

## BROADBAND DISTRIBUTED AMPLIFIER (POSITIVE-BIAS ONLY)

**AP-0010**

The AP-0010 is a positive bias only multipurpose amplifier available in a connectorized or surface mount EZ package. It consists of two distributed MMIC amplifiers with positive only bias circuitry to provide resonance free gain with high saturated output power from 20 MHz to 10 GHz. It can be used for generation of square wave LO drives for T3 mixers (in saturation mode), general purpose LO drive signal generation or as a general purpose gain block for lab use (in linear mode).

NOTE: This product is obsolete.  
[Please see this letter for more information.](#)



### Features

- Positive Bias Only Required
- Non-Inverting Output
- Surface Mount Package Available
- +24 dBm Typical Saturated Output Power
- Buffer- Amplifiers for Mixer LO
- 3<sup>rd</sup> and 5<sup>th</sup> Harmonic Generation

**Electrical Specifications** - Specifications guaranteed from -30 to +70°C, measured in a 50-Ohm system.

Parameter	Frequency (GHz)	Min	Typ	Max	
Input for Saturated Output (dBm)	.020-10.0	+5	+10	+17	
Saturated Output Power (dBm)					
+7 Volts Bias		+18	+24		
+5 Volts Bias		+16	+21		
Saturated Output Voltage ( $V_{p-p}$ ) <sup>1</sup>				10	
Small Signal Gain (dB)				22	
Return Loss (dB)				15	
Reverse Isolation (dB)				50	
Output Third Order Intercept (dBm)				27	
Rise/Fall Time (ps) <sup>2</sup>				15	
Power Consumption (W)				1.3	2.6
Bias Requirements (mA)					
+5.0 to +8.0 Volts DC			260	325	

<sup>1</sup>With a 50 Ω load impedance

<sup>2</sup>Minimum rise/fall time with a saturated input. See plot on page 4 for more detail

Model Number	Description	Package Style(s) <sup>2</sup>
AP-0010EZ <sup>1</sup> ( <a href="#">OBS</a> ) AP-0010EZP ( <a href="#">OBS</a> )	20 MHz to 10.0 GHz Amplifier	<a href="#">EZ</a> , <a href="#">EZP</a>

<sup>1</sup>EZ-Carrier Distributed Amplifiers are not suitable for in-line reflow solder. Manual assembly only.

(Refer to [EZ/EQ Amplifiers Installation Notes](#)).

<sup>2</sup>Connectorized test fixtures available for most carrier and surface mount packages. Contact factory.

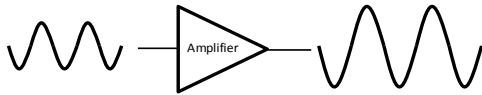
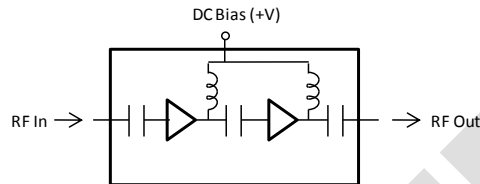
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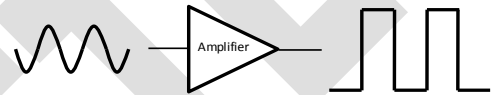
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Frequency .020 to 10.0 GHz

## Schematic

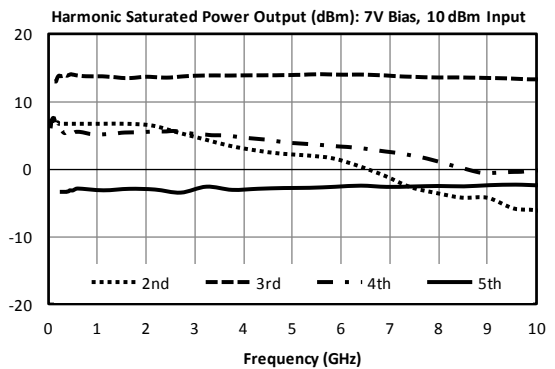
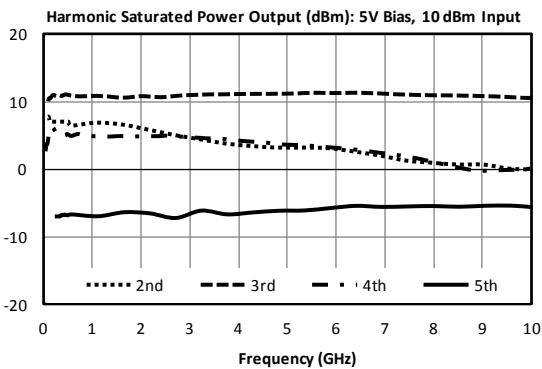
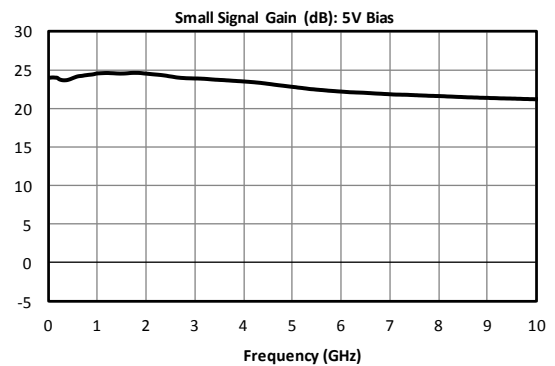
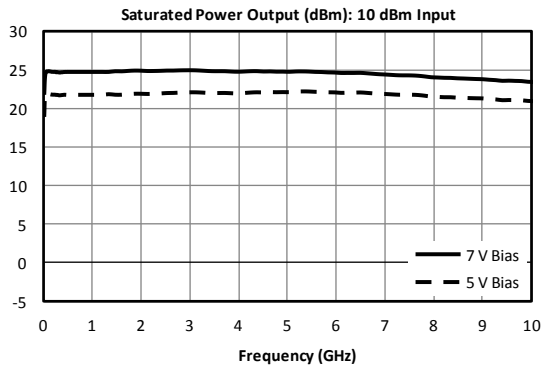


Linear operation (<-5 dBm)



Saturated operation (>+5 dBm)

## Typical Performance

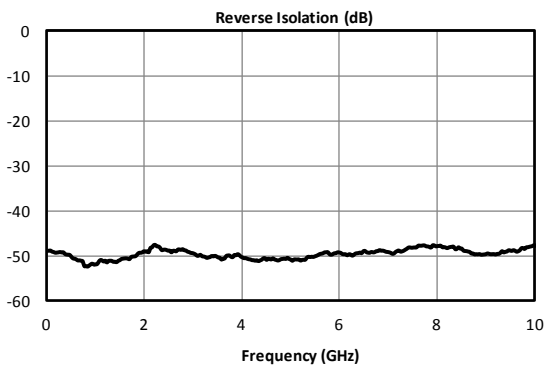
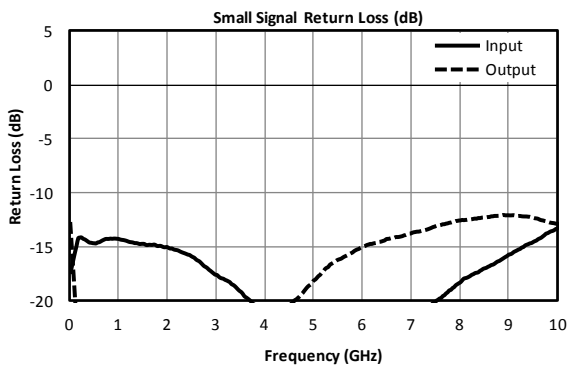
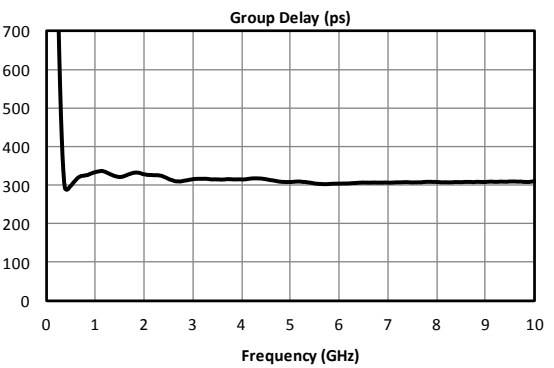
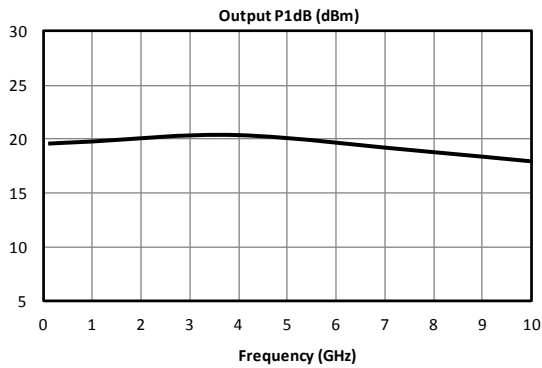
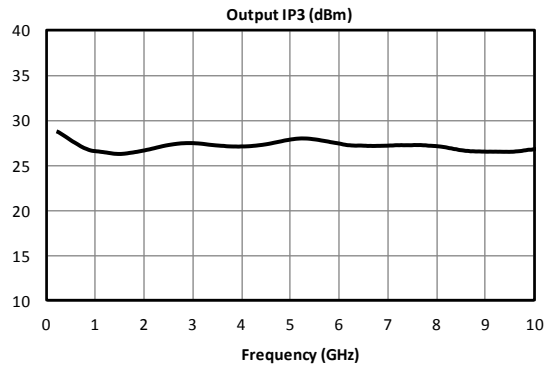
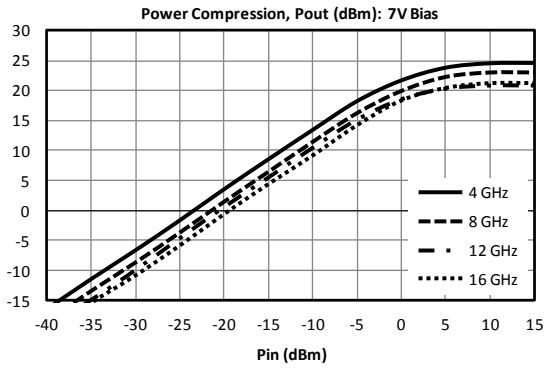


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Frequency .020 to 10.0 GHz

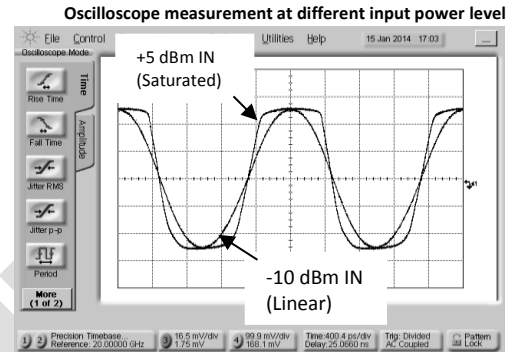
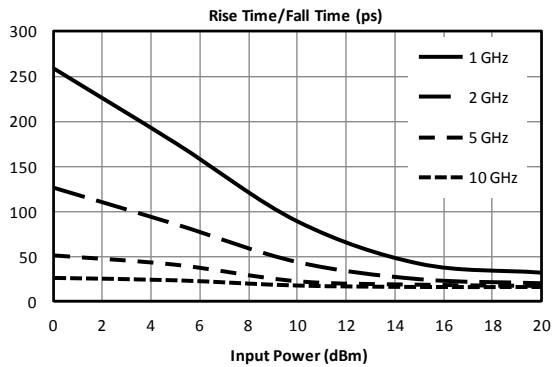


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Frequency .020 to 10.0 GHz



## DATA SHEET NOTES:

1. Maximum input power without damage is +17 dBm at +70°C.
2. Specifications are subject to change without notice. Contact Marki Microwave for the most recent specifications and data sheets.

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