

# AGS2520 700 TO 2500 MHz SMT0-8 GAIN CONTROL AMPLIFIER

**Typical Values**

<b>Broad Bandwidth</b> . . . . .	<b>AGS2520</b>
<b>Medium Output Level</b> . . . . .	<b>700-2500 MHz</b>
<b>AGC Range (Vc = 0 to 5)</b> . . . . .	<b>+15.0 dBm</b>
<b>High Performance Thin Film</b>	<b>+20 dB</b>
<b>Surface Mount TO-8 Package</b>	

## SPECIFICATIONS\*

Parameter	Typical	Guaranteed		
		0 to 50 °C	-55 to +85 °C	
<b>Frequency (Min.)</b>		<b>0.7-2.5 GHz</b>	<b>0.7-2.5 GHz</b>	<b>0.7-2.5 GHz</b>
<b>Small Signal Gain (Min.)</b> Vc=0	5.5 dB	4.8 dB	4.3 dB	
<b>Gain Flatness (Max.)</b>	±0.2 dB	±0.4 dB	±0.5 dB	
<b>AGC Range (Min.)</b>	20 dB	18 dB	—	
<b>Noise Figure (Max.)</b>	5.5 dB	6.0 dB	6.5 dB	
<b>SWR (Max.)</b>	Input Output	<1.6:1 2.0:1	2.0:1 2.1:1	2.0:1 2.2:1
<b>Power Output (Min.)</b> @ 1dB comp.	+15.0 dBm	+14.5 dBm	+14.0 dBm	
<b>Response Time</b> Full AGC	<3 µsec	—	—	
<b>DC Current (Max.)</b> Bias	60.0 mA	66.0 mA	68.0 mA	

\* Measured in a 50-ohm system at +5 Vdc and 0.0 Control Voltage unless otherwise specified.  
^ AGC Voltage: 0 to +5 Volts.

## INTERMODULATION PERFORMANCE

<b>Typical @ 25 °C, Vc = 0, 1500 MHz</b>	<b>AGS2520</b>
<b>Second Order Harmonic Intercept Point</b> . . . . .	<b>+42 dBm</b>
<b>Second Order Two Tone Intercept Point</b> . . . . .	<b>+36 dBm</b>
<b>Third Order Two Tone Intercept Point</b> . . . . .	<b>+26 dBm</b>

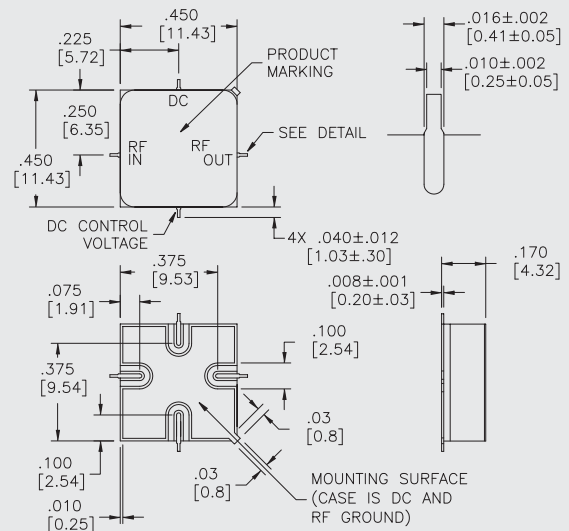
## ABSOLUTE MAXIMUM RATINGS

<b>Storage Temperature</b> . . . . .	<b>-62 to +125 °C</b>
<b>Maximum Case Temperature</b> . . . . .	<b>+125 °C</b>
<b>Maximum DC Voltage</b> . . . . .	<b>+10 Volts</b>
<b>Maximum Continuous RF Input Power</b> . . . . .	<b>+13 dBm</b>
<b>Maximum Short Term Input Power (1 Minute Max.)</b> . . . . .	<b>50 Milliwatts</b>
<b>Maximum Peak Power (3 µsec Max.)</b> . . . . .	<b>0.5 Watt</b>
<b>Burn-in Temperature</b> . . . . .	<b>+125 °C</b>
<b>Thermal Resistance<sup>1</sup> (θjc)</b> . . . . .	<b>+61.6 °C/Watt</b>
<b>Junction Temperature Rise Above Case (Tjc)</b> . . . . .	<b>+16.9 °C</b>

<sup>1</sup> Thermal resistance is based on total power dissipation.

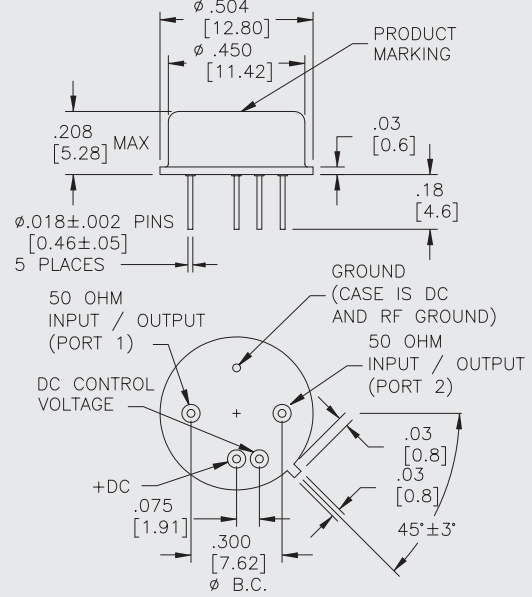
## AGS2520

### SMT0-8 Package for Gain Control Amplifier



## AGC2520

### TO-8 Package for Gain Control Amplifiers

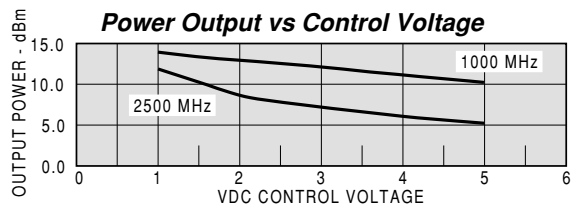
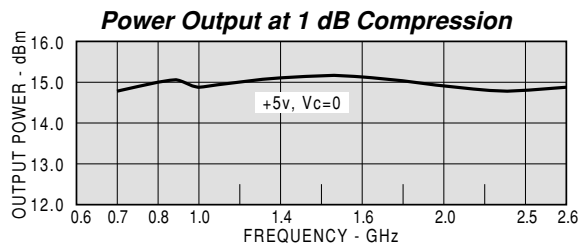
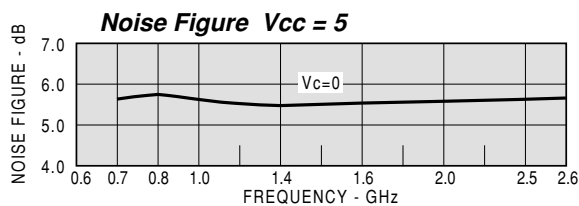
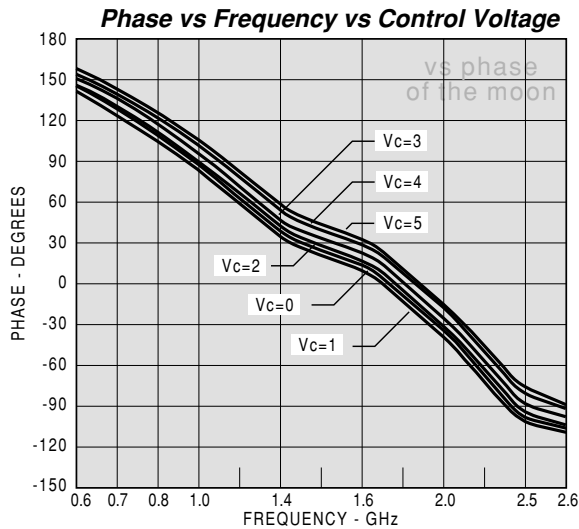
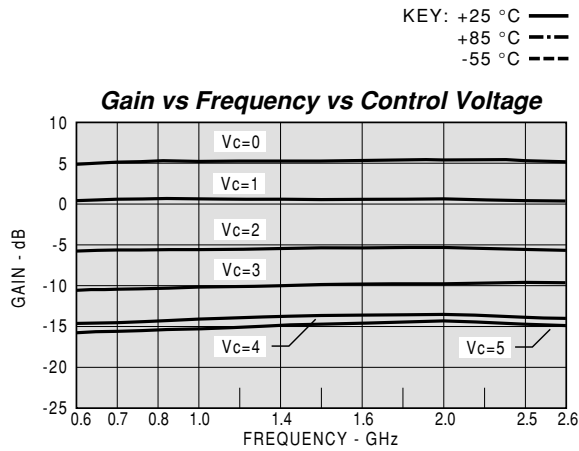


Connectorized attenuator case available.

DIMENSIONS ARE IN INCHES [MILLIMETERS]

**TYPICAL PERFORMANCE**

**TYPICAL AUTOMATIC TEST DATA**



Model: AGS2520 Vcc= +5V Vcontrol=+0.0V Icc= 57.57

FREQ MHZ	SWR IN	SWR OUT	GAIN DB	PHASE DEG	DELAY NSEC	REV/ISO DB
600	1.85	1.58	4.73	149	0.48	-24.9
1000	1.57	1.62	5.16	92	0.36	-25.7
1500	1.48	1.78	5.31	31	0.33	-25.7
2000	1.41	1.95	5.69	-30	0.38	-25.9
2500	1.33	1.89	5.59	-89	0.34	-25.6
2600	1.33	1.87	5.49	-101	0.35	-25.7

Model: AGS2520 Vcc= +5V Vcontrol=+2.0V Icc= 57.53

FREQ MHZ	SWR IN	SWR OUT	GAIN DB	PHASE DEG	DELAY NSEC	REV/ISO DB
600	1.33	1.28	-6.49	149	0.46	-36.4
1000	1.18	1.25	-6.19	94	0.35	-37.4
1500	1.15	1.36	-5.95	33	0.33	-37.9
2000	1.22	1.46	-5.87	-25	0.33	-38.6
2500	1.30	1.59	-6.44	-86	0.32	-39.2
2600	1.32	1.62	-6.56	-98	0.33	-39.9

Model: AGS2520 Vcc= +5V Vcontrol=+5.0V Icc= 57.55

FREQ MHZ	SWR IN	SWR OUT	GAIN DB	PHASE DEG	DELAY NSEC	REV/ISO DB
600	1.43	1.56	-16.41	161	0.42	-46.1
1000	1.44	1.57	-15.42	110	0.32	-46.5
1500	1.51	1.69	-14.39	50	0.33	-47.0
2000	1.60	1.80	-14.03	-8	0.32	-47.3
2500	1.67	1.98	-14.80	-67	0.28	-48.5
2600	1.68	2.03	-14.91	-78	0.32	-49.0

