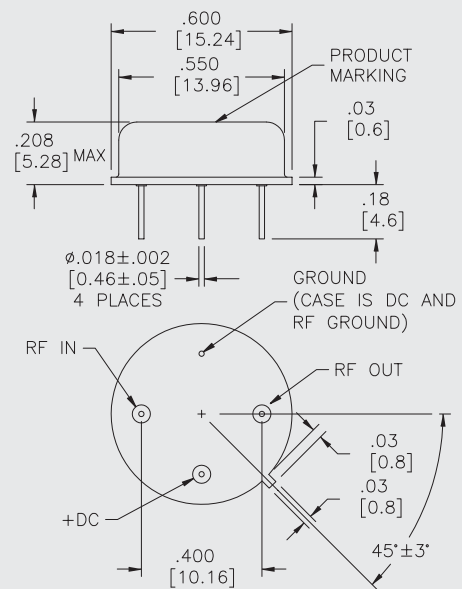
Typical Values

Medium Gain	17.0 dB
High Output Power	+24.0 dBm
High Third Order I.P.	+35 dBm
High Reverse Isolation	33 dB
High Performance Thin Film TO-8B Amplifier Package	

AR2568

AR2568

TO-8B Package for Amplifiers



SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency (Min.)	50-2700 MHz	20-2500 MHz	20-2500 MHz
Small Signal Gain (Min.)	17.0 dB	16.5 dB	15.5 dB
Gain Flatness (Max.)	±0.5 dB	±0.7 dB	±0.9 dB
Noise Figure (Max.) 200-2500 MHz	<5.0 dB	5.3 dB	5.8 dB
SWR (Max.)	Input <1.6:1 Output <1.4:1	1.8:1 1.7:1	2.0:1 1.9:1
Power Output (Min.) @ 1dB comp.	+24.0 dBm	+23.0 dBm	+22.5 dBm
Reverse Isolation	33.0 dB	—	—
DC Current (Max.)	185.0 mA	195.0 mA	205.0 mA

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

INTERMODULATION PERFORMANCE

Typical @ 25 °C; 1000 MHz	+12 Volts	+15 Volts
Second Order Harmonic Intercept Point	+59 dBm	+59 dBm
Second Order Two Tone Intercept Point	+54 dBm	+54 dBm
Third Order Two Tone Intercept Point	+37 dBm	+35 dBm

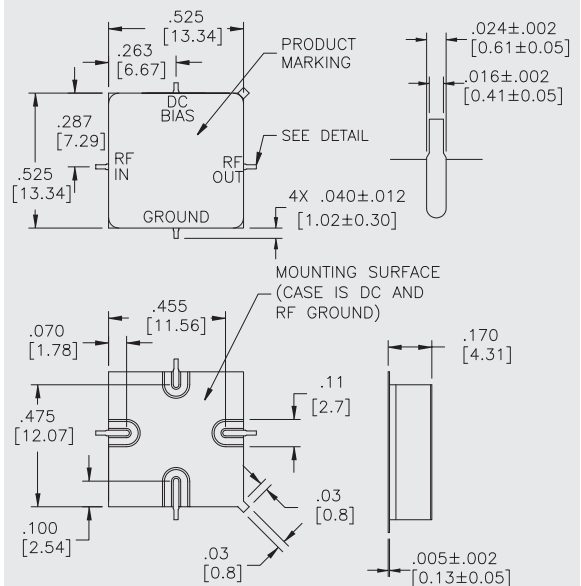
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to +125 °C
Maximum Case Temperature	+125 °C
Maximum DC Voltage	+17 Volts
Maximum Continuous RF Input Power	+20 dBm
Maximum Short Term Input Power (1 Minute Max.)	200 Milliwatts
Maximum Peak Power (3 μsec Max.)	0.5 Watt
Burn-in Temperature	+100 °C
Thermal Resistance ¹ (θjc)	+14 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+38.7 °C

¹ Thermal resistance is based on total power dissipation.

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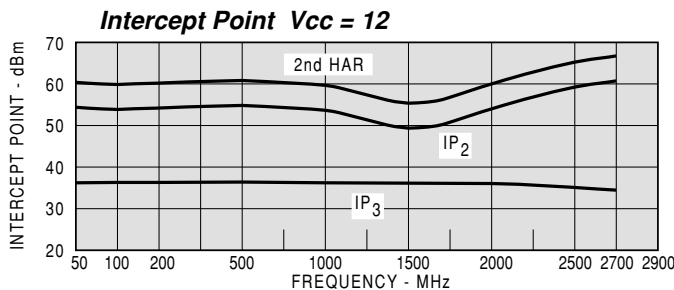
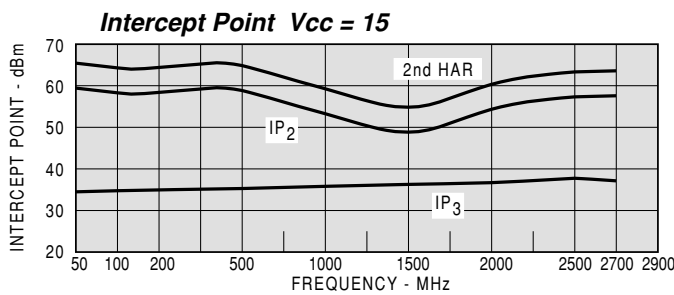
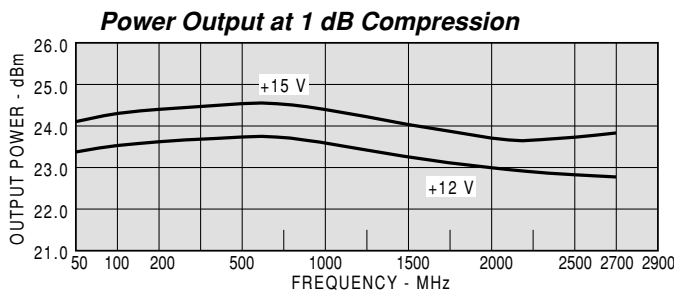
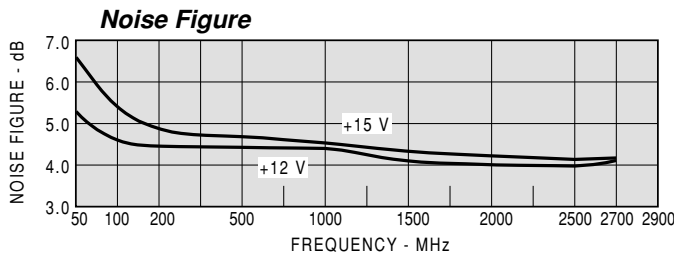
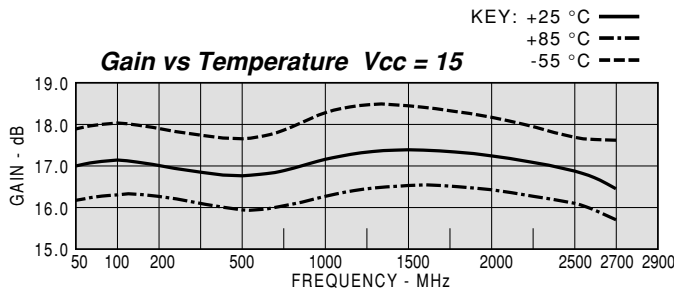
SMT0-8B Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: AR2568 Vcc= +15V lcc= 191.18

FREQ	SWR	SWR	GAIN	PHASE	DELAY	REV/ISO
MHZ	IN	OUT	DB	DEG	NSEC	DB
50	1.13	1.20	17.11	7	1.20	-33.1
100	1.17	1.24	17.26	-6	0.71	-32.8
200	1.25	1.29	17.23	-22	0.46	-32.7
400	1.36	1.33	17.01	-47	0.34	-32.2
600	1.42	1.34	17.10	-71	0.33	-32.6
800	1.46	1.33	17.30	-95	0.33	-33.0
1000	1.50	1.29	17.50	-120	0.35	-33.2
1200	1.53	1.28	17.64	-146	0.37	-33.9
1400	1.53	1.28	17.71	-172	0.36	-34.1
1600	1.50	1.26	17.66	162	0.36	-35.2
1800	1.45	1.27	17.56	135	0.37	-35.4
2000	1.39	1.35	17.51	109	0.39	-35.7
2200	1.31	1.45	17.40	82	0.37	-35.9
2400	1.20	1.46	17.09	56	0.35	-36.3
2500	1.15	1.50	17.06	42	0.39	-36.6
2600	1.12	1.49	16.89	28	0.39	-36.9
2700	1.13	1.50	16.77	14	0.39	-37.6

Model: AR2568 Vcc= +15V lcc= 191.18

LINEAR S-PARAMETERS

FREQ.	S11			S21			S12			S22	
	MAG	ANG	ANG	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
50	0.06	5.0	7.17	7.1	0.022	6.0	0.09	178.9			
100	0.08	20.4	7.30	-5.6	0.023	1.6	0.11	-177.2			
200	0.11	23.8	7.27	-22.0	0.023	-6.0	0.13	178.1			
400	0.15	11.8	7.09	-47.3	0.025	-20.2	0.14	160.2			
600	0.17	0.0	7.16	-70.6	0.023	-32.7	0.15	141.6			
800	0.19	-12.9	7.33	-94.7	0.023	-46.1	0.14	125.1			
1000	0.20	-26.3	7.50	-120.0	0.022	-56.4	0.13	106.1			
1200	0.21	-38.8	7.62	-146.0	0.020	-69.9	0.12	82.1			
1400	0.21	-50.9	7.68	-172.0	0.020	-81.8	0.12	57.2			
1600	0.20	-63.4	7.63	161.8	0.017	-93.4	0.12	28.7			
1800	0.18	-76.3	7.55	135.2	0.017	-108.9	0.12	-4.4			
2000	0.16	-87.5	7.51	108.7	0.016	-121.9	0.15	-34.2			
2200	0.13	-92.8	7.41	82.5	0.016	-135.3	0.18	-57.0			
2400	0.09	-89.6	7.15	55.9	0.015	-149.9	0.19	-78.7			
2500	0.07	-80.7	7.13	41.9	0.015	-158.8	0.20	-90.5			
2600	0.06	-58.3	6.99	28.0	0.014	-163.8	0.20	-102.0			
2700	0.06	-26.7	6.89	14.1	0.013	-168.5	0.20	-118.1			
2800	0.09	-8.7	6.83	-1.2	0.012	-175.3	0.21	-130.1			

Model: AR2568 Vcc= +12V lcc= 185.92

FREQ	SWR	SWR	GAIN	PHASE	DELAY	REV/ISO
MHZ	IN	OUT	DB	DEG	NSEC	DB
50	1.13	1.23	17.05	7	1.20	-33.5
100	1.17	1.27	17.2	-5	0.70	-33.3
200	1.25	1.32	17.18	-22	0.45	-33.1
400	1.36	1.37	16.98	-47	0.33	-32.7
600	1.41	1.38	17.07	-70	0.32	-32.9
800	1.45	1.38	17.29	-94	0.33	-33.4
1000	1.50	1.34	17.51	-119	0.35	-33.6
1200	1.54	1.34	17.67	-145	0.36	-33.9
1400	1.55	1.33	17.74	-171	0.36	-34.2
1600	1.53	1.30	17.71	163	0.35	-34.6
1800	1.49	1.27	17.67	136	0.37	-34.6
2000	1.43	1.30	17.63	110	0.39	-35.4
2200	1.36	1.36	17.54	84	0.37	-34.9
2400	1.26	1.36	17.28	57	0.36	-35.8
2500	1.21	1.37	17.26	43	0.39	-35.4
2600	1.15	1.36	17.11	28	0.40	-36.4
2700	1.12	1.35	16.99	14	0.39	-36.3