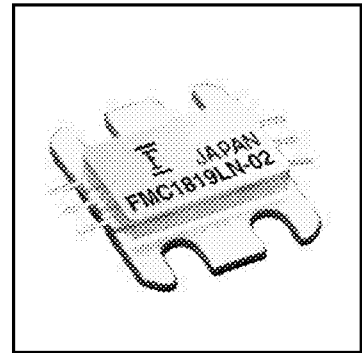


# Ku, K-Band Power GaAs Modules

## FEATURES

- High Output Power:  $P_{1dB} = 12dBm(Typ.)$
- High Gain:  $G_{1dB} = 13.5dB(Typ.)$
- Low In/Out VSWR
- Low Noise:  $NF = 2.5dB (Typ.)$
- Broad Band: 18.7 ~ 19.7GHz
- Impedance Matched  $Z_{in}/Z_{out} = 50\Omega$
- Hermetically Sealed Package (12 X 15 X 3.5mm)



## DESCRIPTION

The FMC1819LN-02 is a module that contains a two-stage amplifier, internally matched, for standard communications in the 18.7 to 19.7GHz frequency range. This product is well suited for point-to-point radio applications as it offers high power, high gain, low VSWR and low noise.

Fujitsu's stringent Quality Assurance Program assures the highest reliability and consistent performance.

### ABSOLUTE MAXIMUM RATINGS (Ambient Temperature $T_a = 25^\circ C$ )

Parameter	Symbol	Rating	Unit
DC Input Voltage	$V_{DD}$	10	V
DC Input Voltage	$V_{GG}$	-7	V
Input Power	$P_{in}$	-1.5	dBm
Storage Temperature	$T_{stg}$	-55 to +125	$^\circ C$
Operating Case Temperature	$T_{op}$	-55 to +85	$^\circ C$

Fujitsu recommends the following conditions for the reliable operation of GaAs modules:

1. The drain operating voltage ( $V_{DD}$ ) should not exceed 8 volts.
2. The gate operating voltage ( $V_{GG}$ ) should not exceed -5 volts.

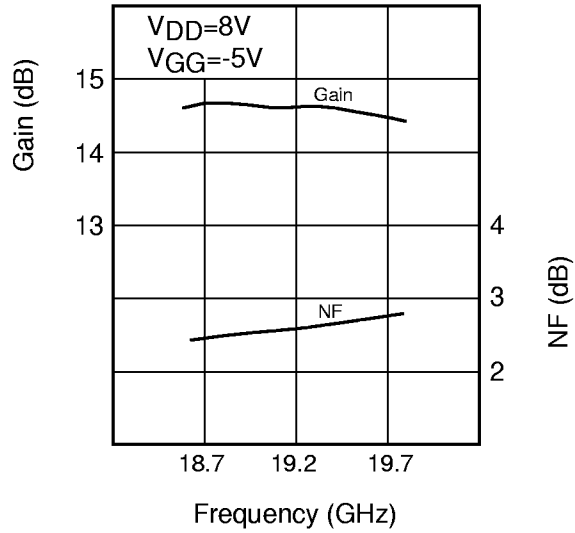
### ELECTRICAL CHARACTERISTICS (Case Temperature $T_c = 25^\circ C$ )

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Frequency Range	f		18.7 ~ 19.7			GHz
Output Power at 1dB G.C.P.	$P_{1dB}$	$V_{DD} = 8V$ $V_{GG} = -5V$ $f = 18.7 \sim 19.7 GHz$	11.0	12.0	-	dBm
Power Gain at 1 dB G.C.P.	$G_{1dB}$		12.5	13.5	-	dB
Noise Figure	NF		-	2.5	3.5	dB
Gain Flatness	$\Delta G$	$V_{DD} = 8V$ $V_{GG} = -5V$ $P_{in} = -15dBm$ $f = 18.7 \sim 19.7GHz$	-	1.0	-	dB
Input VSWR	VSWR <sub>i</sub>		-	3.0:1	-	-
Output VSWR	VSWR <sub>o</sub>		-	2.5:1	-	-
DC Input Current	$I_D$	$V_{DD} = 8V$ $V_{GG} = -5V$	-	40	70	mA
DC Input Current	$I_G$		-	10	15	mA

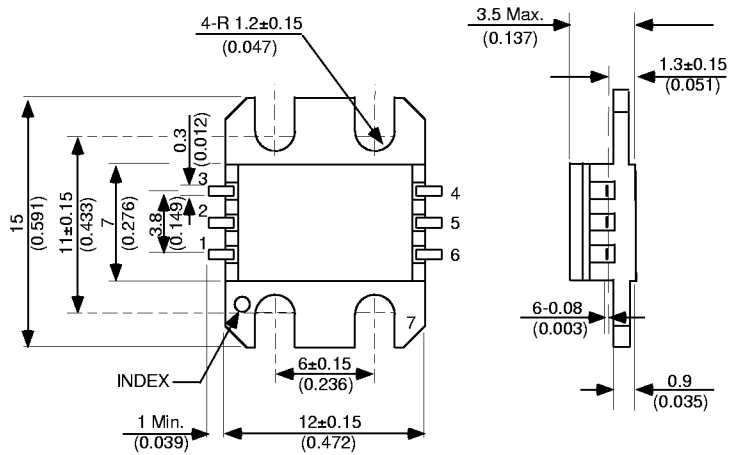
CASE STYLE: GJ

G.C.P.: Gain Compression Point

GAIN & NF vs. FREQUENCY



Case Style "GJ"  
Metal-Ceramic Hermetic Package



1. V<sub>DD</sub>
  2. RF<sub>in</sub>
  3. V<sub>GG</sub>
  4. V<sub>GG</sub>
  5. RF<sub>out</sub>
  6. V<sub>DD</sub>
  7. GND (Body)
- Unit: mm (inches)