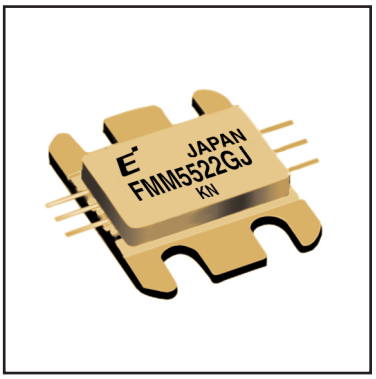
FMM5522GJ
VSAT MMIC



FEATURES

- High Output Power: P_{1dB} = 35.0dBm(Typ.)
- High Gain: G_{1dB} = 26.0dB(Typ.)
- Low In/Out VSWR
- Broad Band: 14.0 ~ 14.5GHz
- Impedance Matched Zin/Zout = 50Ω
- Hermetically Sealed Package (12 X 15 X 3.5mm)

DESCRIPTION

The FMM5522GJ is a module that contains a two-stage amplifier, internally matched, for standard communications in the 14.0 to 14.5GHz frequency range. This product is well suited for VSAT applications as it offers high power, high gain, and low VSWR.

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

ABSOLUTE MAXIMUM RATINGS (Ambient Temperature Ta = 25°C)

Parameter	Symbol	Rating	Unit
DC Input Voltage	$V_{DD1,2}$	12	V
DC Input Voltage	$V_{GG1,2}$	-7	V
Input Power	P_{in}	12	dBm
Storage Temperature	T_{stg}	-55 to +125	°C
Operating Case Temperature	T_{op}	-55 to +85	°C

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

1. The drain operating voltage ($V_{DD1,2}$) should not exceed 10 volts.
2. The gate operating voltage ($V_{GG1,2}$) should not exceed -5 volts.

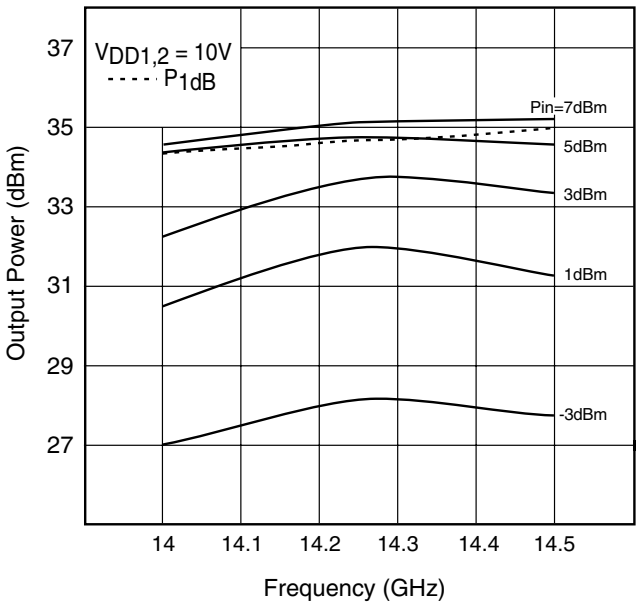
ELECTRICAL CHARACTERISTICS (Case Temperature Tc = 25°C)

Item	Symbol	Condition	Limit			Unit
			Min.	Typ.	Max.	
Frequency Range	f		14.0 - 14.5			GHz
Output Power at 1dB G.C.P.	P_{1dB}	$V_{DD1,2}$ = 10V $V_{GG1,2}$ = -5V f = 14.0 ~ 14.5GHz	33.5	35.0	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		23.0	26.0	-	dB
Gain Flatness	ΔG		-	1.0	2.0	dB
Input VSWR	VSWRi		-	2:1	2.5:1	-
Output VSWR	VSWRo		-	3:1	3.5:1	-
DC Input Current	I_{DD}	$V_{DD1,2}$ = 10V $V_{GG1,2}$ = -5V	-	1.75	2.0	A
DC Input Current	I_{GG}		-	22	25	mA

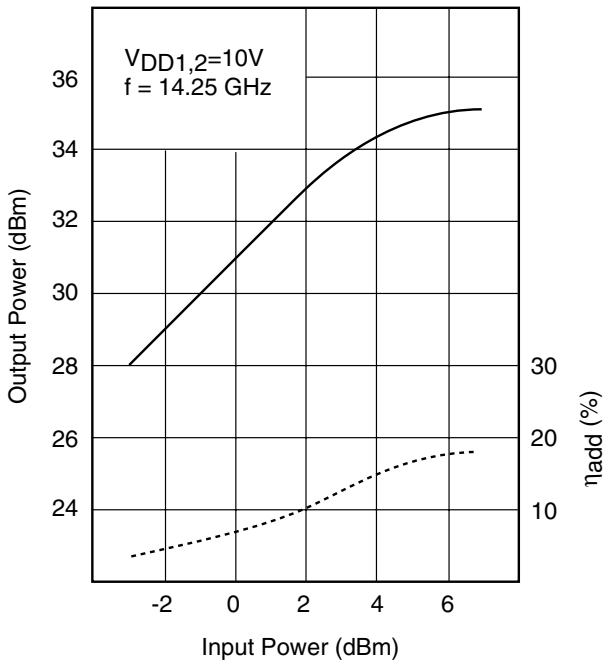
CASE STYLE: GJ

G.C.P.: Gain Compression Point

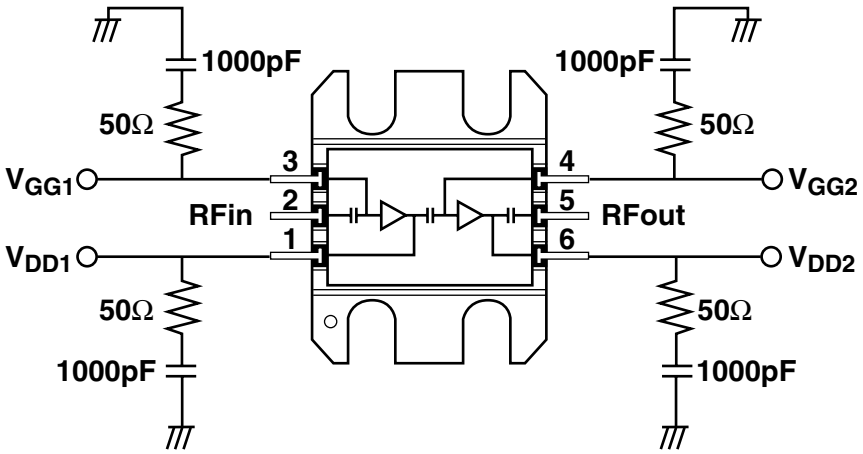
OUTPUT POWER vs. FREQUENCY



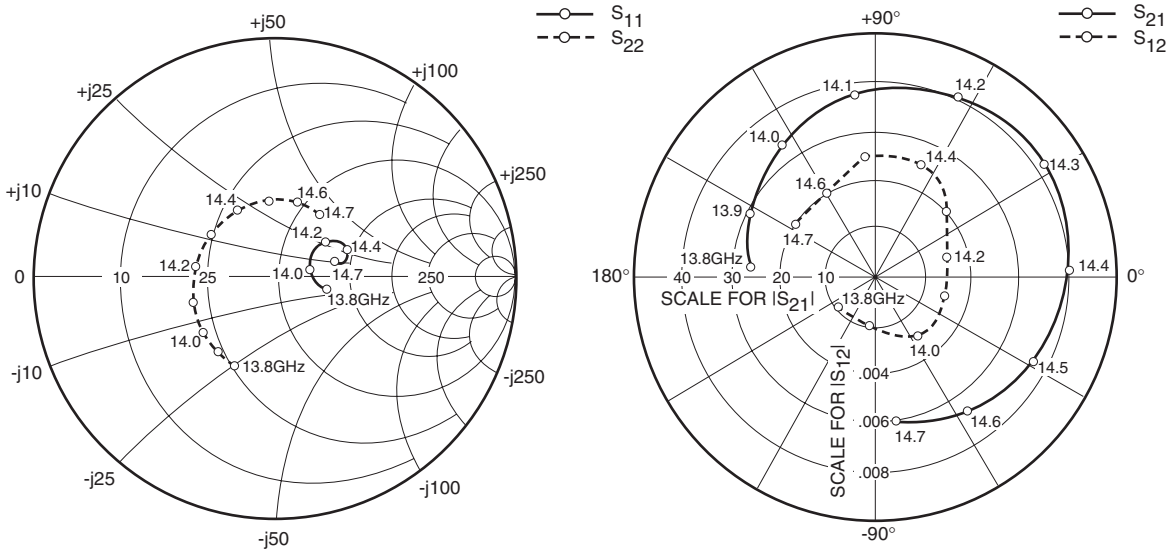
OUTPUT POWER vs. INPUT POWER



RECOMMENDED BIAS CIRCUIT



Note: The R/C networks are recommended on the bias supply lines, close to the package, to prevent video oscillations which could damage the module.

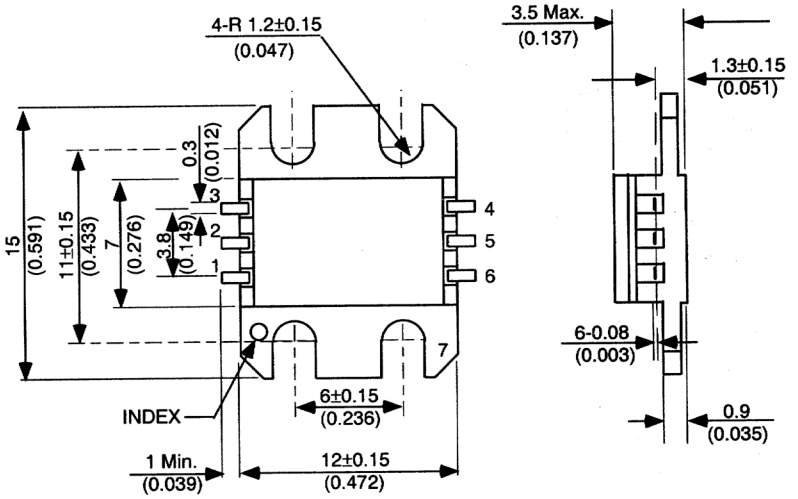


S-PARAMETERS

$V_{DD1,2}$ = 10V, $V_{GG1,2}$ = -5V, I_{DD} = 1.75A

FREQUENCY	S11		S21		S12		S22	
(MHZ)	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
1380	.218	-13.6	25.676	176.9	.002	-142.5	.403	-115.3
1390	.172	-8.9	29.545	152.0	.002	-98.4	.388	-127.7
1400	.146	10.6	33.590	125.9	.003	-55.0	.374	-143.0
1410	.182	33.0	37.615	96.6	.003	-14.8	.354	-163.7
1420	.254	35.4	40.633	65.4	.003	16.0	.337	172.4
1430	.308	28.8	41.773	33.7	.004	42.8	.324	145.7
1440	.319	21.3	40.228	1.7	.005	68.1	.330	119.2
1450	.308	14.9	37.335	-28.2	.005	95.4	.323	95.0
1460	.275	13.1	33.493	-55.5	.004	120.5	.334	73.8
1470	.255	15.8	30.021	-82.2	.004	146.7	.326	55.3

Case Style "GJ"
Metal-Ceramic Hermetic Package



1. V_{DD1}
2. RF_{in}
3. V_{GG1}
4. V_{GG2}
5. RF_{out}
6. V_{DD2}
7. GND (Body)

Unit: mm (inches)

For further information please contact:

Eudyna Devices USA Inc.
2355 Zanker Rd.
San Jose, CA 95131-1138, U.S.A.
TEL: (408) 232-9500
FAX: (408) 428-9111
www.us.eudyna.com

Eudyna Devices Europe Ltd.
Network House
Norreys Drive
Maidenhead, Berkshire SL6 4FJ
United Kingdom
TEL: +44 (0) 1628 504800
FAX: +44 (0) 1628 504888

Eudyna Devices Asia Pte Ltd.
Hong Kong Branch
Rm. 1101, Ocean Centre, 5 Canton Rd.
Tsim Sha Tsui, Kowloon, Hong Kong
TEL: +852-2377-0227
FAX: +852-2377-3921

Eudyna Devices Inc.
Sales Division
1, Kanai-cho, Sakae-ku
Yokohama, 244-0845, Japan
TEL: +81-45-853-8156
FAX: +81-45-853-8170

CAUTION

Eudyna Devices Inc. products contain **gallium arsenide (GaAs)** which can be hazardous to the human body and the environment. For safety, observe the following procedures:

- **Do not put this product into the mouth.**
- **Do not alter the form of this product into a gas, powder, or liquid through burning, crushing, or chemical processing as these by-products are dangerous to the human body if inhaled, ingested, or swallowed.**
- **Observe government laws and company regulations when discarding this product. This product must be discarded in accordance with methods specified by applicable hazardous waste procedures.**