TELEDYNE
MICROWAVE SOLUTIONS
Everywhereyoulook™

Rev. 5/10

AR2588 50 TO 2500 MHz TO-8B CASCADABLE AMPLIFIER

Typical Values	AR2588
High Gain	19.0 dB
High Output Level	+25.0 dBm
High Reverse Isolation	34 dB
High Performance Thin Film TO-8B Package	

SPECIFICATIONS*

Parameter	Typical	Guaranteed 0 to 50 °C	Guaranteed -55 to +85 °C
Frequency (Min.)	20-2600 MHz	50-2500 MHz	50-2500 MHz
Small Signal Gain (Min.)	19.0 dB	18.0 dB	17.0 dB
Gain Flatness (Max.)	±0.3 dB	±0.5 dB	±1.0 dB
Noise Figure (Max.) 100-2500 MHz	5.0 dB	6.0 dB	6.5 dB
SWR (Max.) Input/Output	<1.5:1	1.8:1	1.9:1
Power Output (Min.) @ 1dB comp.	+25.0 dBm	+24.5 dBm	+23.5 dBm
Reverse Isolation	34.0 dB	—	—
DC Current (Max.)	245 mA	250 mA	260 mA

* Measured in a 50-ohm system at +8 Vdc unless otherwise specified.

INTERMODULATION PERFORMANCE

Typical @ 25 °C; 1000 MHz	AR2588
Second Order Harmonic Intercept Point	+64 dBm
Second Order Two Tone Intercept Point	+58 dBm
Third Order Two Tone Intercept Point	+38.5 dBm

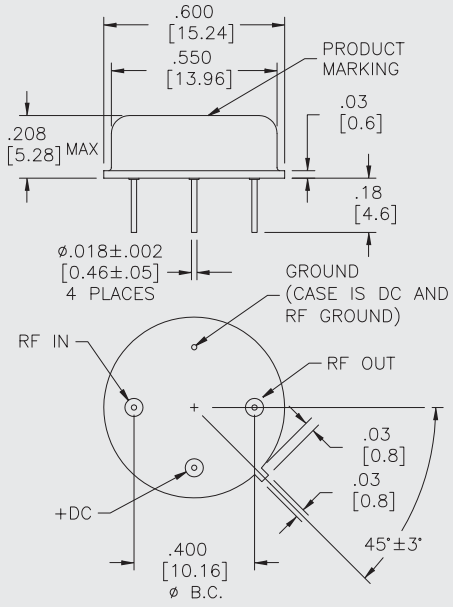
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-65 to +125 °C
Maximum Case Temperature	+125 °C
Maximum DC Voltage	+10 Volts
Maximum Continuous RF Input Power	+17 dBm
Maximum Short Term Input Power (1 Minute Max.)	100 Milliwatts
Maximum Peak Power (3 µsec Max.)	0.5 Watt
Burn-in Temperature	+105 °C
Thermal Resistance[1] (θjc)	+20 °C/Watt
Junction Temperature Rise Above Case (Tjc)	+39 °C

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

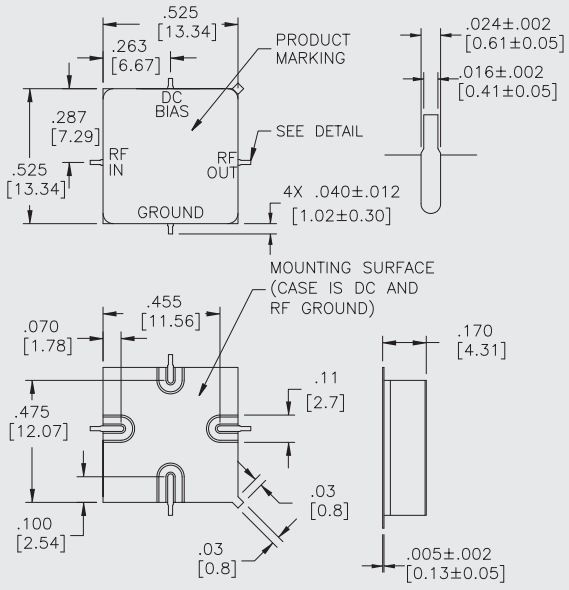
AR2588

TO-8B Package for Amplifiers



ARS2588

SMTO-8B Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

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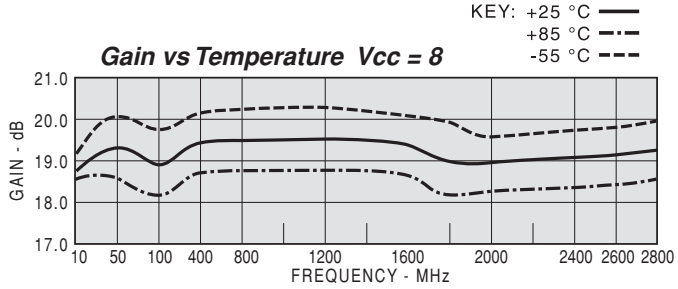
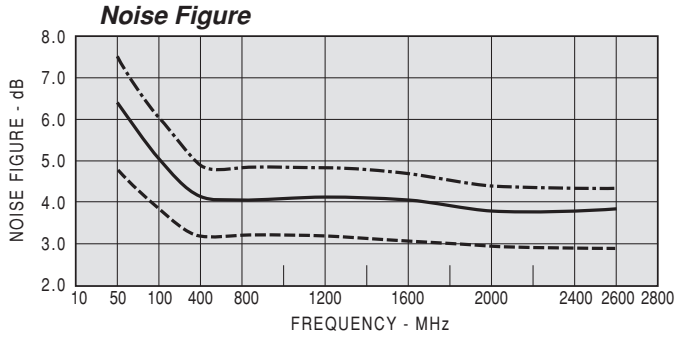
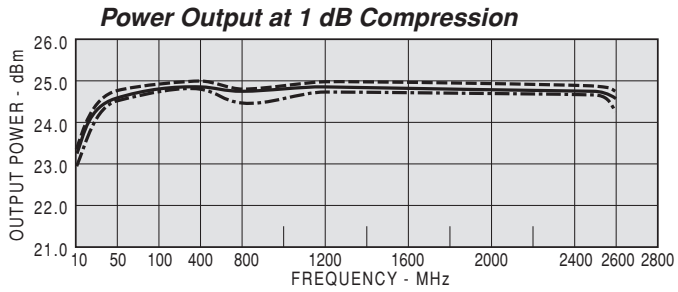
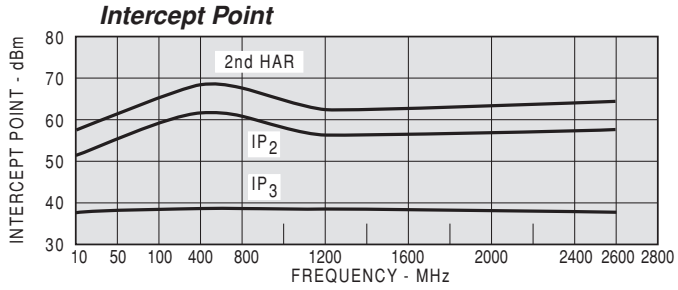
TYPICAL PERFORMANCE









TYPICAL AUTOMATIC TEST DATA

Model: AR2588 Vcc=+8V Icc=244.3

FREQ MHZ	SWR IN	SWR OUT	GAIN DB	PHASE DEG	GROUP DELAY NSEC	REV/ISO DB
10	1.61	2.37	18.71	75		-35.8
15	1.29	1.75	19.48	45		-34.5
20	1.30	1.69	19.49	31		-34.3
50	1.37	1.68	19.22	6		-34.4
100	1.37	1.62	18.90	-8	0.75	-34.1
200	1.41	1.66	18.99	-17	0.26	-34.1
400	1.38	1.63	19.35	-44	0.37	-34.3
600	1.36	1.63	19.39	-69	0.34	-34.3
800	1.36	1.62	19.42	-93	0.34	-34.4
1000	1.35	1.61	19.44	-117	0.33	-34.4
1200	1.36	1.59	19.46	-142	0.34	-34.2
1400	1.36	1.58	19.42	-167	0.34	-34.8
1600	1.37	1.53	19.36	169	0.34	-35.0
1800	1.29	1.48	18.98	143	0.36	-33.5
2000	1.30	1.55	18.94	122	0.29	-34.9
2200	1.32	1.56	18.95	98	0.32	-35.2
2400	1.29	1.59	18.96	74	0.34	-34.5
2600	1.25	1.65	18.99	49	0.34	-34.3
2800	1.19	1.70	19.08	24	0.35	-34.0
3000	1.14	1.74	19.37	-3	0.37	-32.8

LINEAR S-PARAMETERS

Model: AR2588 Vcc=+8V Icc=244.3

FREQ.	S11		S21		S12		S22	
MHz	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
10	0.23	-72.20	8.62	74.50	0.016	83.20	0.41	146.70
15	0.13	-41.90	9.42	45.00	0.019	46.10	0.27	156.90
20	0.13	-21.40	9.43	30.60	0.019	30.20	0.26	164.40
50	0.16	-7.90	9.14	5.80	0.019	11.30	0.25	170.70
100	0.16	-7.50	8.81	-7.70	0.020	5.30	0.24	166.10
200	0.17	-16.80	8.90	-17.10	0.020	-5.90	0.25	163.90
400	0.16	-25.90	9.28	-44.10	0.019	-12.80	0.24	150.70
600	0.15	-37.40	9.32	-68.80	0.019	-24.30	0.24	138.20
800	0.15	-49.70	9.35	-93.20	0.019	-34.40	0.24	124.50
1000	0.15	-61.50	9.38	-117.30	0.019	-46.00	0.23	110.00
1200	0.15	-72.50	9.39	-141.90	0.020	-56.50	0.23	93.00
1400	0.15	-83.00	9.35	-166.70	0.018	-66.90	0.22	74.80
1600	0.16	-96.30	9.29	168.60	0.018	-77.40	0.21	54.30
1800	0.13	-117.80	8.90	142.80	0.021	-93.00	0.19	39.50
2000	0.13	-110.00	8.85	121.60	0.018	-107.70	0.22	12.40
2200	0.14	-119.20	8.86	98.40	0.017	-117.20	0.22	-11.80
2400	0.13	-132.70	8.87	73.50	0.019	-129.80	0.23	-32.00
2600	0.11	-142.50	8.90	48.70	0.019	-143.00	0.24	-50.80
2800	0.09	-156.20	8.99	23.80	0.020	-155.80	0.26	-67.90
3000	0.06	-177.80	9.30	-2.70	0.023	-171.40	0.27	-85.50