

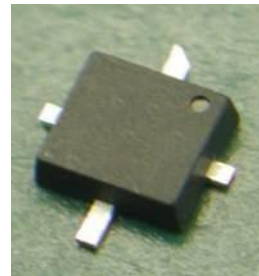
FEATURES

- High Output Power: P1dB=32.5dBm(typ.)
- High Gain: G1dB=12.5dB(typ.)
- Low Cost Plastic(SMT) Package
- Tape and Reel Available

DESCRIPTION

The FLU17ZME1 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-Source Voltage	V _{GS}	-5	V
Total Power Dissipation	P _T	8.3	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}	≤ 10	V
Forward Gate Current	I _{GF}	≤ 9.6	mA
Reverse Gate Current	I _{GR}	≥ -1.0	mA
Gate Resistance	R _g	200	ohm
Channel Temperature	T _{ch}	≤ 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	-	600	900	mA
Trans Conductance	gm	V _{DS} =5V, I _{DS} =400mA	-	300	-	mS
Pinch-off Voltage	V _p	V _{DS} =5V, I _{DS} =30mA	-1.0	-2.0	-3.5	V
Gate-Source Breakdown Voltage	V _{GSO}	I _{GS} =-30μA	-5	-	-	V
Output Power at 1dB G.C.P.	P _{1dB}	V _{DS} =10V f=2.0GHz I _{DS} =0.6I _{DSS} (Typ.)	31.5	32.5	-	dBm
Power Gain at 1dB G.C.P.	G _{1dB}		11.5	12.5	-	dB
Thermal Resistance	R _{th}	Channel to Case	-	12	15	deg.C /W

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.

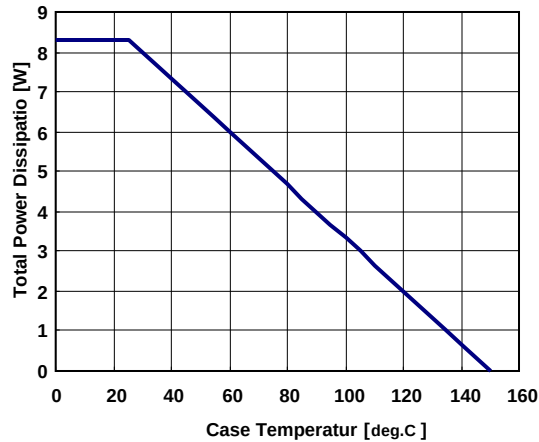
G.C.P.:Gain Compression Point

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

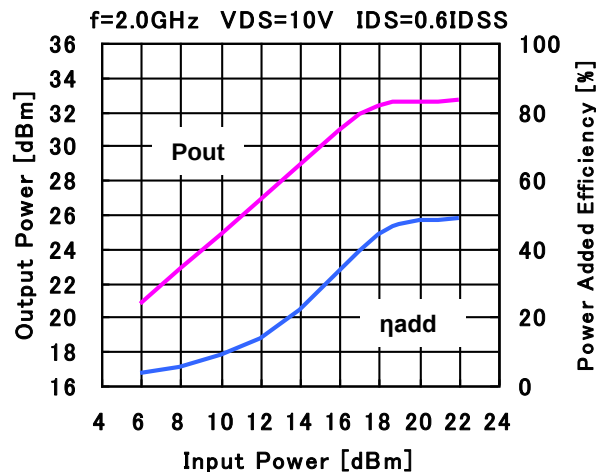
RoHS COMPLIANCE	Yes
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POWER DERATING CURVE



TUNING CONDITION : f=2.0GHz, FINE TUNED

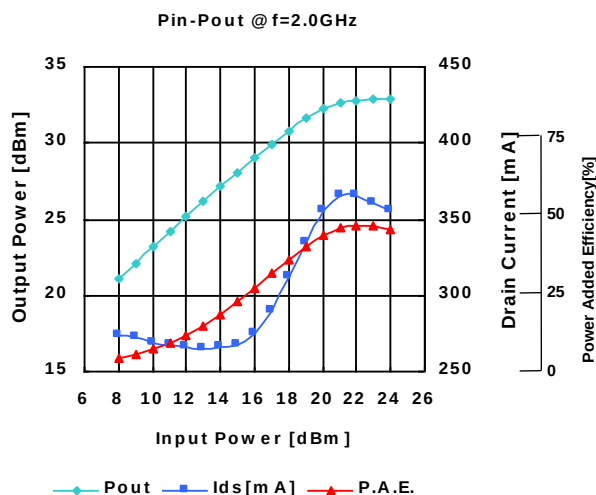
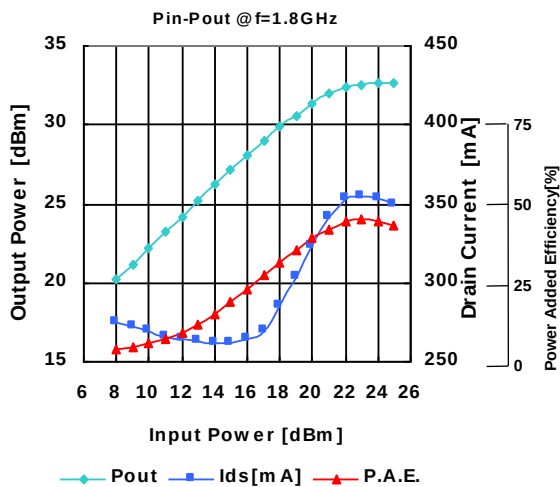
OUTPUT POWER , POWER ADDED EFFICIENCY vs. INPUT POWER



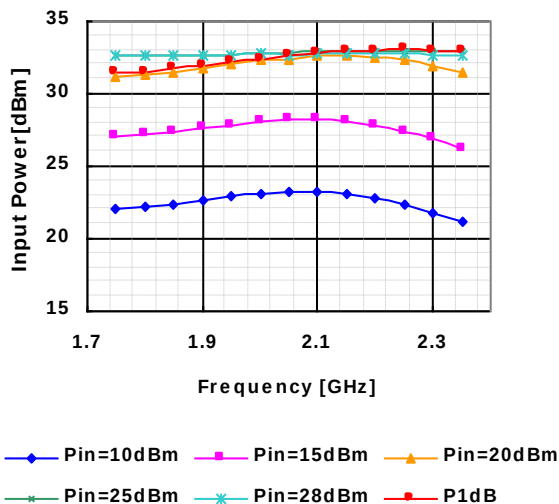
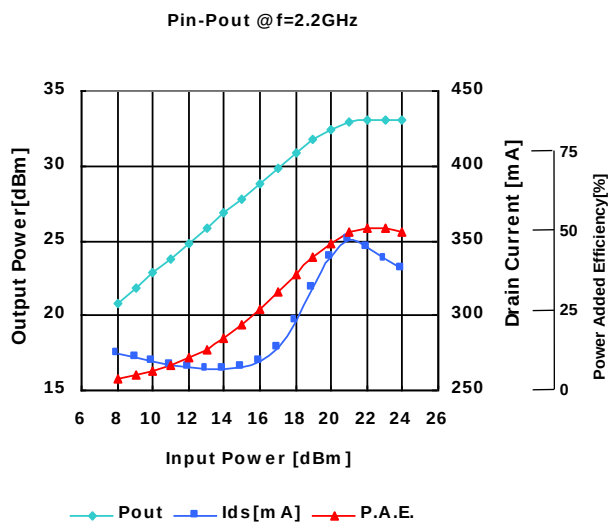
TUNING CONDITION : WIDE BAND TUNED

OUTPUT POWER , DRAIN CURRENT vs. INPUT POWER

@ $V_{DS}=10V$ $I_{DS}(DC)=0.6I_{DSS}$

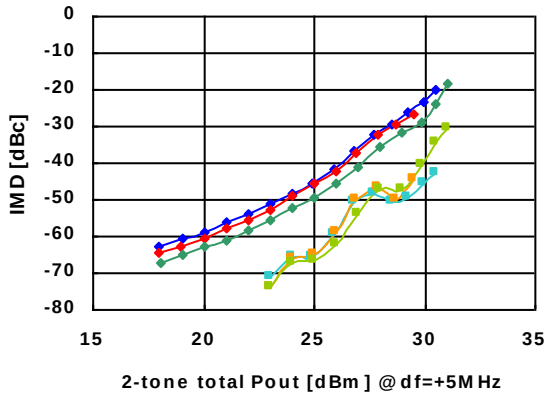


OUTPUT POWER vs. FREQUENCY



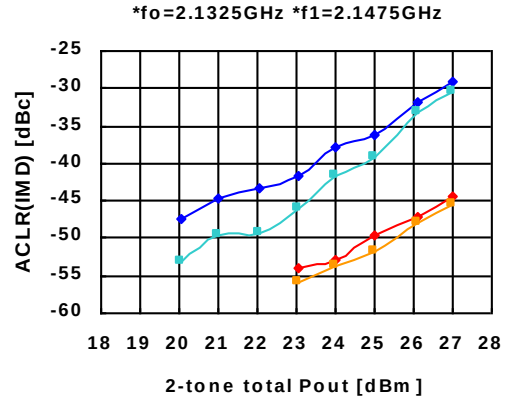
@ VDS=10V IDS(DC)=0.6IDSS

IMD vs OUTPUT POWER(2-tone)



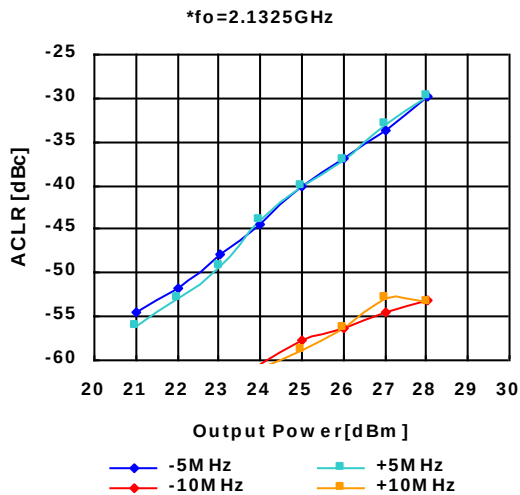
IM 3@ 1.8GHz IM 5@ 1.8GHz IM 3@ 2.0GHz
IM 5@ 2.0GHz IM 3L dBc IM 5L dBc

W-CDMA 2-CARRIER IMD(ACLR)



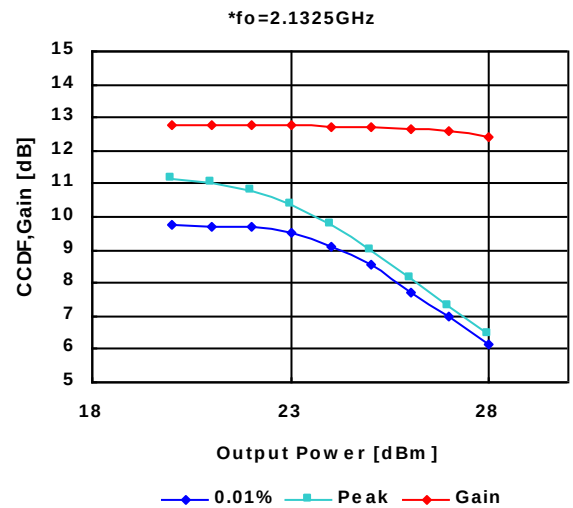
IM 3-L IM 3-U IM 5-L IM 5-U

W-CDMA SINGLE CARRIER ACLR



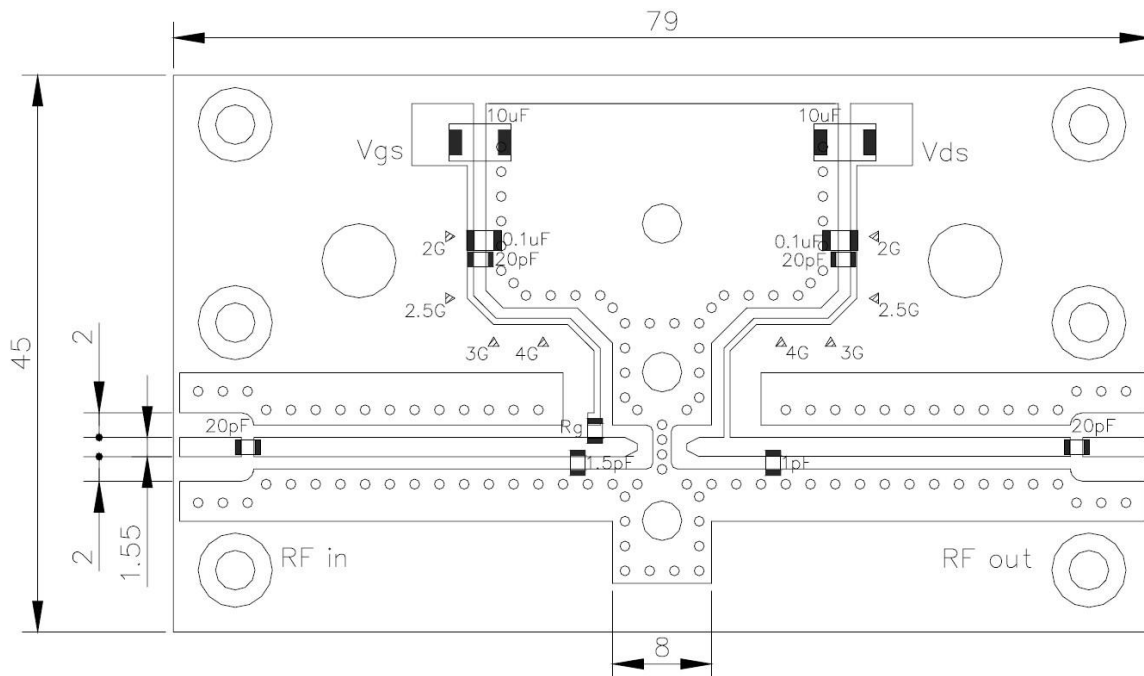
-5M Hz +5M Hz
-10M Hz +10M Hz

W-CDMA SINGLE CARRIER CCDF AND GAIN



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

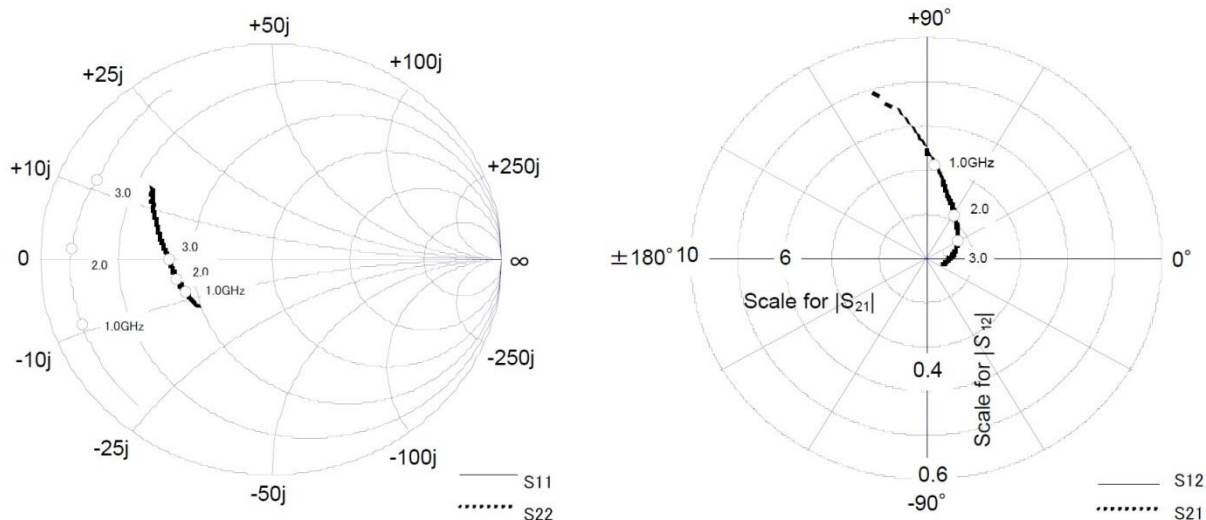
■ Recommended Bias Circuit and Internal Block Diagram



<Board information>
er=3.5 , t=0.8

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

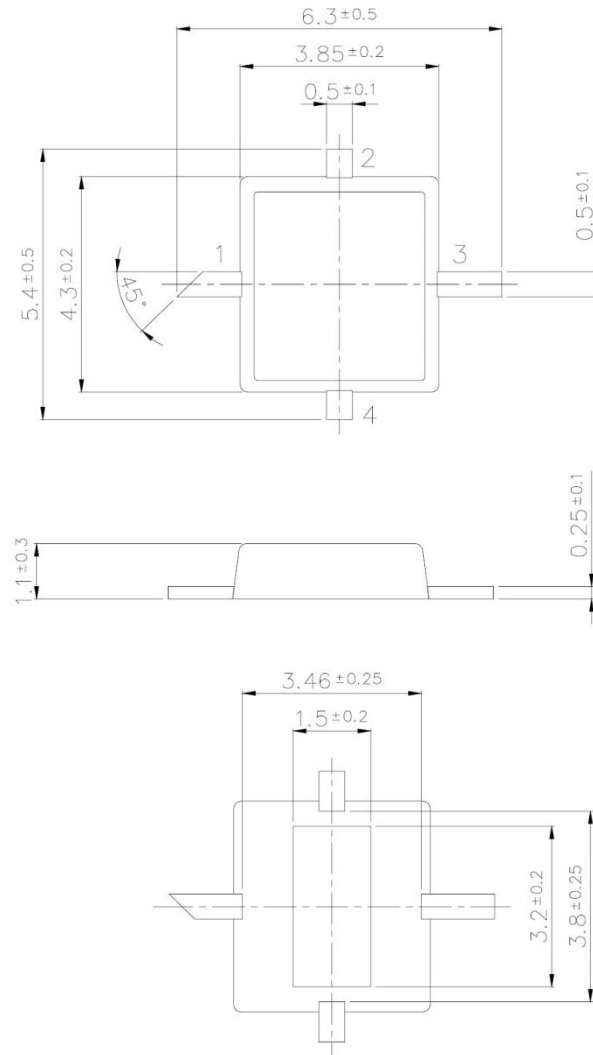
■ S-PARAMETER



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

Freq [GHz]	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
0.5	0.89	-130.40	7.82	106.20	0.05	22.81	0.38	-144.06
1	0.87	-159.47	4.26	84.91	0.05	10.25	0.40	-157.62
1.5	0.87	-172.30	2.95	71.11	0.05	3.23	0.41	-162.28
2	0.87	176.73	2.31	58.41	0.05	-2.81	0.42	-166.91
2.5	0.85	166.01	1.89	45.71	0.05	-10.38	0.43	-172.98
3	0.84	153.61	1.58	31.88	0.04	-11.34	0.44	179.73
3.5	0.85	142.11	1.33	18.68	0.04	-15.81	0.48	170.94
4	0.87	131.82	1.12	5.71	0.04	-20.61	0.52	162.31
4.5	0.89	124.40	0.94	-5.77	0.04	-22.32	0.57	154.52
5	0.90	118.39	0.79	-16.59	0.03	-26.62	0.61	147.78

■ 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 environment.

For safety, 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 procedures.