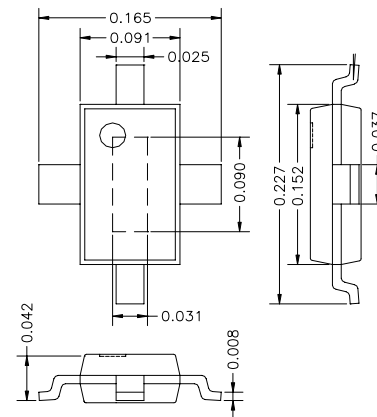




DESCRIPTION

AMCOM's AM024MX-QG-R is a part of the QG series of GaAs MESFETs. This part has a total gate width of 2.4mm. The AM024MX-QG-R is designed for high power microwave applications, operating up to 6 GHz. The QG series is in a plastic package with all leads bent in a surface mounting style on PC Board. The bottom of the package serves simultaneously as DC ground, RF ground, and thermal path. For frequencies above 5 GHz, we recommend to mount the device directly on a metal heat sink, which is also RF ground, to avoid the inductance of via holes on PCB. This FET is RoHS Compliant.



(All dimensions in inch)

FEATURES

- High Frequency Operation up to 6 GHz
- High Gain and High Power, $P_{1dB}=28dBm$ @3.5GHz
- Plastic Package for Low Cost
- 3 Heat Sink Paths for Effective Heat Removal

APPLICATIONS

- Wireless Local Loop Network
- PCS Base Stations
- WLAN, Repeaters & HYPERLAN
- C-Band VSAT

RF PERFORMANCE @ 3.5 GHz, ($V_{ds} = 5V$, $I_{ds} = 0.5 I_{dss}$)

Parameters	MIN	TYP
P_{1dB} (dBm)	27	28
Eff @ P_{1dB}	38%	42%
Small Signal Gain (dB)	12	13
IP3 (dBm)	37	39

* Power typically remains the same as frequency changes.

ABSOLUTE MAXIMUM RATING

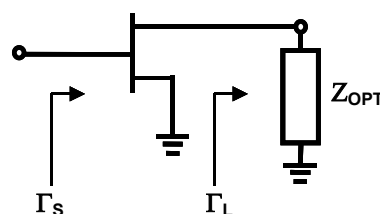
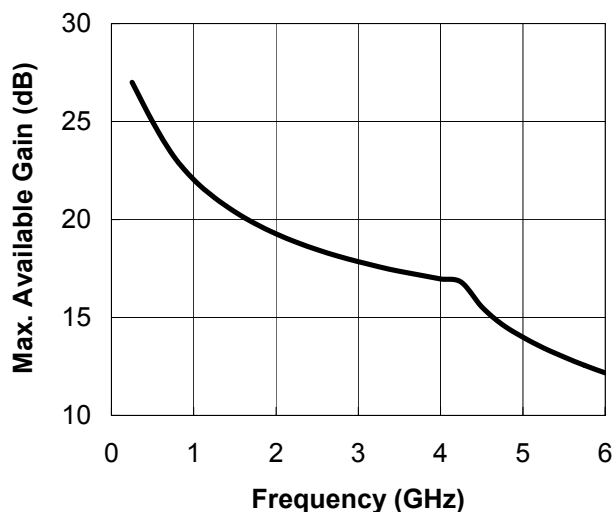
Parameters	Symbol	Rating
Drain-Source Voltage (V)	V_{ds}	8
Gate-Source Voltage (V)	V_{gs}	-5
Drain Current (mA)	I_{ds}	720
Continuous Dissipation At Room Temp. (W)	P_t	4.1
Operating Temp. ($^{\circ}C$)	T_A	-55 to +85
Max. Channel Temp. ($^{\circ}C$)	T_{ch}	+175

DC PARAMETERS

Parameters	Conditions	MIN	TYP	MAX
Saturation Current I_{dss} (mA)	$V_{ds} = 3V$ $V_{gs} = 0V$	400	560	720
Pinch-off Voltage V_p (V)	$V_{ds} = 3V$ $I_{ds} = 2.5\% I_{dss}$	-2.6	-2	-1.0
Drain to Gate Breakdown Voltage BV_{gd} (V)	$I_{dg} = 0.1mA/mm$	11	15	
Drain to Source Voltage V_{ds} (V)	Mounted on PCB		5	
Drain to Source Voltage V_{ds} (V)	Mounted on Heat Sink		7	
Thermal Resistance ($^{\circ}C/W$)		35		

S-Parameters for AM024MX-QG-R @ 5V / 0.5 I_{dss} (s2p file downloadable from the web)

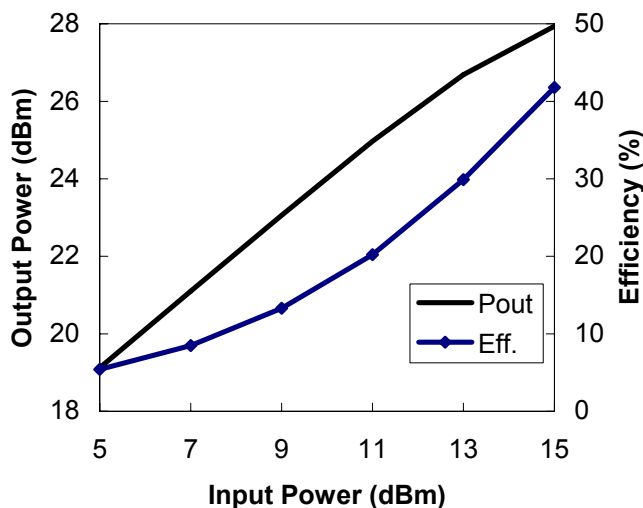
Freq (MHz)	MAG (S11)	ANG(S11)	MAG (S21)	ANG(S21)	MAG (S12)	ANG(S12)	MAG (S22)	ANG(S22)
1000	0.87	-139.836	7.087	96.043	0.043	21.112	0.436	-171.039
2000	0.865	-173.789	3.864	67.504	0.046	7.223	0.459	167.344
3000	0.859	162.594	2.647	45.5	0.046	-0.607	0.481	156.219
4000	0.864	144.664	2.041	25.875	0.043	-7.092	0.496	144.547
5000	0.867	130.539	1.662	6.471	0.046	-4.168	0.492	130.016
6000	0.869	112.348	1.48	-13.615	0.051	-16.327	0.511	112.414



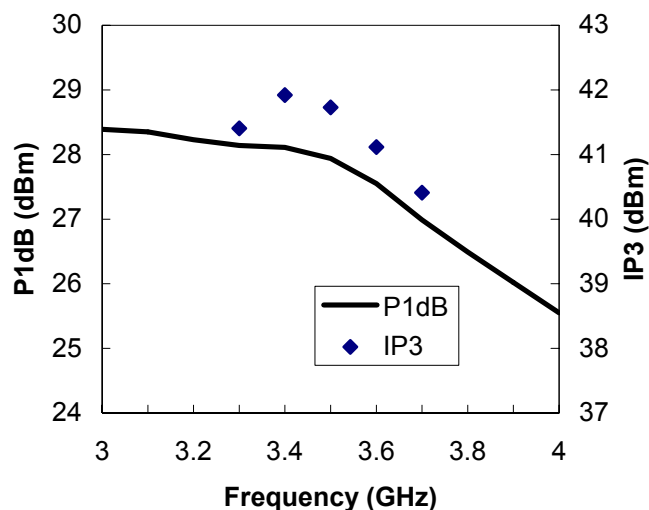
OPTIMUM LOADS

Freq GHz	Γ _s MAG	Γ _s ANG	Γ _L MAG	Γ _L ANG
1	0.944	-117.0	0.538	-171.8
2	0.923	-160.7	0.538	-163.4
3	0.915	174.9	0.537	-154.5
4	0.911	156.4	0.535	-144.9
5	0.906	139.8	0.532	-134.4
6	0.902	123.9	0.528	-122.7

V_{ds}=5V, I_{ds}=0.5 I_{dss} @ 3.5 GHz



V_{ds}=5V, I_{ds}=0.5 I_{dss}, Test CKT @ 3.5 GHz



Specifications subject to change without notice.