

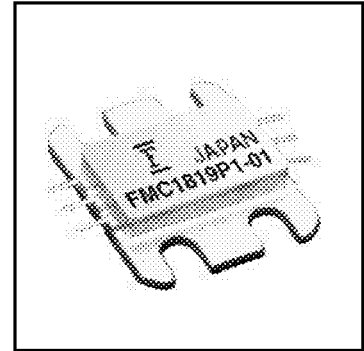
FMC1819P1-01

Ku, K-Band Power GaAs Modules



FEATURES

- High Output Power: $P_{1dB} = 21\text{dBm(Typ.)}$
- High Gain: $G_{1dB} = 13.5\text{dB(Typ.)}$
- Low In/Out VSWR
- 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 FMC1819P1-01 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, and low VSWR.

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

ABSOLUTE MAXIMUM RATINGS (Ambient Temperature $T_a = 25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
DC Input Voltage	V_{DD}	10	V
DC Input Voltage	V_{GG}	-7	V
Input Power	P_{in}	11.5	dBm
Storage Temperature	T_{stg}	-55 to +125	$^\circ\text{C}$
Operating Case Temperature	T_{op}	-55 to +85	$^\circ\text{C}$

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.

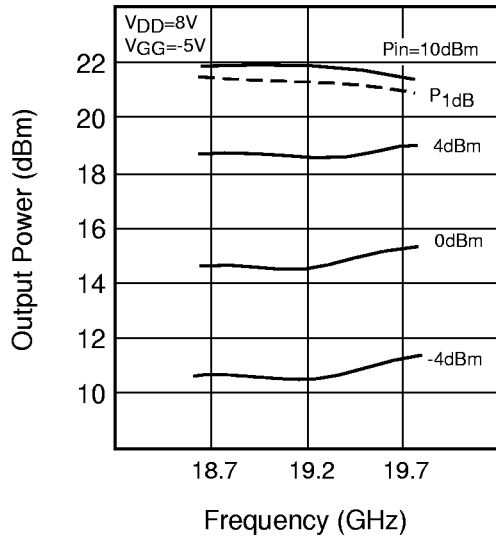
ELECTRICAL CHARACTERISTICS (Case Temperature $T_c = 25^\circ\text{C}$)

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}	$V_{DD} = 8\text{V}$ $V_{GG} = -5\text{V}$	20.0	21.0	-	dBm
Power Gain at 1 dB G.C.P.	G_{1dB}	f = 18.7 ~ 19.7 GHz	11.5	13.5	16.5	dB
Gain Flatness	G	$V_{DD} = 8\text{V}$ $V_{GG} = -5\text{V}$	-	1.0	2.0	dB
Input VSWR	VSWR _i	$P_{in} = -15\text{dBm}$	-	2.5:1	3.0:1	-
Output VSWR	VSWR _o	f = 18.7 ~ 19.7GHz	-	3.0:1	4.0:1	-
DC Input Current	I_D	$V_{DD} = 8\text{V}$ $V_{GG} = -5\text{V}$	-	120	150	mA
DC Input Current	I_G		-	10	15	mA

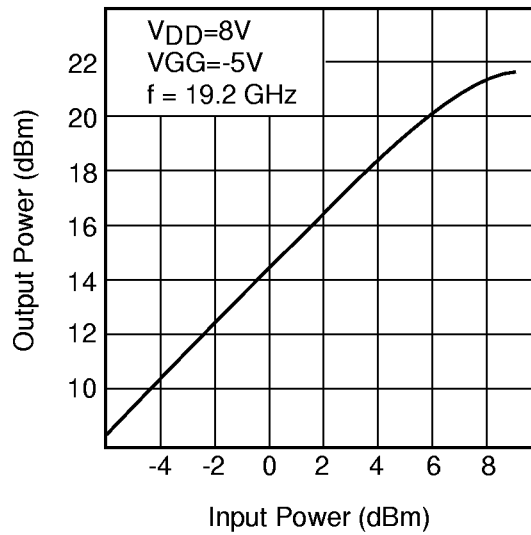
CASE STYLE: GJ

G.C.P.: Gain Compression Point

OUTPUT POWER vs. FREQUENCY

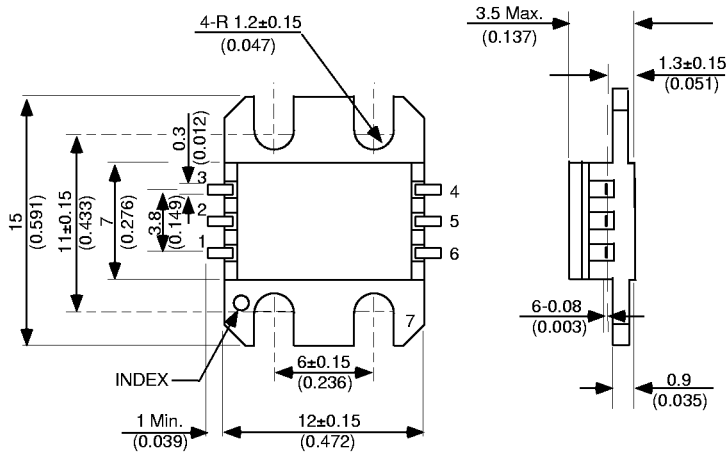


OUTPUT POWER vs. INPUT POWER



2.

Case Style "GJ"
 Metal-Ceramic Hermetic Package



1. V_{DD}
 2. RF_{in}
 3. V_{GG}
 4. V_{GG}
 5. RF_{out}
 6. V_{DD}
 7. GND (Body)
- Unit: mm (inches)