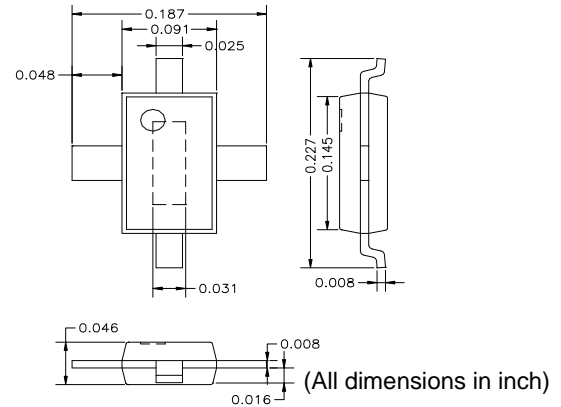


DESCRIPTION

AM012MX-QF-R is a GaAs MESFET with a total gate width of 1.2mm. It is RoHS compliant (Denoted by -R). The AM012MX-QF-R is designed for high power microwave applications, operating up to 6 GHz. 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 6 GHz
- High Gain and High Power, $P_{1dB}=26.5\text{dBm}$ @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)	25.5	26.5
Eff @ P_{1dB}	38%	42%
Small Signal Gain (dB)	12.5	13.5
IP3 (dBm)	35	37

* Power typically remains the same as frequency changes.

ABSOLUTE MAXIMUM RATING

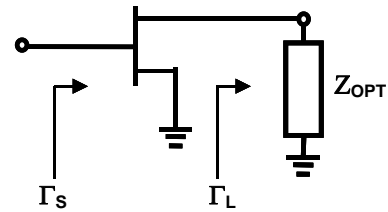
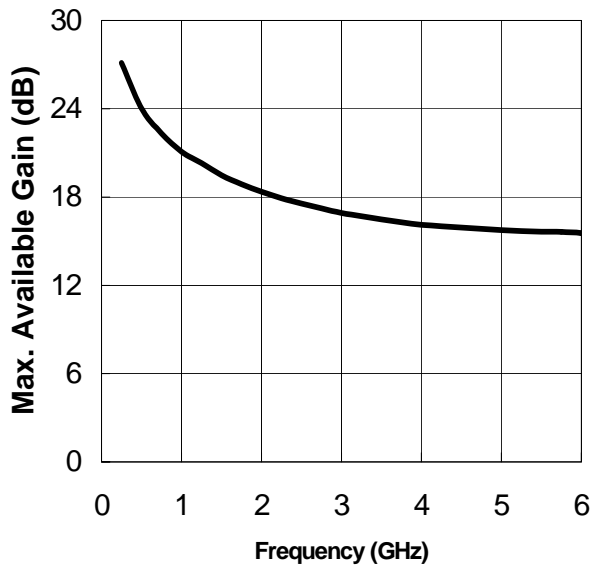
Parameters	Sym	Rating
Drain-Source Voltage (V)	V_{ds}	9
Gate-Source Voltage (V)	V_{gs}	-5
Drain Current (mA)	I_{ds}	360
Continuous Dissipation At Room Temp. (W)	P_t	2.2
Operating Temp. ($^{\circ}\text{C}$)	T_A	-55 – +85
Max. Channel Temp. ($^{\circ}\text{C}$)	T_{ch}	+175

DC PARAMETERS

Parameters	Conditions	MIN	TYP	MAX
Saturation Current I_{dss} (mA)	$V_{ds} = 3V$ $V_{gs} = 0V$	200	280	360
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 ($^{\circ}\text{C/W}$)		67		

S-Parameters for AM012MX-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	0.912	-89.398	7.415	121.449	0.053	38.246	0.337	-74.109
2000	0.84	-135.195	4.847	88.574	0.066	14.738	0.317	-104.359
3000	0.823	-160.805	3.543	65.367	0.067	0.297	0.301	-125.641
4000	0.815	-179.813	2.791	45.662	0.063	-10.408	0.303	-143.555
5000	0.829	163.063	2.327	27.781	0.058	-18.122	0.311	-155.352
6000	0.832	145.633	2.063	10.162	0.053	-24.293	0.315	-167.227
7000	0.837	126.664	1.892	-8.909	0.05	-32.053	0.331	177.414
8000	0.845	107.738	1.74	-28.079	0.046	-40.697	0.358	162.461



OPTIMUM LOADS

Freq GHz	Γ_s MAG	Γ_s ANG	Γ_L MAG	Γ_L ANG
1	0.975	-69.74	0.285	31.44
2	0.945	-114.70	0.328	58.06
3	0.928	-142.57	0.382	79.23
4	0.916	-162.25	0.435	96.29
5	0.906	-178.09	0.482	110.57
6	0.896	167.70	0.521	122.94

Specifications subject to change without notice.