

DESCRIPTION

AMCOM's AM284233MM-BM/EM/FM-R is part of the GaAs MMIC power amplifier series. It has 34dB gain and 33dBm output power over the 2.8 to 4.2GHz band. This MMIC is in a ceramic package with both RF and DC leads at the lower level of the package to facilitate low-cost SMT assembly to the PC board. When mounting directly to PCB, please see application note AN700 for instructions. Because of high DC power dissipation, we strongly recommend to mount these devices directly on a metal heat sink. The AM284233MM-FM-R is the AM284233MM-BM-R mounted on a gold plated copper flange carrier. The EM package has the same footprint as the FM package with straight leads and a Copper/Tungsten flange instead of the Copper flange. There are two screw holes on the flange to facilitate screwing on to a metal heat sink. This MMIC is RoHS compliant.

FEATURES

- Wide bandwidth from 2.8 to 4.2GHz
- High output power, P1dB = 33dBm
- High gain, 34dB
- Fully matched; 50-ohm input/output impedance

APPLICATIONS

- Wireless Internet Access
- Wireless Local Loop
- Two way radio

PERFORMANCE* ($V_{ds} = 8V$, $I_{dq} = 1000mA$, $V_{gs} = -0.7V$, $T_a = 25^\circ C$)

Parameters	Minimum	Typical	Maximum
Frequency	3.0 – 4.0GHz	2.8 – 4.2GHz	
Gain (Small signal)	30dB	34dB	38dB
Gain Ripple		$\pm 1.5dB$	$\pm 3dB$
P1dB	31.5dBm	33dBm	
IP3		40dBm	
Efficiency	20%	25%	
Input Return Loss	4dB	6dB	
Output Return Loss	6dB	13dB	
Thermal Resistance		8.3°C/W	

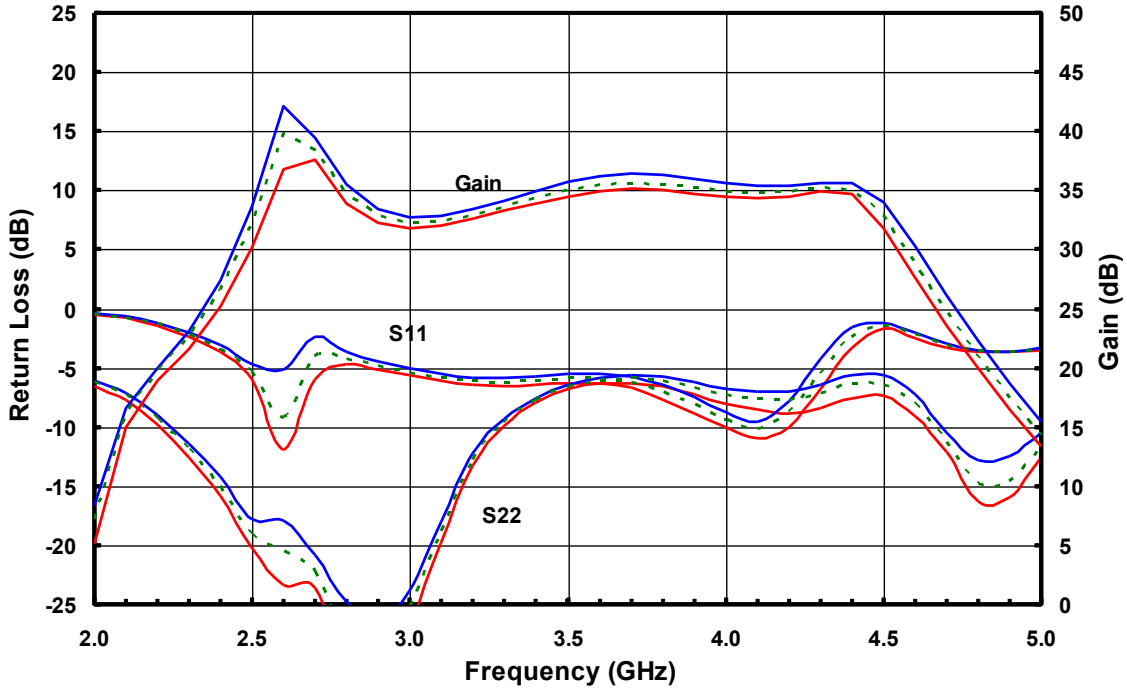
*Specifications subject to change without notice.

ABSOLUTE MAXIMUM RATING

Parameters	Symbol	Rating
Drain source voltage	V_{ds}	10V
Gate source voltage	V_{gs}	-5V
Drain source current	I_{ds}	1.8A
Continuous dissipation at room temperature	P_t	18W
Channel temperature	T_{ch}	175°C
Storage temperature	T_{sto}	-55°C to +135°C

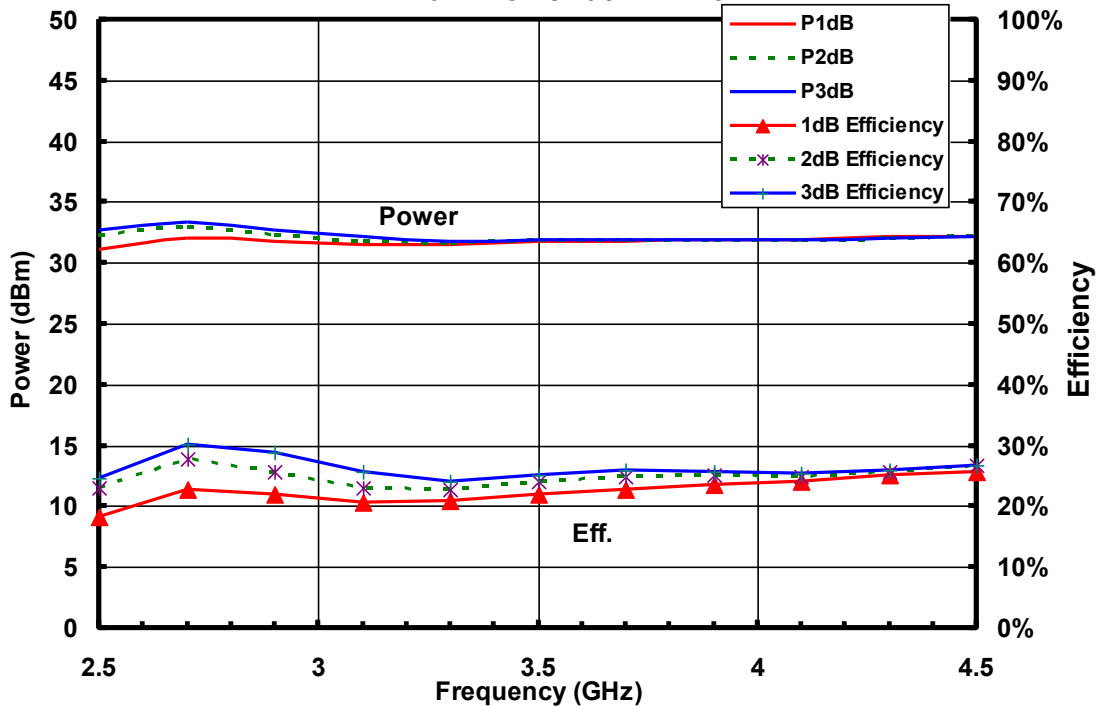
SMALL SIGNAL DATA

Min & Max Data at 7V, 1.0A

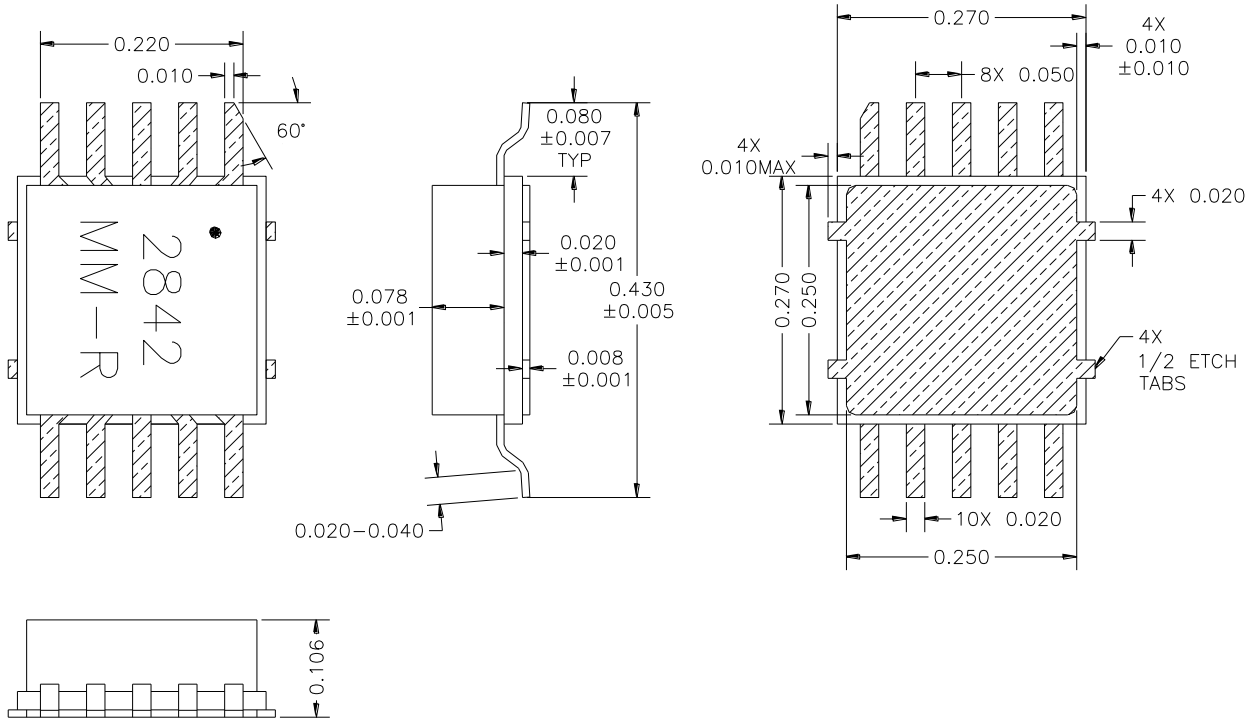


POWER DATA

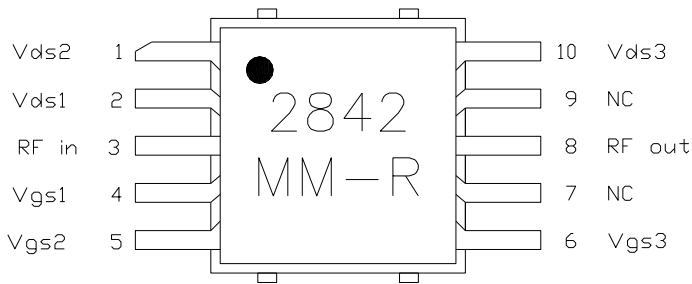
Minimum Power at +7V/1.0A



PACKAGE OUTLINE



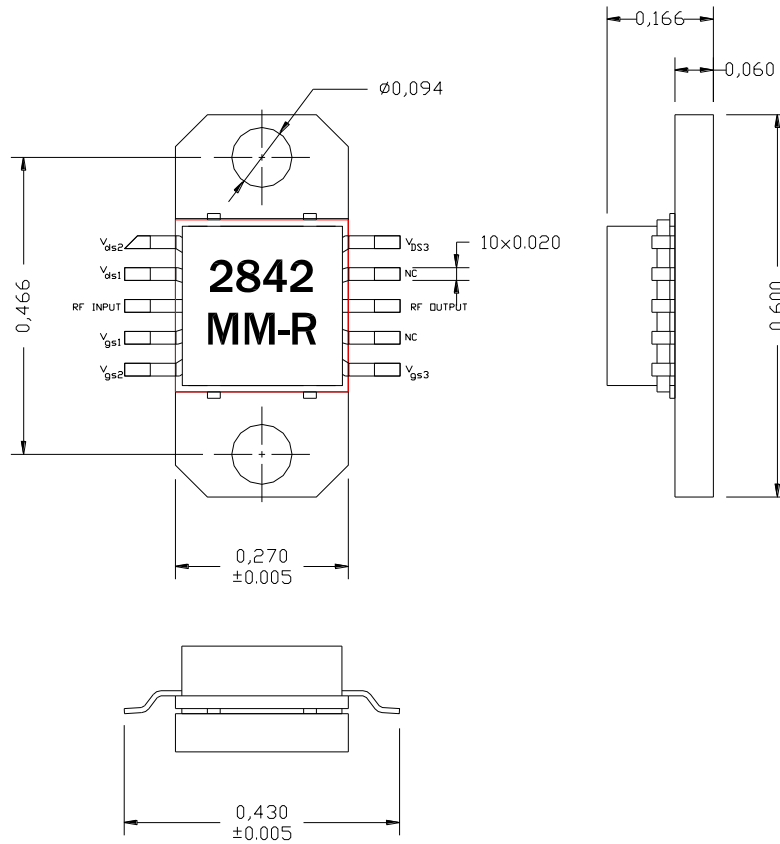
PIN LAYOUT



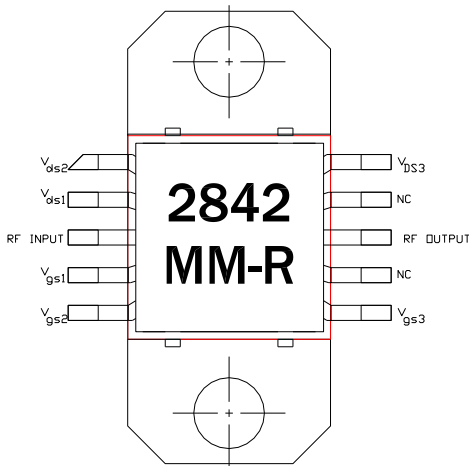
Pin No.	Function	Bias*
1	Vds2	+7V
2	Vds1	+7V
3	RF in	
4	Vgs1	-0.7V
5	Vgs2	-0.7V
6	Vgs3	-0.7V
7	NC	
8	RF out	
9	NC	
10	Vds3	+7V

* Vgs1, Vgs2 & Vgs3 may vary from lot to lot

PACKAGE OUTLINE (FM)*



PIN LAYOUT

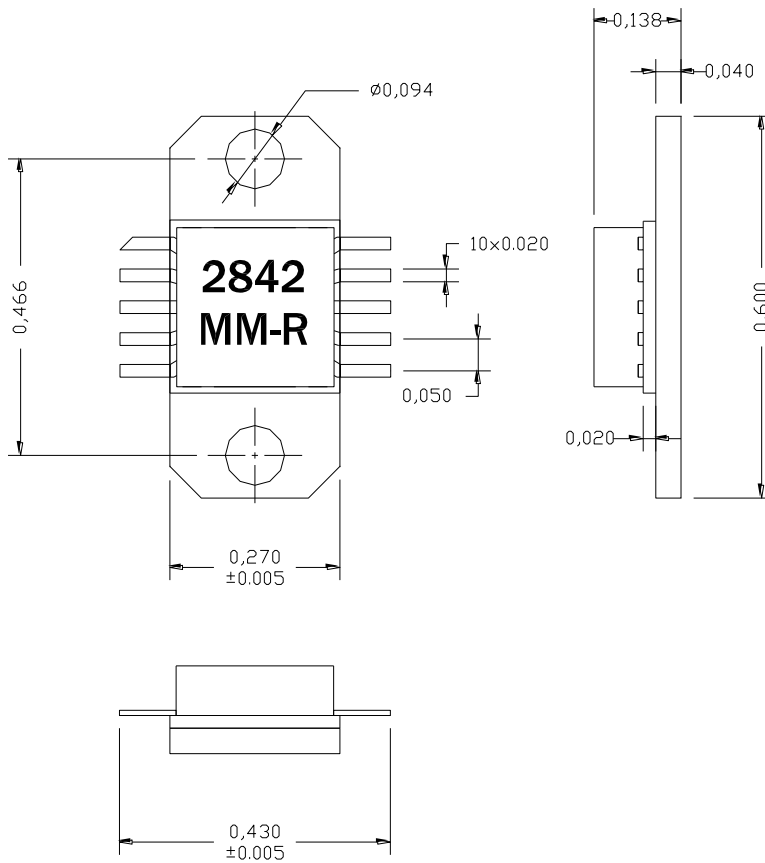


Pin No.	Function	Bias**
1	V _{ds2}	+7V
2	V _{ds1}	+7V
3	RF in	
4	V _{gs1}	-0.7V
5	V _{gs2}	-0.7V
6	V _{gs3}	-0.7V
7	NC	
8	RF out	
9	NC	
10	V _{ds3}	+7V

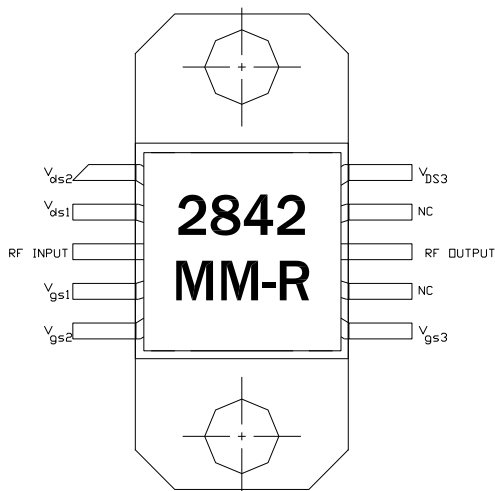
* FM version flange is made of Copper

** V_{gs1}, V_{gs2}, & V_{gs3} gate biases are for reference only and may vary from lot to lot

PACKAGE OUTLINE (EM)*



PIN LAYOUT



Pin No.	Function	Bias**
1	Vds2	+7V
2	Vds1	+7V
3	RF in	
4	Vgs1	-0.7V
5	Vgs2	-0.7V
6	Vgs3	-0.7V
7	NC	
8	RF out	
9	NC	
10	Vds3	+7V

* EM version flange is made of CuW

** V_{gs1}, V_{gs2}, & V_{gs3} gate biases are for reference only and may vary from lot to lot