

FLU10ZM

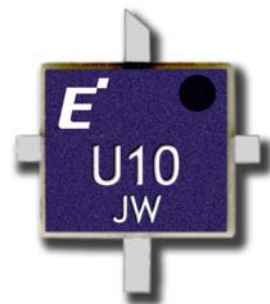
L-Band Medium & High Power GaAs FET

FEATURES

- High Output Power: P1dB=29.5dBm(typ.)
- High Gain: G1dB=13.0dB(typ.)
- Low Cost Plastic(SMT) Package
- Tape and Reel Available

DESCRIPTION

The FLU10ZM is a GaAs FET designed for base station and CPE application up to a 3.0GHz frequency range. This is a new product series using a plastic surface mount package that has been optimized for high volume cost driven applications. Eudyna's stringent Quality Assurance Program assures the highest reliability and consistent performance.



ABSOLUTE MAXIMUM RATINGS (Case Temperature Tc=25°C)

Item	Symbol	Rating	Unit
Drain-Source Voltage	V _{DS}	15	V
Gate-Source Voltage	V _{GS}	-5	V
Total Power Dissipation	P _T	6.9	W
Storage Temperature	T _{stg}	-55 to +150	°C
Channel Temperature	T _{CH}	175	°C

RECOMMENDED OPERATING CONDITION(Case Temperature Tc=25°C)

Item	Symbol	Condition	Unit
DC Input Voltage	V _{DS}	≤ 10	V
Channel Temperature	T _{ch}	≤ 145	°C
Forward Gate Current	I _{gsf}	≤ 4.8	mA
Reverse Gate Current	I _{gsr}	≥ -0.5	mA
Gate Resistance	R _g	400	Ω

ELECTRICAL CHARACTERISTICS (Case Temperature Tc=25°C)

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Drain Current	I _{DSS}	V _{DS} =5V, V _{GS} =0V	-	300	450	mA
Transconductance	gm	V _{DS} =5V, I _{DS} =200mA	-	150	-	mS
Pinch-off Voltage	V _p	V _{DS} =5V, I _{DS} =15mA	-1.0	-2.0	-3.5	V
Gate-Source Breakdown Voltage	V _{GSO}	I _{GS} =-15uA	-5	-	-	V
Output Power at 1dB G.C.P.	P _{1dB}	V _{DS} =10V f=2.0GHz	28.5	29.5	-	dBm
Power Gain at 1dB G.C.P.	G _{1dB}	I _{DS} =0.6I _{DSS} (Typ.)	12.0	13.0	-	dB
Thermal Resistance	R _{th}	Channel to Case	-	15	18	°C /W

CASE STYLE: ZM

G.C.P.:Gain Compression Point

Note1: Product supplied to this specification are 100% DC performance tested.

Note2: The RF parameters are measured on a lot basis by sample testing 10 pcs/lot.

Acceptance Criteria:(accept/reject)=(0/1). Any lot failure shall be 100% retested.

ESD	Class II	500 ~ 1999 V
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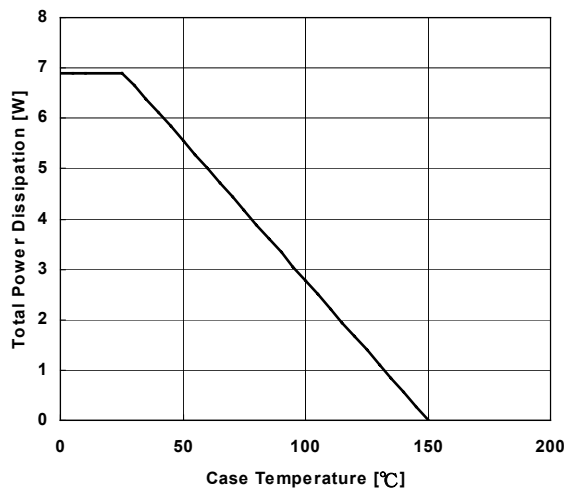
Note : Based on EIAJ ED-4701 C-111A (C=100pF,R=1.5kΩ)

Eudyna

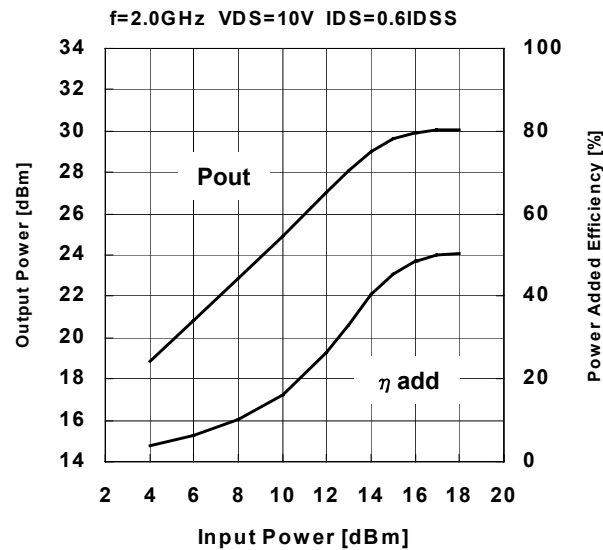
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POWER DERATING CURVE



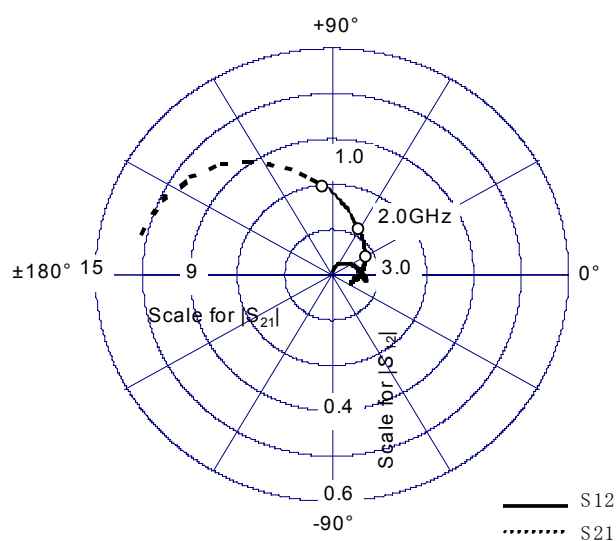
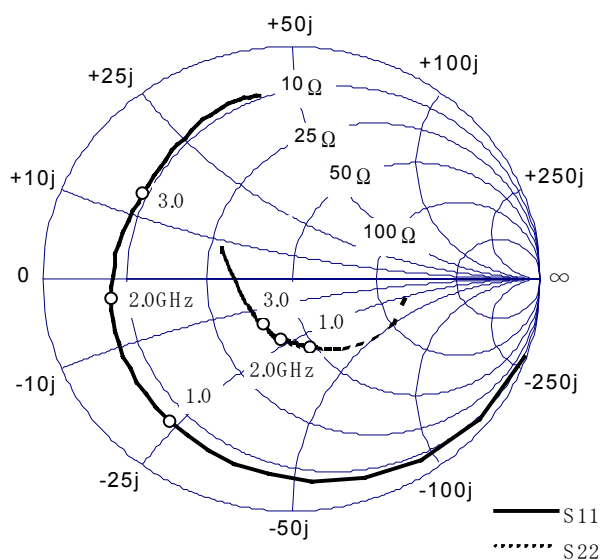
OUTPUT POWER , POWER ADDED EFFICIENCY
vs. INPUT POWER



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■ S-PARAMETER



VDS=10V, IDS=180mA

Freq.	S11		S21		S12		S22	
[GHz]	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
0.5	0.88	-82.82	9.02	126.68	0.05	48.61	0.37	-52.39
1	0.78	-128.10	5.90	96.81	0.06	27.98	0.30	-78.22
1.5	0.75	-153.80	4.31	76.65	0.07	19.62	0.27	-91.11
2	0.72	-174.63	3.45	60.18	0.07	13.94	0.25	-101.36
2.5	0.71	165.70	2.85	43.48	0.08	8.34	0.22	-114.34
3	0.69	145.11	2.41	27.24	0.08	4.74	0.20	-128.63
3.5	0.73	126.72	2.05	11.34	0.08	-1.38	0.19	-153.74
4	0.76	112.29	1.74	-3.63	0.08	-7.63	0.22	179.95
4.5	0.79	100.63	1.48	-17.87	0.09	-13.21	0.27	161.06
5	0.80	93.48	1.25	-30.30	0.09	-16.94	0.34	146.70

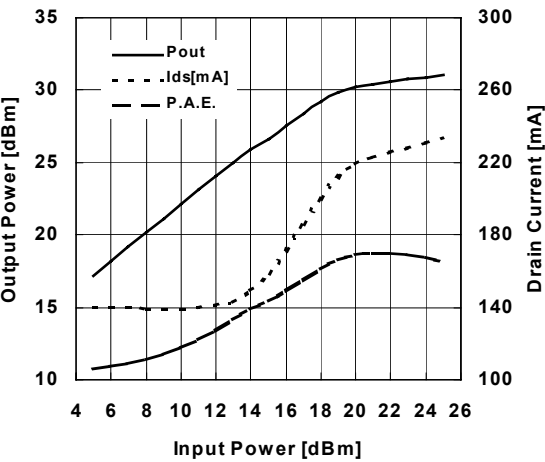
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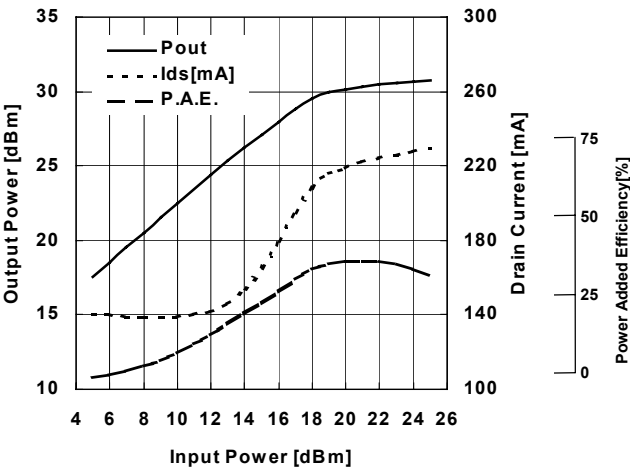
OUTPUT POWER , DRAIN CURRENT vs. INPUT POWER with Wide band tuning condition.

@ VDS=10V, IDS(DC)=150mA, VGS(DC)=-0.9V

Pin-Pout,Id_d&P.A.E @f=1.8GHz

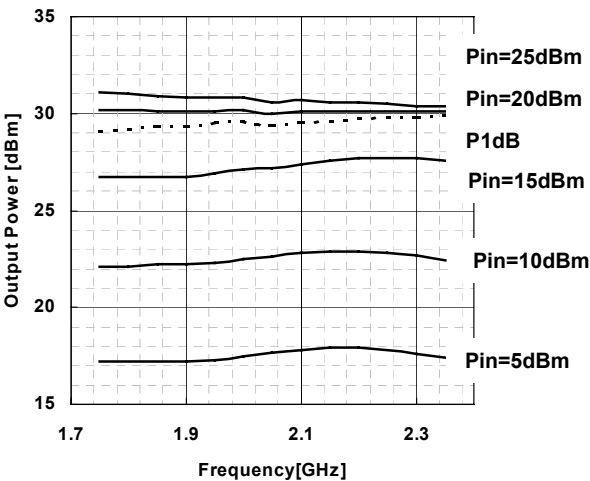
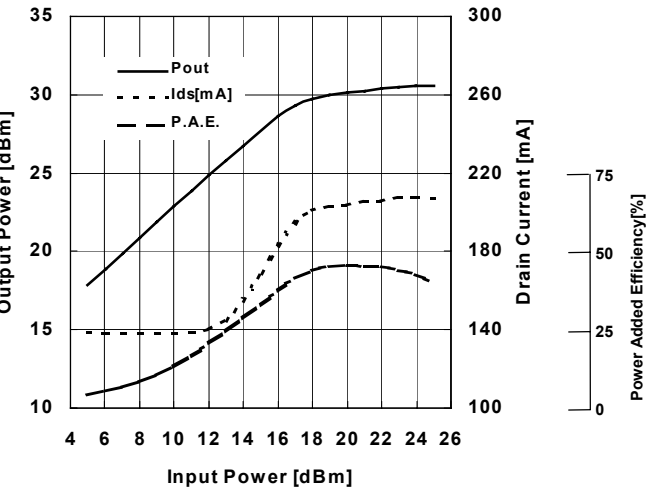


Pin-Pout,Id_d&P.A.E @f=2.0GHz



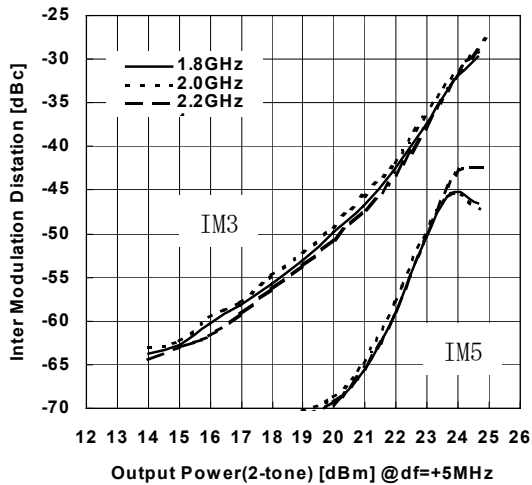
OUTPUT POWER vs. FREQUENCY

Pin-Pout,Id_d&P.A.E @f=2.2GHz

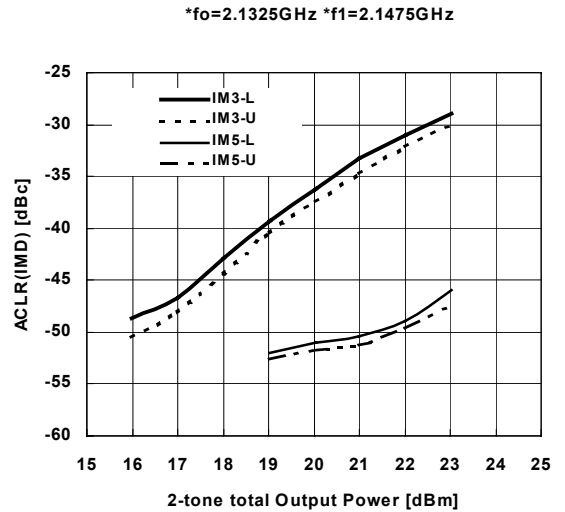


@ VDS=10V, IDS(DC)=150mA, VGS(DC)=-0.9V

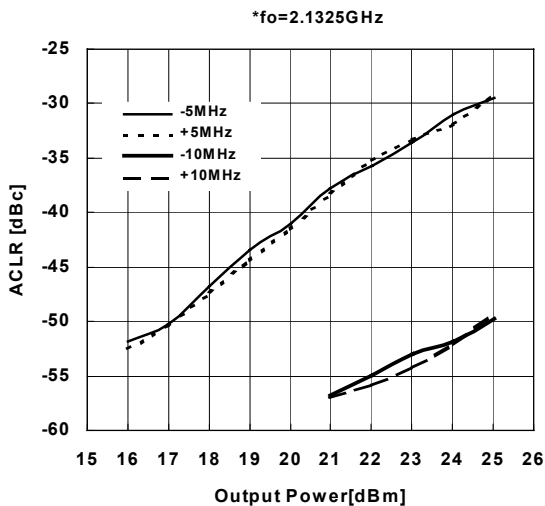
IMD vs OUTPUT POWER(2-tone)



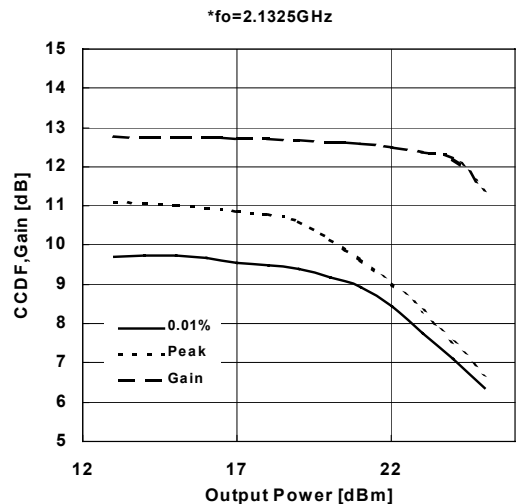
W-CDMA 2-CARRIER IMD(ACLR)



W-CDMA SINGLE CARRIER ACLR



W-CDMA SINGLE CARRIER CCDF AND GAIN

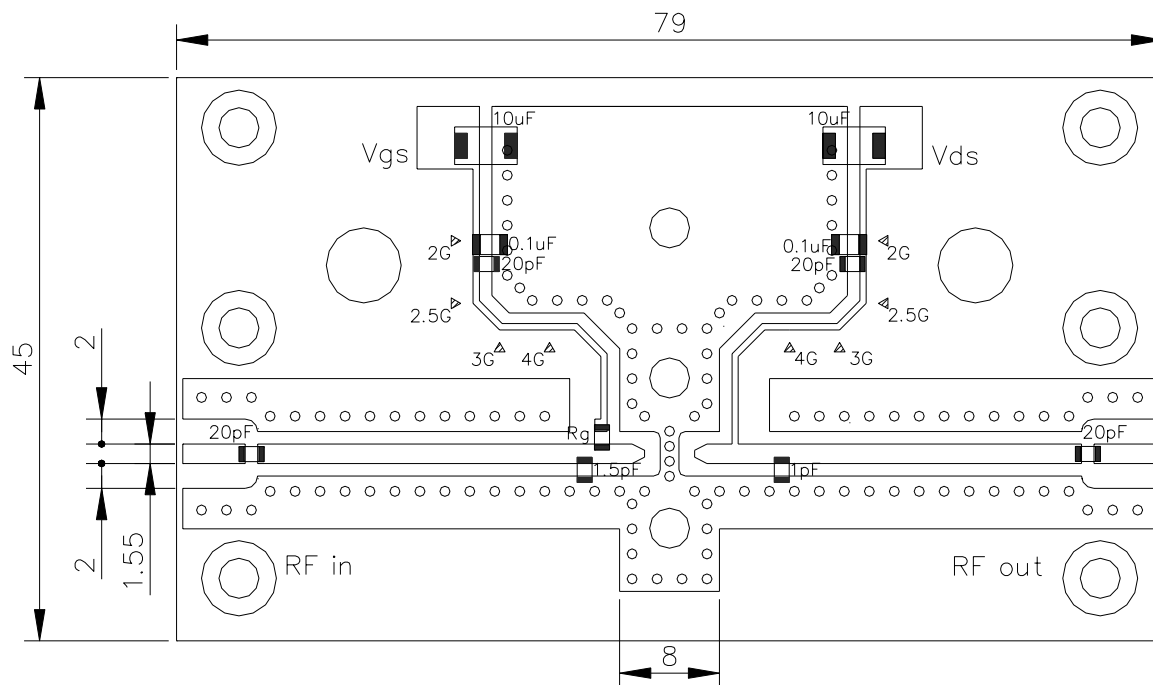


Note : *All signal are W-CDMA modulation at 3GPP3.4.12-00 BS-1 64ch non clipping.
All data was taken with the board tuned for wide band.

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■ Recommended Bias Circuit and Internal Block Diagram (Wide band tuning condition)



<Board information>
 $\epsilon_r=3.5$, $t=0.8$

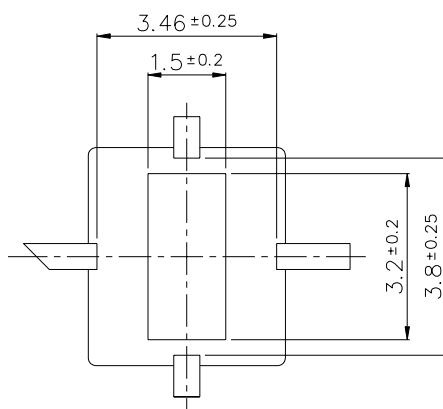
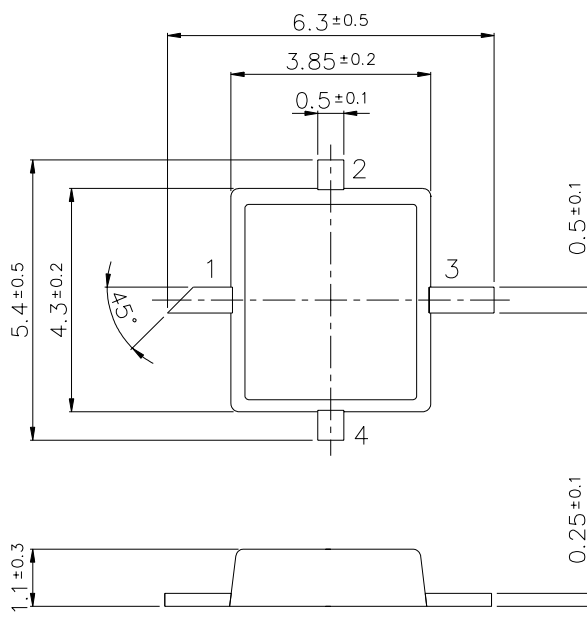
Unit : mm

* Board was tuned for wide band performance that is presented in page 4 and 5.

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■ Package Outline



- 1 : Gate
2. Source
3. Drain
4. Source
Unit : mm

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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 Road
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

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- Do not put these products 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.

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