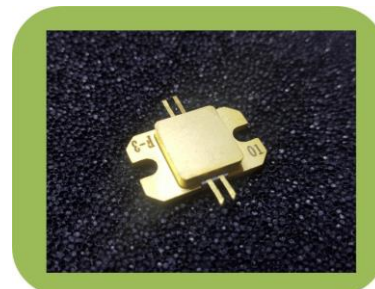


NGM9098M7S-M10 is a two stage Gallium Nitride amplifier internally matched to 50Ω. This high performance product offers high gain on a small footprint. It is developed for 9.0-9.8 GHz high power communications and pulsed radar amplifiers in an hermetically sealed package to enable use in applications with high reliability requirements.

Features

- 9.0-9.8 GHz operation
- 10W output power
- 20dB powergain
- 45% efficiency
- 50Ω input and output impedance



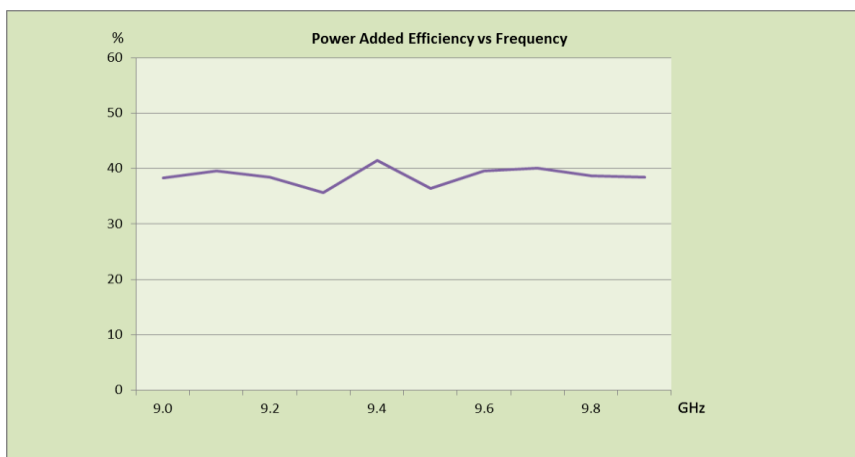
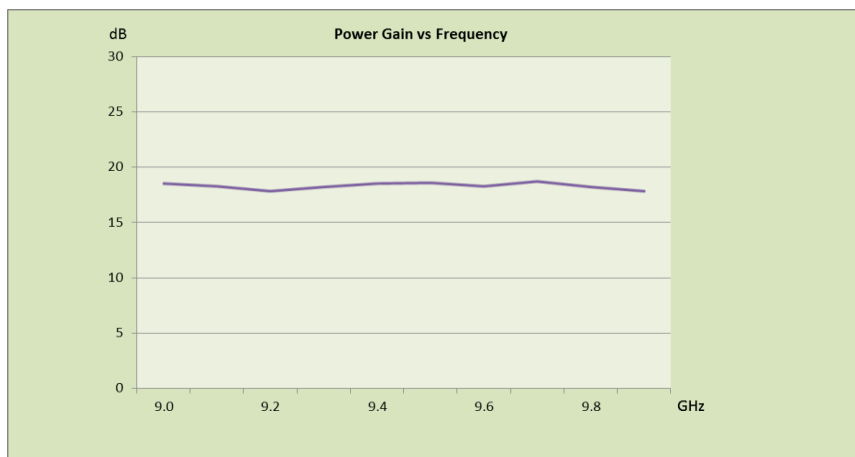
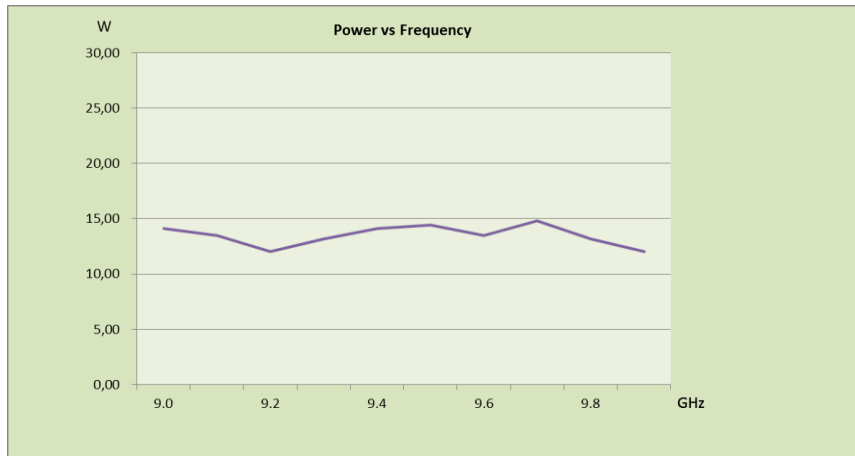
Characteristics	Symbol	Min.	Typ.	Max.	Units	Conditions
<b>DC Characteristics</b>						
Gate Threshold Voltage	$V_{GS(th)}$		-3.0		V <sub>DC</sub>	V <sub>DS</sub> = 10 V, I <sub>b</sub> = 3.6 mA
Gate Quiescent Voltage	$V_{GS(Q)}$		-2.9		V <sub>DC</sub>	V <sub>DS</sub> = 40 V, I <sub>b</sub> = 50 mA
Drain Current	I <sub>DS</sub>		3.3		A	V <sub>DS</sub> = 6.0 V, V <sub>GS</sub> = 2.0 V
Drain-Source Breakdown Voltage	V <sub>BR</sub>	120			V <sub>DC</sub>	V <sub>GS</sub> = -8 V, I <sub>b</sub> = 3.6 mA
<b>RF Characteristics</b> (V <sub>DD</sub> = 40V, T <sub>c</sub> = 25°C, F = 9.0-9.8 GHz, I <sub>DO</sub> = 100mA)						
Power Gain	G <sub>LS</sub>		19		dB	P <sub>in</sub> = 21dBm cw
Power Output	P <sub>SAT</sub>		10		W	P <sub>in</sub> = 21dBm cw
Power Gain	G <sub>LS</sub>		20		dB	P <sub>in</sub> = 20dBm 200 μs/10%
Power Output	P <sub>SAT</sub>		10		W	P <sub>in</sub> = 20dBm 200 μs/10%
Small Signal Gain	G <sub>SS</sub>		26		dB	
Input Return Loss	S <sub>11</sub>		-10		dB	
Drain Efficiency	η		40		%	P <sub>in</sub> = 21dBm cw
Drain Efficiency	η		45		%	P <sub>in</sub> = 20dBm 200 μs/10%
Output Mismatch	VSWR			5:1	ψ	

Maximum Ratings	Symbol	Rating	Units	Conditions
<b>Parameter</b>				
Drain-Source Voltage	V <sub>DSS</sub>	100	V <sub>DC</sub>	
Gate-Source Voltage	V <sub>GS</sub>	-10, +2	V <sub>DC</sub>	
Storage temperature	T <sub>STG</sub>	-65 - 150	°C	
Operating Junction Temperature	T <sub>J</sub>	225	°C	
Maximum Drain Current	I <sub>DMAX</sub>	2.4	A	
Maximum Forward Gate Current	I <sub>GMAX</sub>	3.6	mA	
Thermal Resistance Junction to Case	R <sub>θJC</sub>	8.8	°C/W	

Note: Subject to change without notice.

**Measured performance**

( $V_{DD}=40V$ ,  $T_c = 25^\circ C$ ,  $I_{DQ} = 100mA$ ,  $P_{in}=23dBm$  CW)

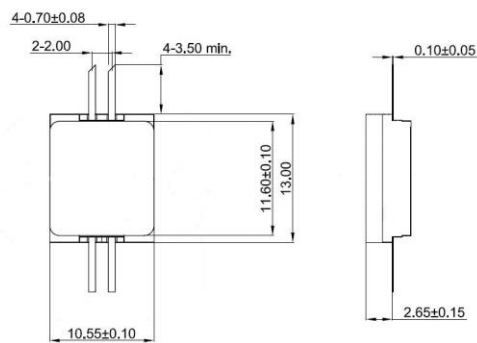
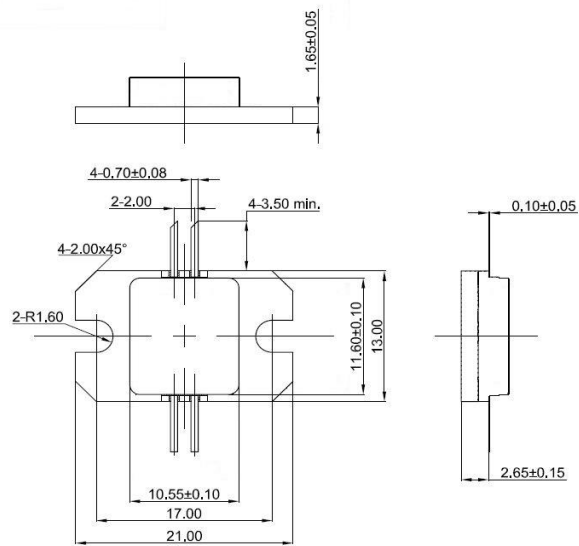


Note: Subject to change without notice.

Package Drawing



Pin	Function
1	RF in
2	Vgs
3	RF out
4	Vdd



Note: Subject to change without notice.