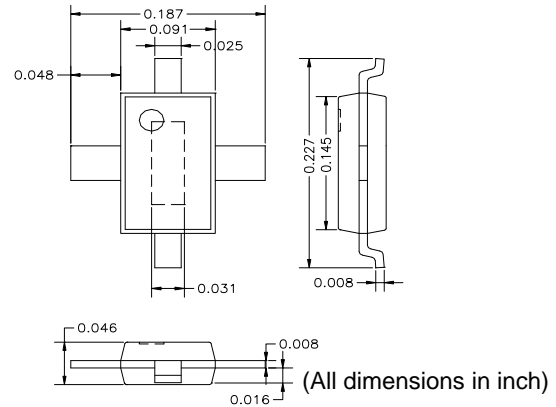


## DESCRIPTION

AM048MX-QF-R is a GaAs MESFET with a total gate width of 4.8mm. It is RoHS compliant (Denoted by -R). The AM048MX-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,  $P_{1dB}=32.5\text{dBm}$  @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)	31.5	32.5
Eff @ $P_{1dB}$	38%	42%
Small Signal Gain (dB)	10	11
IP3 (dBm)	42	44

\* Power typically remains the same as frequency changes.

## ABSOLUTE MAXIMUM RATING

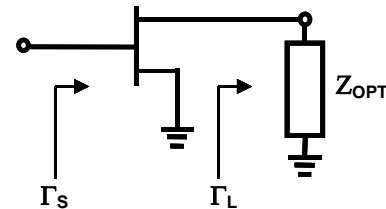
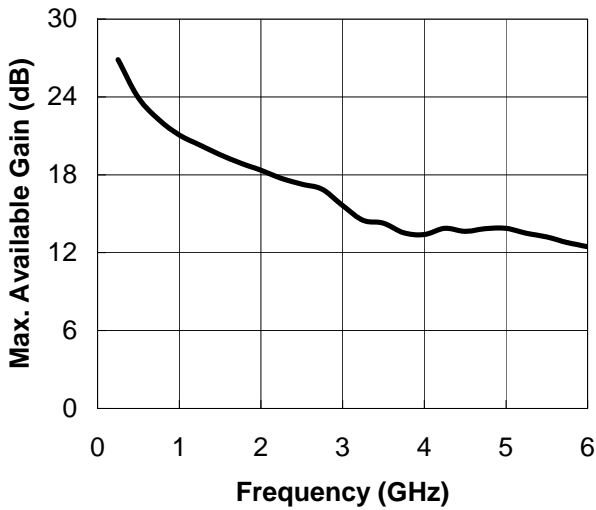
Parameters	Sym	Rating
Drain-Source Voltage (V)	$V_{ds}$	9
Gate-Source Voltage (V)	$V_{gs}$	-5
Drain Current (mA)	$I_{ds}$	1440
Continuous Dissipation At Room Temp. (W)	$P_t$	8
Operating Temp. ( $^{\circ}\text{C}$ )	$T_A$	-55 – +85
Max. Channel Temp. ( $^{\circ}\text{C}$ )	$T_{ch}$	+175

## DC PARAMETERS

Parameters	Conditions	MIN	TYP	MAX
Saturation Current $I_{dss}$ (mA)	$V_{ds} = 3V$ $V_{gs} = 0V$	800	1120	1440
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 ( $^{\circ}\text{C/W}$ )		18		

**S-Parameters for AM048MX-QF-R @ 7V / 0.5 I<sub>dss</sub> (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	0.905	-162.836	4.509	86.363	0.029	12.672	0.598	-174.719
2000	0.896	177.336	2.345	65.711	0.03	16.392	0.615	-176.867
3000	0.905	167.57	1.592	48.801	0.032	20.074	0.637	177.414
4000	0.919	159.227	1.223	33.463	0.034	25.507	0.654	170.633
5000	0.937	149.297	1.016	17.438	0.04	28.046	0.674	162.477
6000	0.945	137.375	0.859	-1.016	0.046	24.137	0.709	148.328
7000	0.928	124.266	0.714	-15.718	0.051	19.658	0.737	140.461
8000	0.929	110.586	0.605	-29.661	0.054	13.543	0.768	136.055



**OPTIMUM LOADS**

Freq GHz	$\Gamma_s$ MAG	$\Gamma_s$ ANG	$\Gamma_L$ MAG	$\Gamma_L$ ANG
1	0.984	-159.74	0.647	-175.00
2	0.982	178.48	0.657	-169.52
3	0.981	165.43	0.671	-163.15
4	0.980	151.44	0.685	-155.66
5	0.979	142.97	0.698	-146.87
6	0.977	131.15	0.708	-136.56

Specifications subject to change without notice.