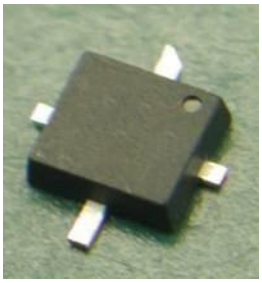
FLU35ZME1

L-Band Medium & High Power GaAs FET



FEATURES

- High Output Power: P1dB=35.5dBm(typ.)
- High Gain: G1dB=11.5dB(typ.)
- Low Cost Plastic(SMT) Package
- Tape and Reel Available

DESCRIPTION

The FLU35ZME1 is a GaAs FET designed for base station and CPE application up to a 4.0GHz frequency range. This is a new product series using a plastic surface mount package that has been optimized for high volume cost driven applications.
SUMITOMO's stringent Quality Assurance Program assures the highest reliability and consistent performance.

ABSOLUTE MAXIMUM RATINGS (Case Temperature Tc=25deg.C)

Item	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	15	V
Gate-Soutce Voltage	V_{GS}	-5	V
Total Power Dissipation	P_T	20.8	W
Storage Temperature	T_{stg}	-55 to +150	deg.C
Channel Temperature	T_{ch}	150	deg.C

RECOMMENDED OPERATING CONDITION(Case Temperature Tc=25deg.C)

Item	Symbol	Condition	Unit
DC Input Voltage	V_{DS}	$\leq$10	V
Forward Gate Current	I_{GF}	$\leq$19.4	mA
Reverse Gate Current	I_{GR}	$\geq$-2.0	mA
Gate Resistance	R_g	100	ohm
Channel Temperature	T_{ch}	$\leq$145	deg.C

ELECTRICAL CHARACTERISTICS (Case Temperature Tc=25deg.C)

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Drain Current	I_{DSS}	V_{DS}=5V,V_{GS}=0V	-	1200	1800	mA
Trans Conductance	gm	V_{DS}=5V,I_{DS}=800mA	-	600	-	mS
Pinch-off Voltage	V_p	V_{DS}=5V,I_{DS}=60mA	-1.0	-2.0	-3.5	V
Gate-Source Breakdown Voltage	V_{GSO}	I_{GS}=-60μA	-5	-	-	V
Output Power at 1dB G.C.P.	P_{1dB}	V_{DS}=10V f=2.0GHz I_{DS}=0.6I_{DSS}(Typ.)	34.5	35.5	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		10.5	11.5	-	dB
Thermal Resistance	R_{th}	Channel to Case	-	5	6	deg.C/W

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.

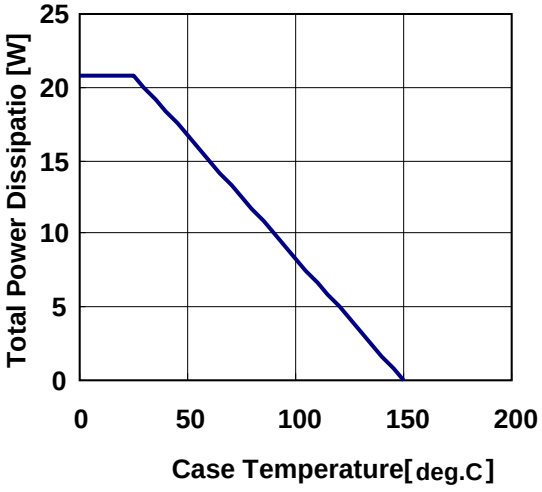
ESD	Class III	2000 V min.

Note : Based on EIAJ ED-4701 C-111A (C=100pF,R=1.5kohm)

RoHS COMPLIANCE	Yes

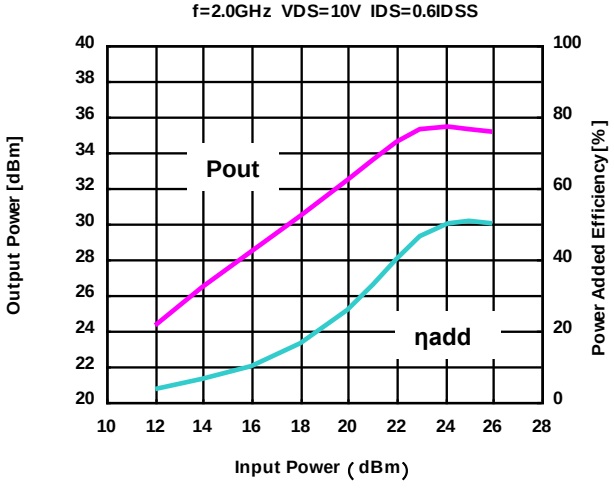
SUMITOMO ELECTRIC

POWER DERATING CURVE



TUNING CONDITION : f=2.0GHz, FINE TUNED

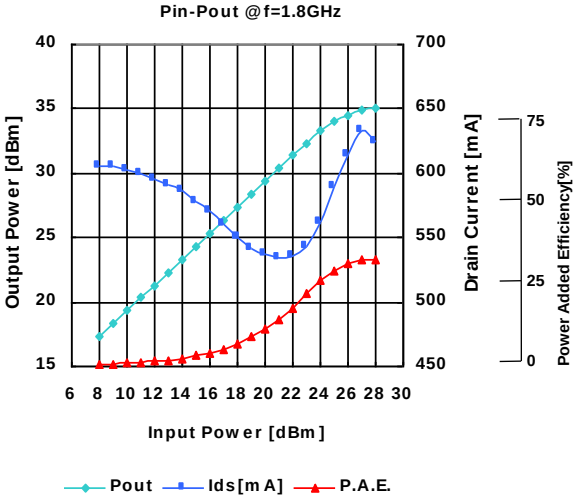
OUTPUT POWER , POWER ADDED EFFICIENCY vs. INPUT POWER

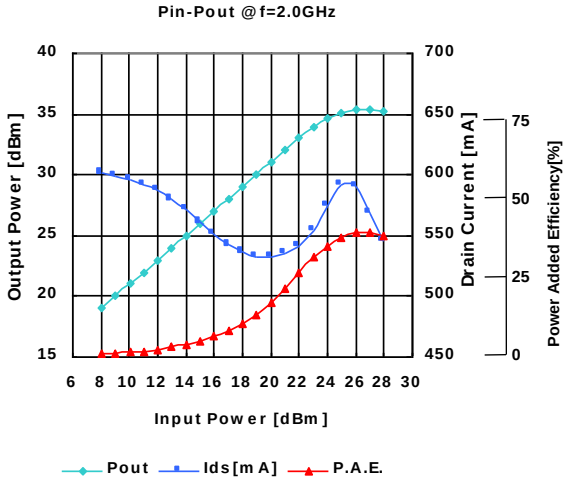


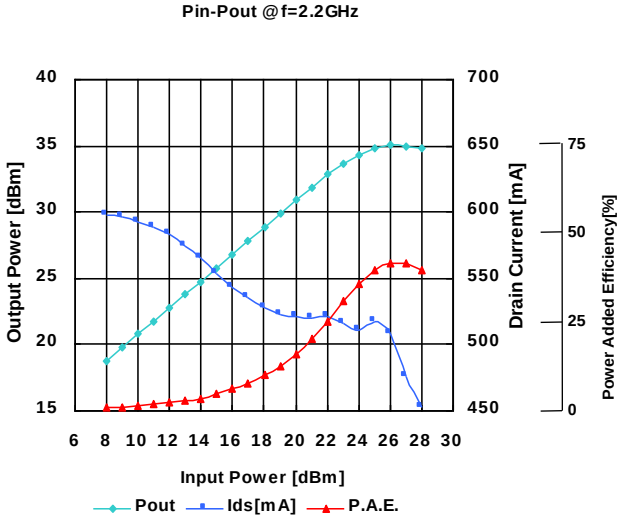
TUNING CONDITION : WIDE BAND TUNED

OUTPUT POWER , DRAIN CURRENT vs. INPUT POWER

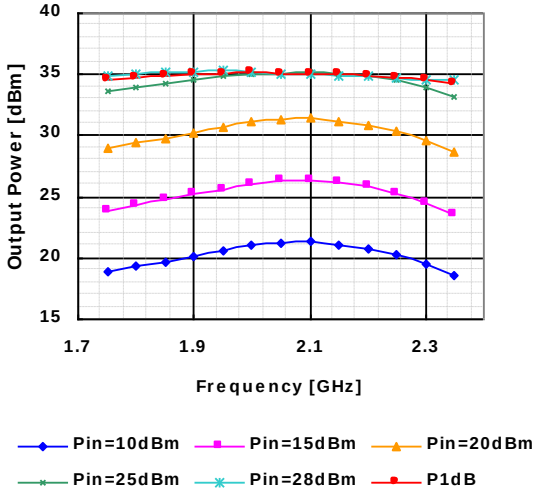
@ VDS=10V IDS(DC)=0.6IDSS





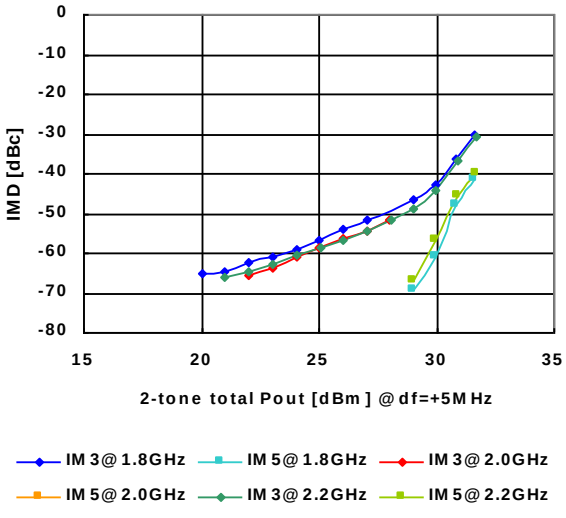


OUTPUT POWER vs. FREQUENCY

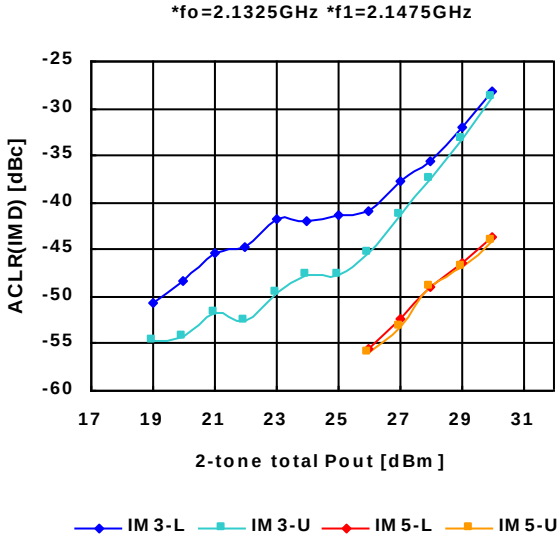


@ VDS=10V IDS(DC)=0.6IDSS

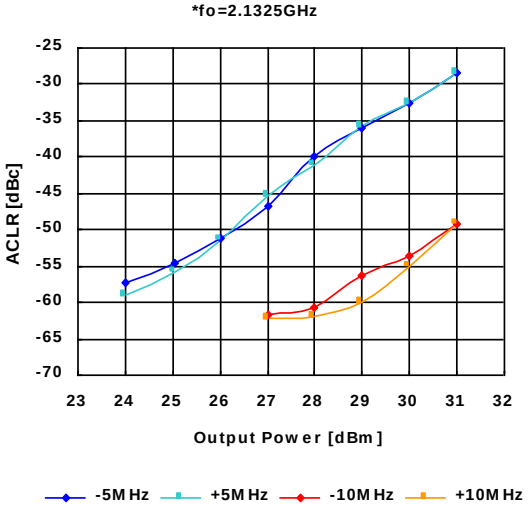
IMD vs OUTPUT POWER(2-tone)



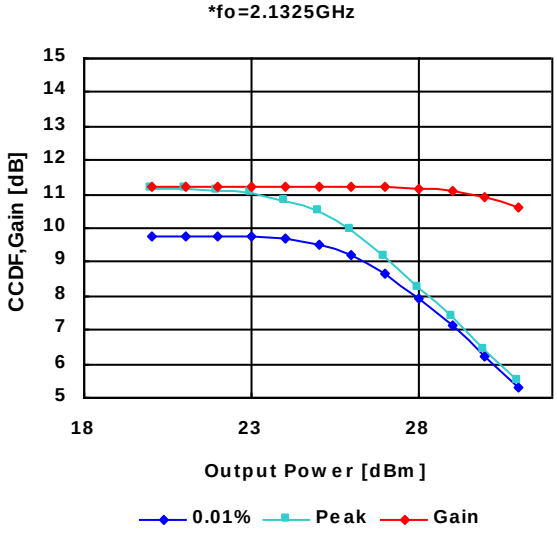
W-CDMA 2-CARRIER IMD(ACLR)



W-CDMA SINGLE CARRIER ACLR

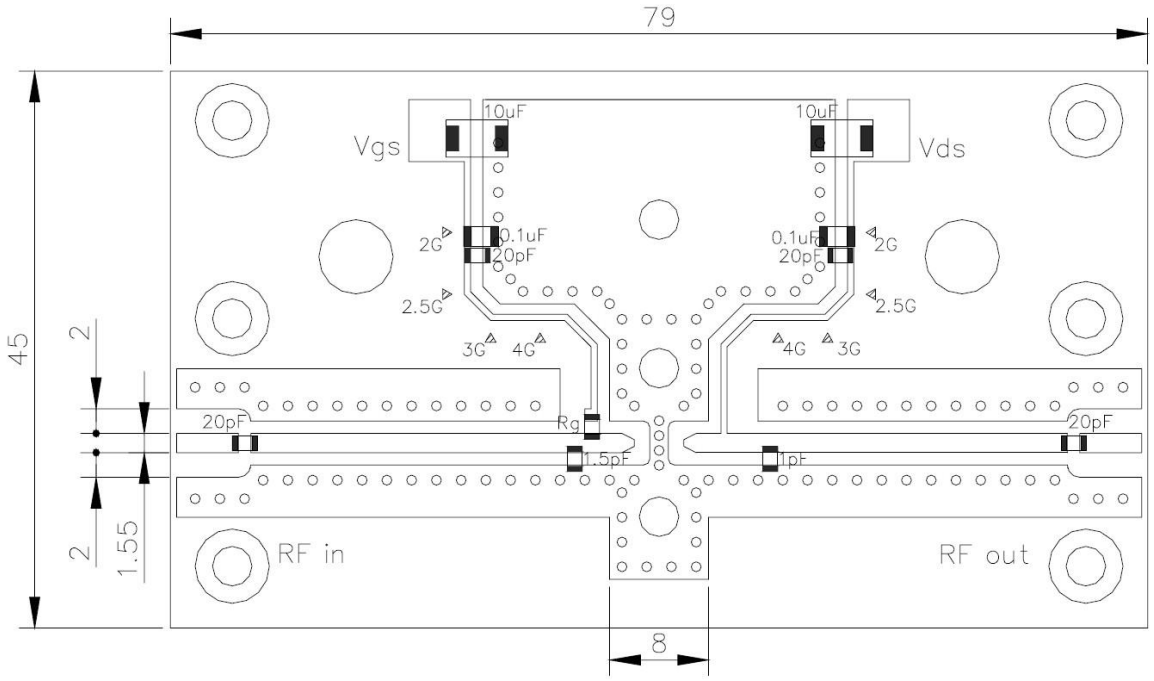


W-CDMA SINGLE CARRIER CCDF AND GAIN



Note : *All signal are W-CDMA modulation at 3GPP3.4.12-00 BS-1 64ch non clipping.

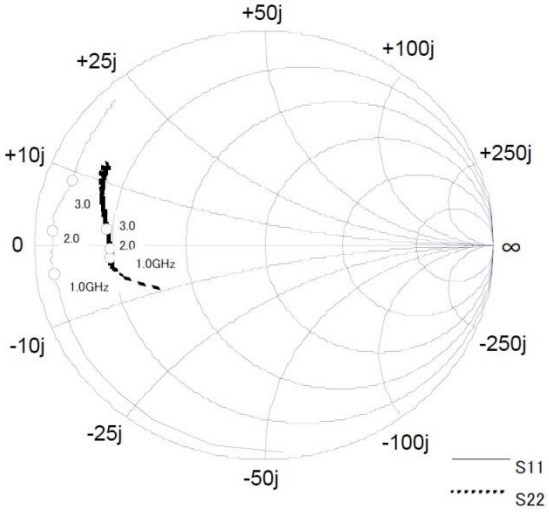
■ Recommended Bias Circuit and Internal Block Diagram

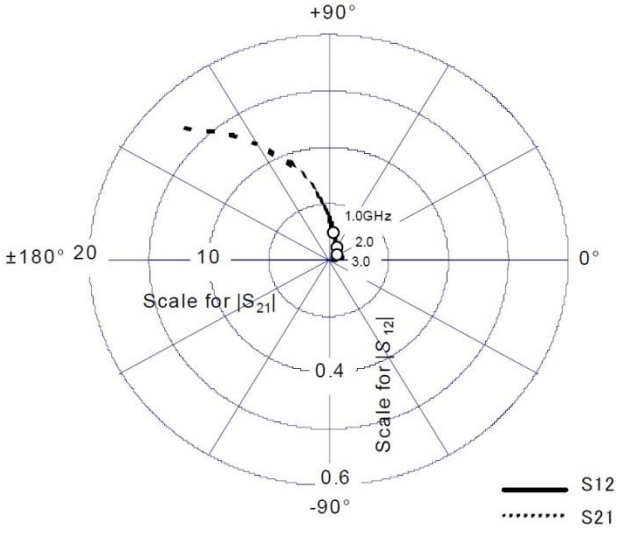


<Board information>
εr=3.5 , t=0.8

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

■ S-PARAMETER

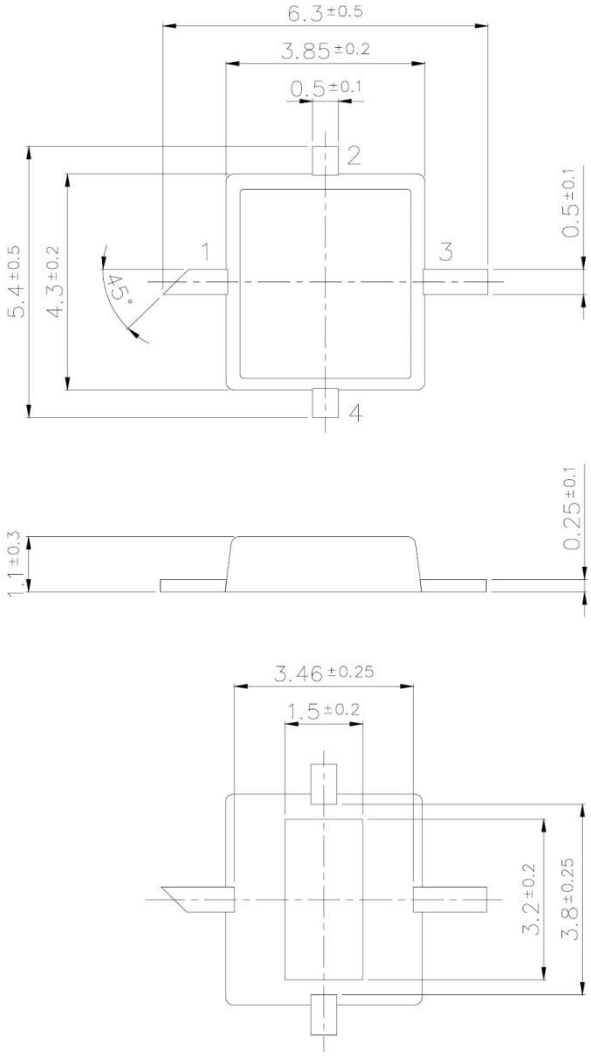




VDS=10V , IDS=0.6IDSS(TYP.)

Freq	S11		S21		S12		S22	
[GHz]	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
0.5	0.92	-157.14	4.75	94.86	0.03	14.31	0.67	-172.46
1	0.92	-171.65	2.45	81.26	0.03	9.28	0.67	-175.16
1.5	0.92	-178.09	1.69	70.63	0.03	7.87	0.66	-176.48
2	0.92	175.59	1.32	61.24	0.03	11.56	0.67	-178.45
2.5	0.92	168.62	1.08	50.14	0.03	10.17	0.67	178.10
3	0.89	159.87	0.90	39.03	0.03	16.31	0.69	173.63
3.5	0.90	150.98	0.76	27.30	0.03	13.26	0.71	167.99
4	0.91	143.89	0.64	16.94	0.03	14.12	0.74	162.05
4.5	0.93	137.22	0.54	6.74	0.03	7.95	0.77	156.46
5	0.93	133.89	0.45	-1.01	0.03	9.18	0.78	151.30

■ Package Outline



1 : Gate

2 : Source

3 : Drain

4 : Source

Unit : mm

For further information please contact:

http://global-sei.com/Electro-optic/about/office.html

CAUTION

This product contains **gallium arsenide (GaAs)** which can be hazardous to the human body and the nvironment.
Forsafety, observe the following procedures:

・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 allowed.

・Observe government laws and company regulations when discarding this product.
This product must be discarded in accordance with methods specified by applicable hazardous waste cedures.