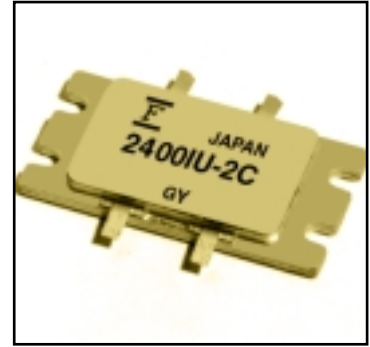


FLL2400IU-2C

L-Band High Power GaAs FET

FEATURES

- Push-Pull Configuration
- High Power Output: 240W (Typ.)
- Broad Frequency Range: 2100 to 2200 MHz.
- Suitable for class AB operation.



DESCRIPTION

The FLL2400IU-2C is a 240 Watt GaAs FET that employs a push-pull design that offers ease of matching, greater consistency and a broader bandwidth for high power L-band amplifiers. This product is targeted to reduce the size and complexity of highly linear, high power base station transmitting amplifiers. This new product is well suited for use in W-CDMA and IMT 2000 base station amplifiers as it offers high gain, long term reliability and ease of use.

APPLICATIONS

- Solid State Base-Station Power Amplifier.
- W-CDMA and IMT 2000 Communication Systems.

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

Item	Symbol	Condition	Rating	Unit
Drain-Source Voltage	V_{DS}		15	V
Gate-Source Voltage	V_{GS}		-5	V
Total Power Dissipation	P_T	$T_c = 25^\circ\text{C}$	230	W
Storage Temperature	T_{stg}		-65 to +175	°C
Channel Temperature	T_{ch}		+175	°C

Fujitsu recommends the following conditions for the reliable operation of GaAs FETs:

1. The drain-source operating voltage (V_{DS}) should not exceed 12 volts.
2. The forward and reverse gate currents should not exceed 367 and -161 mA respectively with gate resistance of 1.5Ω.
3. The operating channel temperature (T_{ch}) and case temperature (T_c) should not exceed 145°C and 80°C respectively.

ELECTRICAL CHARACTERISTICS (Case Temperature Tc=25°C)

Item	Symbol	Conditions	Limits			Unit
			Min.	Typ.	Max.	
Drain Current	I_{DSS}	$V_{DS} = 5V, V_{GS} = 0V$	-	32	-	A
Pinch-Off Voltage	V_p	$V_{DS} = 5V, I_{DS} = 680mA$	-0.1	-0.3	-0.5	V
Gate-Source Breakdown Voltage	V_{GSO}	$I_{GS} = -6.8mA$	-5	-	-	V
Output Power	P_{out}	$V_{DS} = 12V$ $f = 2.17\text{ GHz}$	52.8	53.8	-	dBm
Linear Gain	GL	$I_{DS} = 6.0A$ $P_{in} = 45.0dBm$ Note 1	10.5	11.5	-	dB
Thermal Resistance	R_{th}	Channel to Case	-	0.45	0.65	°C/W

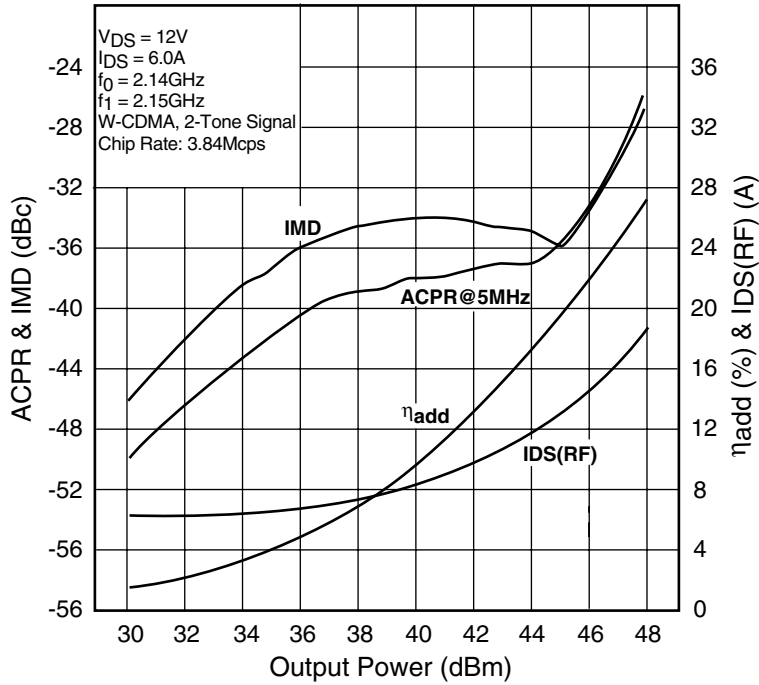
CASE STYLE: IU

Note 1: The RF test are performed using a P.W. = 1msec., Duty Cycle = 20%

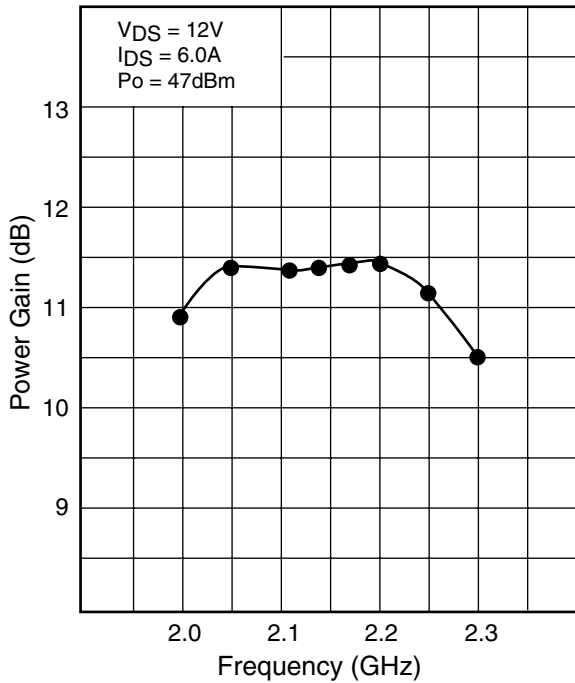
FLL2400IU-2C

L-Band High Power GaAs FET

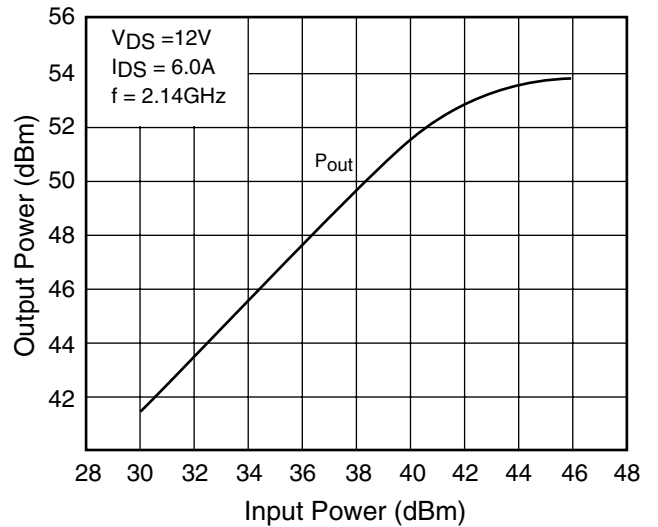
OUTPUT POWER vs. ACPR



POWER GAIN vs. FREQUENCY



OUTPUT POWER vs. INPUT POWER



FLL2400IU-2C

L-Band High Power GaAs FET

S-PARAMETERS

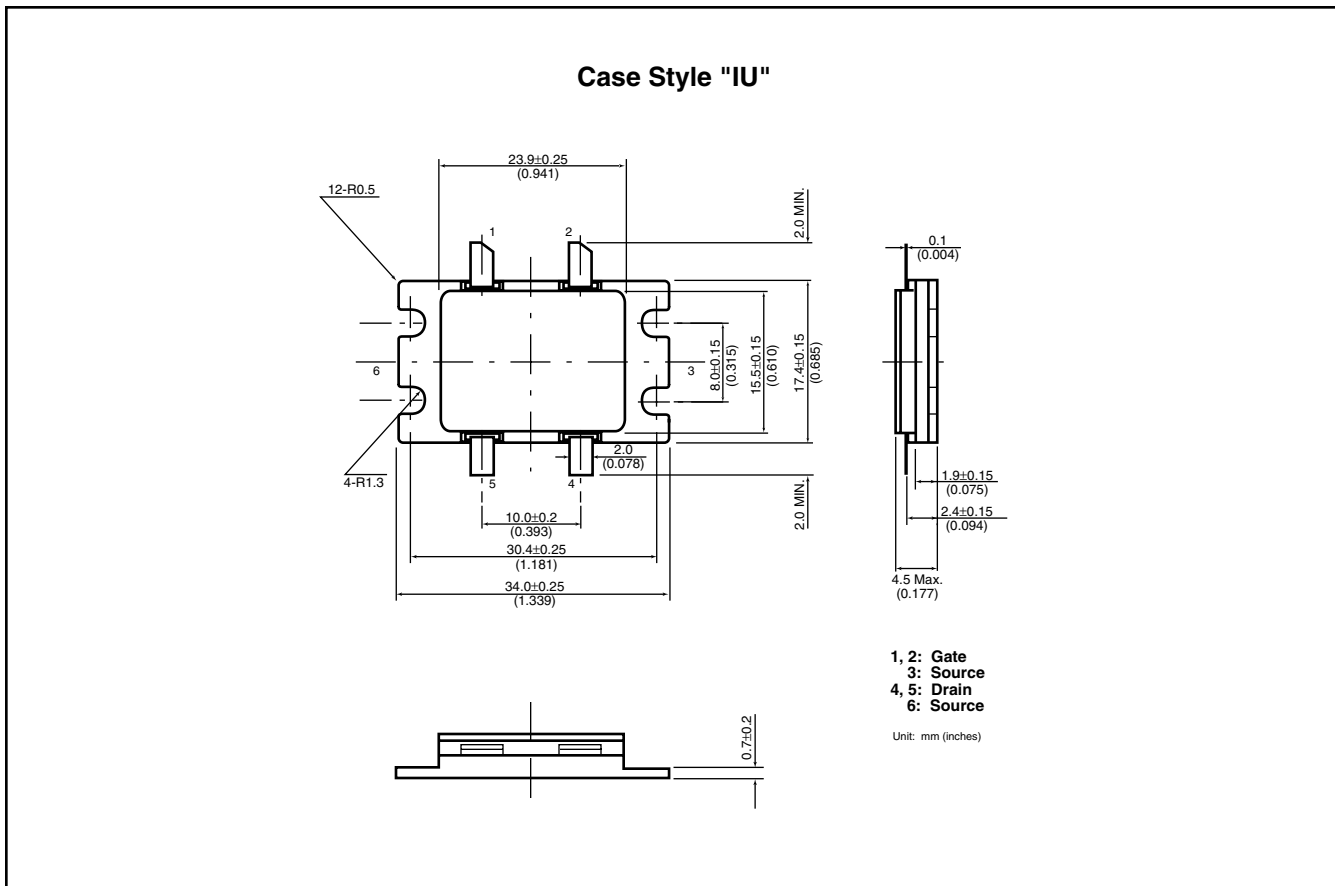
$V_{DS} = 12V, I_{DS} = 3000mA$

FREQUENCY (MHZ)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
1000	.96	163.50	.38	27.91	.01	15.94	.93	162.90
1100	.95	160.98	.44	17.85	.01	10.08	.92	160.44
1200	.94	157.92	.54	6.09	.01	2.90	.90	157.61
1300	.92	154.29	.69	-7.95	.01	-8.76	.87	154.92
1400	.89	149.86	.91	-24.30	.01	-26.71	.83	152.29
1500	.83	144.48	1.23	-44.26	.01	-48.79	.79	149.47
1600	.75	137.49	1.73	-68.31	.02	-78.69	.76	145.40
1700	.59	128.15	2.49	-98.08	.02	-115.43	.73	137.71
1800	.29	123.34	3.58	-138.58	.03	-166.25	.59	122.69
1900	.33	-154.32	4.07	169.42	.04	135.08	.26	120.03
2000	.65	-168.04	3.38	124.54	.04	83.42	.29	-178.92
2100	.74	176.86	2.71	93.33	.03	47.28	.45	-177.80
2200	.73	165.20	2.39	68.23	.03	19.42	.53	176.00
2300	.66	154.02	2.34	44.10	.03	-7.18	.57	170.13
2400	.51	142.48	2.47	17.00	.04	-36.14	.60	165.05
2500	.26	141.92	2.61	-13.63	.04	-66.67	.62	157.84
2600	.25	-137.12	2.53	-53.34	.04	-106.75	.66	143.72
2700	.56	-139.05	2.09	-92.50	.04	-145.50	.63	120.08
2800	.74	-152.03	1.62	-126.64	.03	-178.55	.55	86.52
2900	.83	-162.29	1.23	-157.48	.02	153.66	.49	39.21
3000	.87	-170.06	.91	174.26	.02	125.90	.55	-12.13

Note: This S-Parameter data shows measurements performed on a single-ended push-pull FET. These parameters should be used to determine the calculated Push-Pull S-Parameter amplifier designs.

FLL2400IU-2C

L-Band High Power GaAs FET



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Printed in U.S.A. FCSI1100M200

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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.