

## DESCRIPTION

AMCOM's AM06013033WM-EM-R is a broadband GaAs MMIC which operates between 6 and 13 GHz with 27 dB gain and 33 dBm output power. The EM package is a ceramic package with a flange and straight RF and DC leads for drop-in assembly. The MMIC Input and output are internally matched to 50 Ohms.

## FEATURES

- Ultra-Broadband from 6 to 13GHz
- Saturated output power  $P_{sat}$  is 33 dBm
- Gain, 27 dB
- Input & output matched to 50 Ohms

## APPLICATIONS

- Test Instrumentation
- Commercial telecom transmission equipment
- Military and Space

## TYPICAL PERFORMANCE \* (Packaged (AM06013033WM-EM-R))

**Bias Conditions\*\*:**  $V_{ds} = +8V$ ,  $I_{ds} = 650mA$

Parameters	Minimum	Typical **	Maximum
Frequency	7 – 12 GHz	6 – 13 GHz	
Small Signal Gain	23	27	
Gain Ripple	-	± 1.5 dB	± 3.0dB
P1dB	-	31.5 dBm	
P3dB	31 dBm	33 dBm	
P3dB Efficiency	-	25%	
NF	-	9	
Input Return Loss	-	10dB	
Output Return Loss	-	6dB	

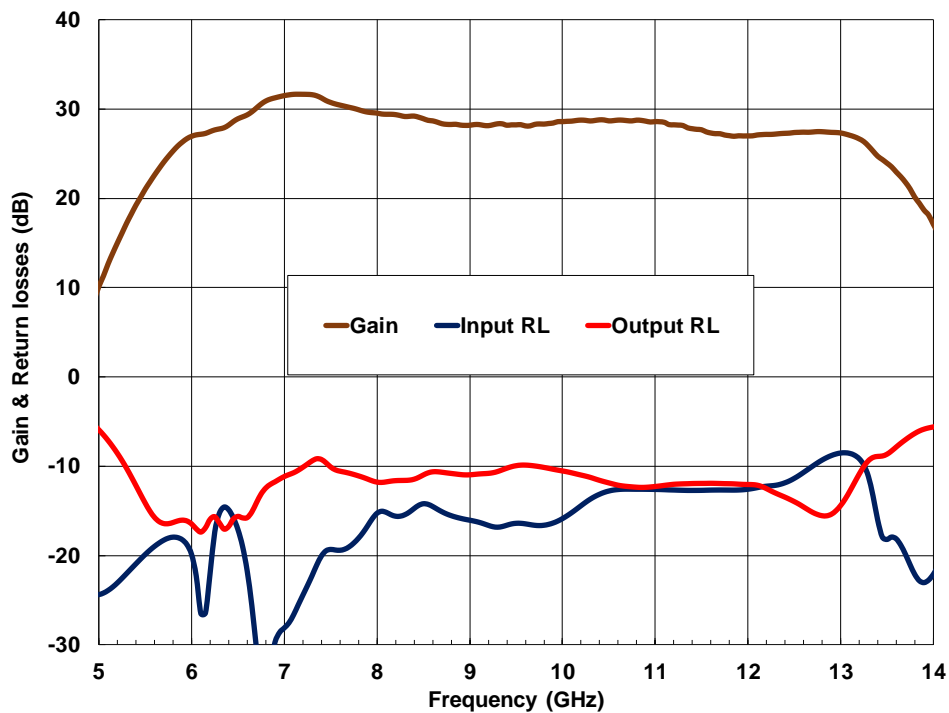
\*\*Specifications are subject to change without notice.

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## ABSOLUTE MAXIMUM RATING

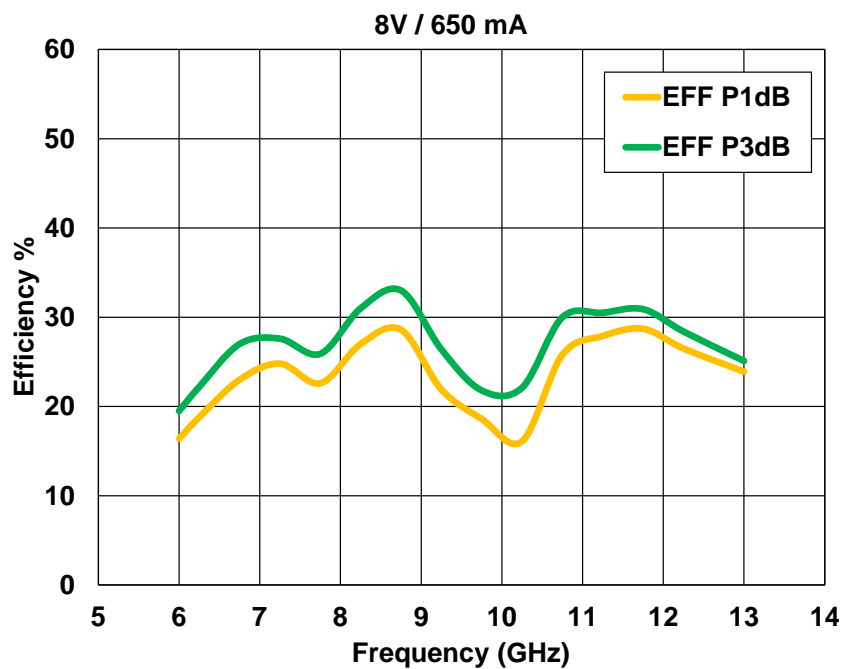
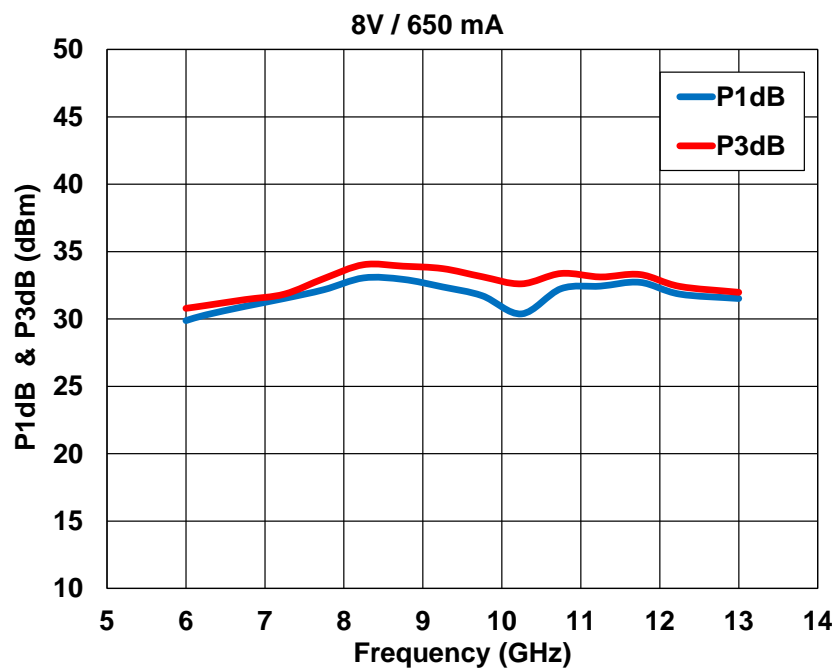
Parameters	Symbol	Rating
Drain voltage	$V_{ds}$	10V
Gate voltage	$V_{gs}$	-4V
Total Drain current	$I_{dsq}$	1.1A
Continuous dissipation at 25°C	$P_t$	8W
Channel temperature	$T_{ch}$	175°C
Operating temperature	$T_{op}$	-40°C to +85°C
Storage temperature	$T_{sto}$	-55°C to +135°C

## SMALL SIGNAL DATA\*

 $V_{ds} = +8V, I_{ds} = 650mA$ 

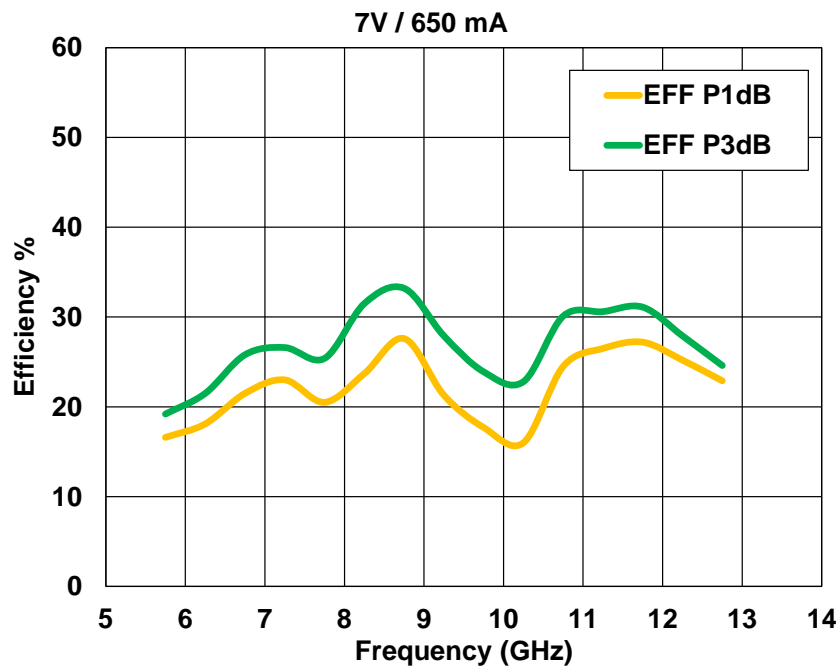
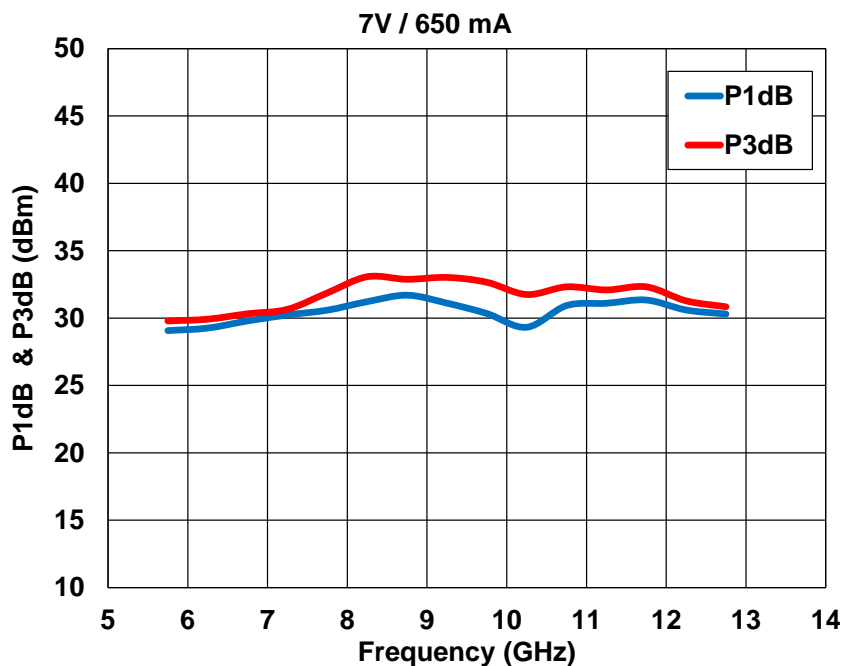
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## POWER DATA

A) Bias  $V_{ds}=+8V$ ,  $I_{ds}=650mA$ 

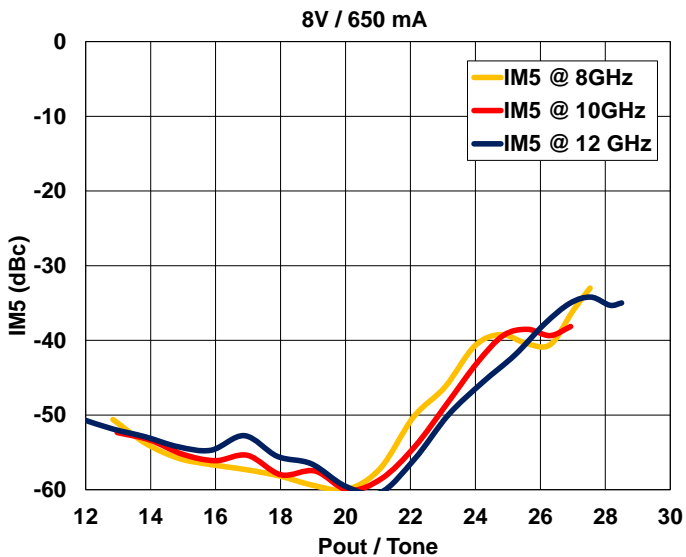
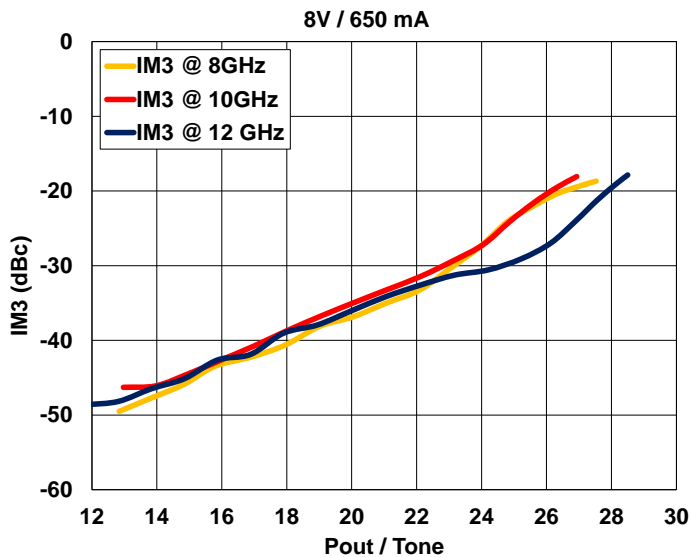
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B) Bias  $V_{ds}=+7V$ ,  $I_{ds}=650mA$

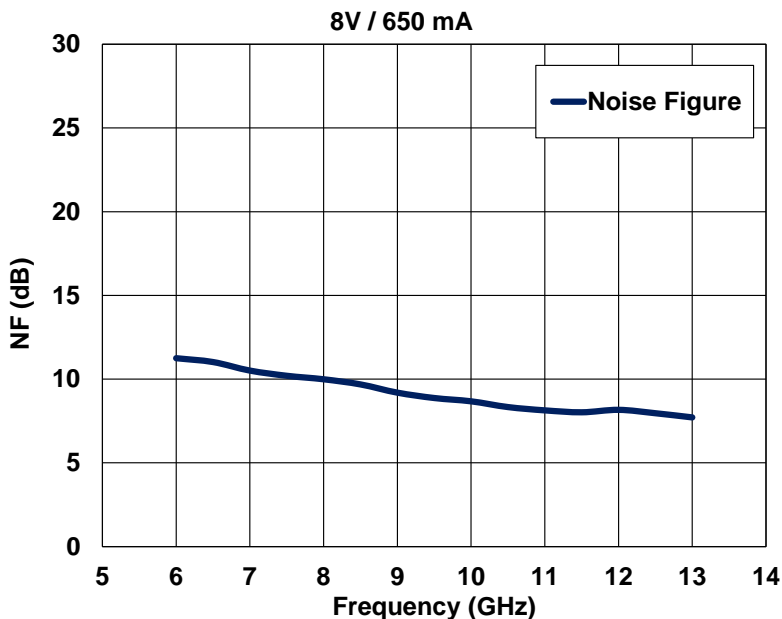


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## IM3/IM5 MEASUREMENTS

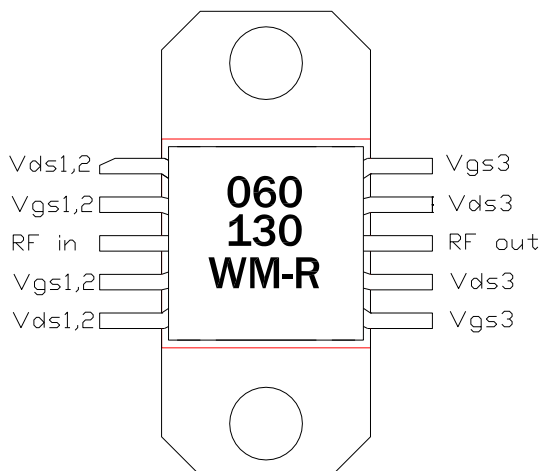
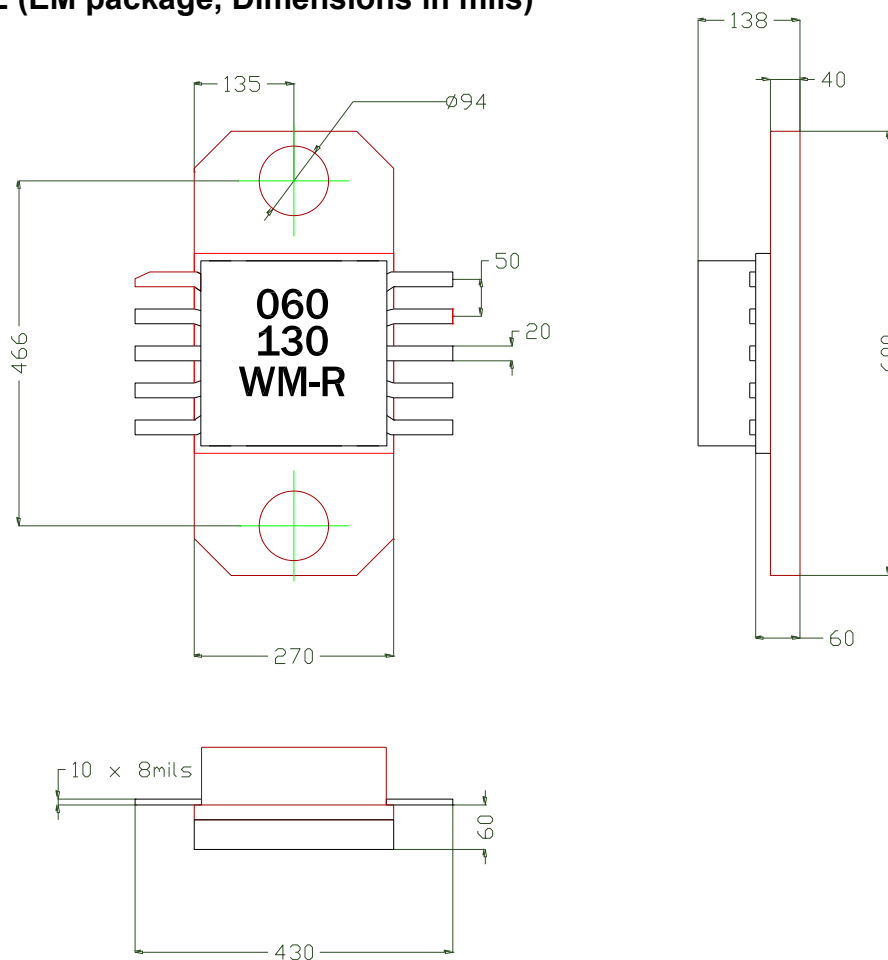


## NOISE FIGURE



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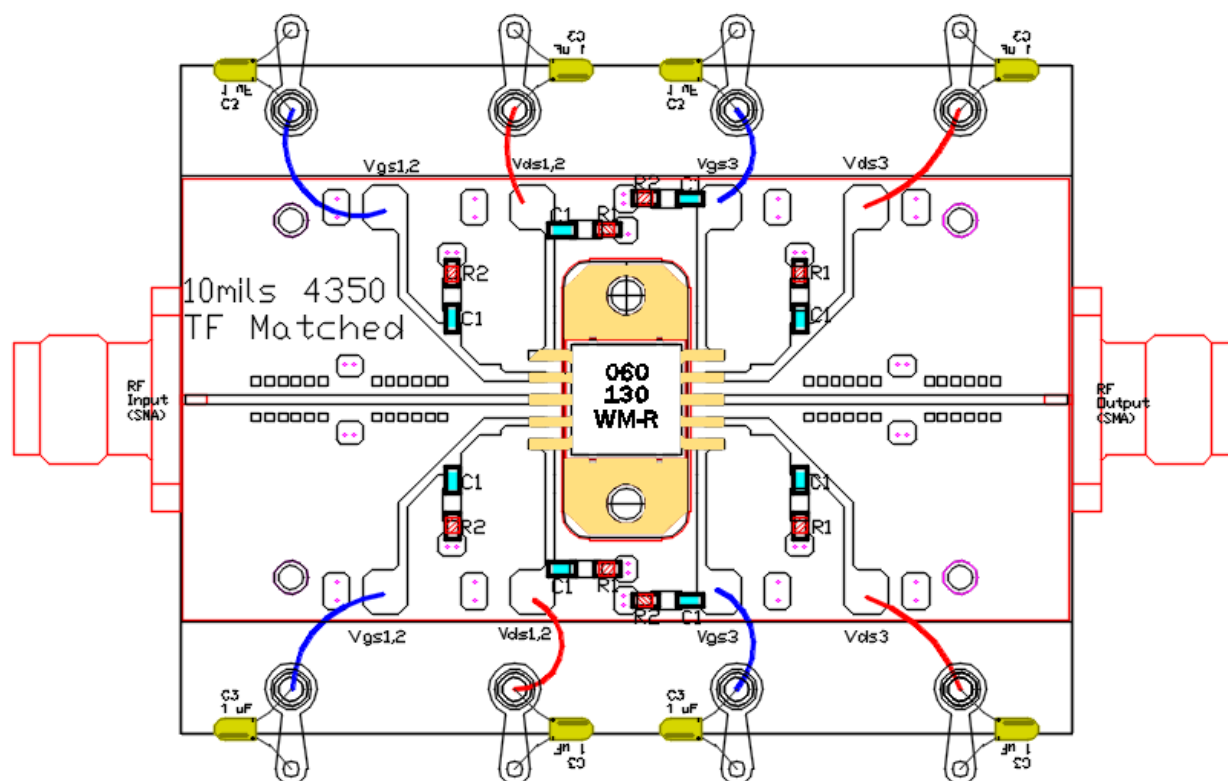
PACKAGE OUTLINE (EM package, Dimensions in mils)



Pin No.	Function	Bias*
1	Vds1,2	+8V
2	Vgs1,2	-0.75V
3	RF in	-
4	Vgs1,2	-0.75V
5	Vds1,2	+8V
6	Vgs3	-0.75V
7	Vds3	+8V
8	RF out	-
9	Vds3	+8V
10	Vgs3	-0.75V

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## AMCOM'S Packaged EVB (DXF file Available)



## Notes:

- 1- 10mils Rogers 4350 Material epoxed
- 2- Ckt is for matched MMICs
- 3- C1=1000pF, R1=5 ohms, R2=43 ohms
- 4- 1 uF tantalum capacitor is added at each bias
- 5- All Caps & Resistors are 0603 size

## Note:

- 1) Current of stages 1,2 is 250mA total
- 2) Current of stage 3 is 400mA