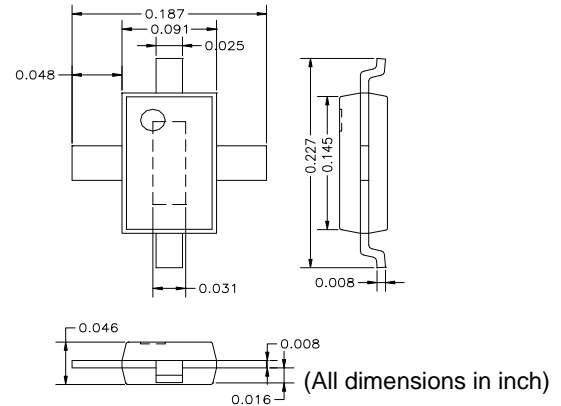




DESCRIPTION

AM024MX-QF-R is a GaAs MESFET with a total gate width of 2.4mm. It is RoHS compliant (Denoted by -R). The AM024MX-QF-R is designed for high power microwave applications, operating up to 6GHz. The QF series is in a plastic package with straight leads in a drop-in mounting style. The bottom of the package serves simultaneously as DC ground, RF ground, and thermal path.



FEATURES

- High Frequency Operation up to 6GHz
- High Gain and High Power, $P_{1dB}=29.5\text{dBm}$ @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, ($V_{ds} = 7V$, $I_{ds} = 0.5 I_{dss}$)

Parameters	MIN	TYP
P_{1dB} * (dBm)	28.5	29.5
Eff @ P_{1dB}	38%	42%
Small Signal Gain (dB)	12	13
IP3 (dBm)	39	40

* Power typically remains the same as frequency changes.

ABSOLUTE MAXIMUM RATING

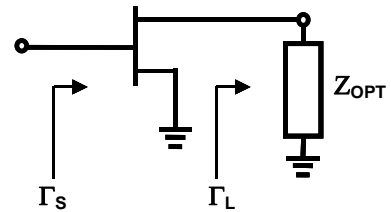
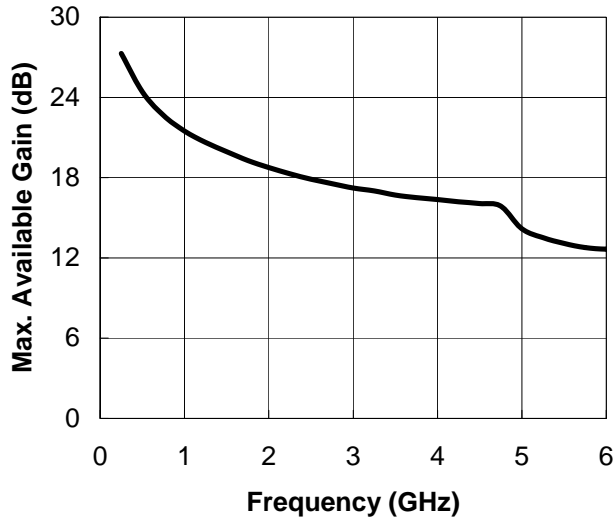
Parameters	Sym	Rating
Drain-Source Voltage (V)	V_{ds}	9
Gate-Source Voltage (V)	V_{gs}	-5
Drain Current (mA)	I_{ds}	720
Continuous Dissipation At Room Temp. (W)	P_t	4.1
Operating Temp. (°C)	T_A	-55 – +85
Max. Channel Temp. (°C)	T_{ch}	+175

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	-1.2
Drain to Gate Breakdown Voltage BV_{gd} (V)	$I_{dg} = 1\text{mA/mm}$	11	15	
Drain to Source Voltage V_{ds} (V)	Mounted on Heat Sink		7	8
Thermal Resistance (°C/W)		35		

S-Parameters for AM024MX-QF-R @ 7V / 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	0.869	-133.008	5.939	100.422	0.058	17.774	0.359	-146.664
2000	0.848	-169.039	3.31	70.949	0.061	1.876	0.387	-163.367
3000	0.851	172.969	2.293	49.313	0.059	-8.368	0.412	-177.414
4000	0.854	158.82	1.751	30.023	0.054	-15.387	0.44	169.883
5000	0.876	145.352	1.419	12.152	0.049	-20.062	0.459	159.383
6000	0.883	130.727	1.222	-5.673	0.045	-24.741	0.485	149.109
7000	0.888	114.324	1.094	-24.926	0.043	-32.377	0.505	137.273
8000	0.894	97.777	0.982	-44.584	0.039	-43.559	0.527	123.074



OPTIMUM LOADS

Freq GHz	Γ _s MAG	Γ _s ANG	Γ _L MAG	Γ _L ANG
1	0.974	-135.84	0.404	179.27
2	0.969	-167.99	0.427	-179.95
3	0.967	175.08	0.458	-176.96
4	0.964	161.94	0.490	-171.79
5	0.962	149.79	0.518	-164.74
6	0.958	137.46	0.539	-155.97