

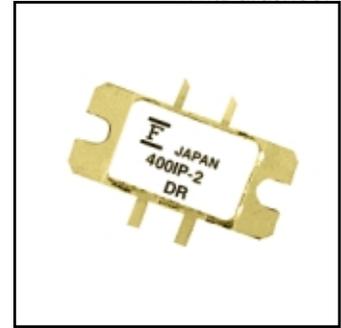
# FLL400IP-2

## L-Band Medium & High Power GaAs FET

www.DataSheet4U.com

### FEATURES

- Push-Pull Configuration
- High Power Output: 35W (Typ.)
- High PAE: 44% (Typ.)
- Broad Frequency Range: 800 to 2000 MHz.
- Suitable for class A operation at 10V and class AB operation at 12V



### DESCRIPTION

The FLL400IP-2 is a 35 Watt GaAs FET that employs a push-pull design which 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 uniquely suited for use in PCS/PCN base station amplifiers as it offers high gain, long term reliability and ease of use.

### APPLICATIONS

- Solid State Base-Station Power Amplifier.
- PCS/PCN Communication Systems.

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

Parameter	Symbol	Condition	Rating	Unit
Drain-Source Voltage	$V_{DS}$		15	V
Gate-Source Voltage	$V_{GS}$		-5	V
Total Power Dissipation	$P_T$	$T_c = 25^\circ\text{C}$	107	W
Storage Temperature	$T_{stg}$		-65 to +175	$^\circ\text{C}$
Channel Temperature	$T_{ch}$		+175	$^\circ\text{C}$

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 54.4 and -17.4 mA respectively with gate resistance of 25 $\Omega$ .
3. The operating channel temperature ( $T_{ch}$ ) should not exceed 145 $^\circ\text{C}$ .

### ELECTRICAL CHARACTERISTICS (Ambient Temperature Ta=25°C)

Item	Symbol	Conditions	Limits			Unit
			Min.	Typ.	Max.	
Drain Current	$I_{DSS}$	$V_{DS} = 5V, V_{GS} = 0V$	-	12	16	A
Transconductance	gm	$V_{DS} = 5V, I_{DS} = 7.2A$	-	6000	-	mS
Pinch-Off Voltage	$V_p$	$V_{DS} = 5V, I_{DS} = 720mA$	-1.0	-2.0	-3.5	V
Gate-Source Breakdown Voltage	$V_{GSO}$	$I_{GS} = -720\mu A$	-5	-	-	V
Output Power at 1 dB G.C.P.	$P_{1dB}$	$V_{DS} = 12V$ $f = 1.96GHz$ $I_{DS} = 2A$	44.5	45.5	-	dBm
Power Gain at 1 dB G.C.P.	$G_{1dB}$		9.0	10.0	-	dB
Drain Current	$I_{DSR}$		-	6.0	8.0	A
Power-Added Efficiency	$\eta_{add}$		-	44	-	%
Output Power at 1 dB G.C.P.	$P_{1dB}$	$V_{DS} = 10V$ $f = 1.96GHz$ $I_{DS} = 2A$	-	44.5	-	dBm
Power Gain at 1 dB G.C.P.	$G_{1dB}$		-	10.0	-	dB
Thermal Resistance	$R_{th}$	Channel to Case	-	1.0	1.4	$^\circ\text{C}/W$

CASE STYLE: IP

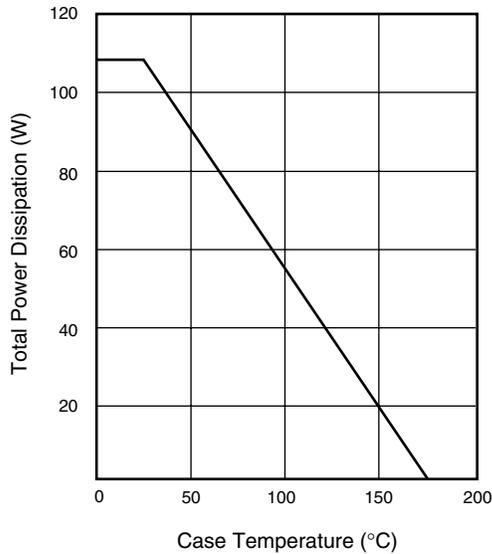
G.C.P.: Gain Compression Point

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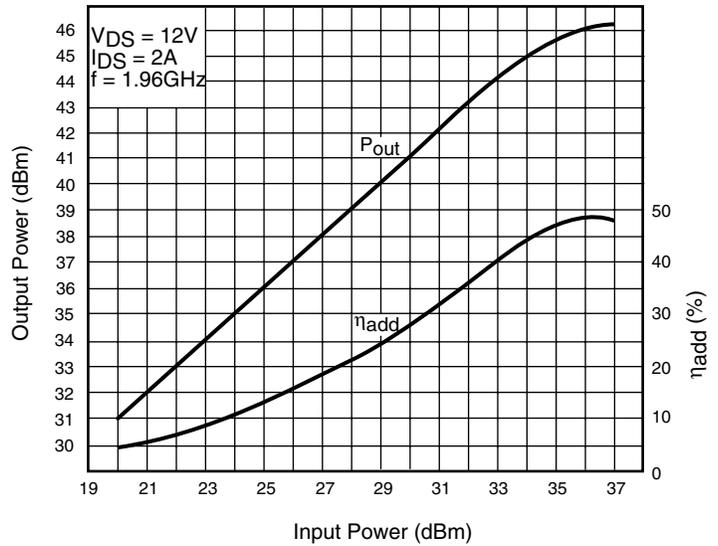
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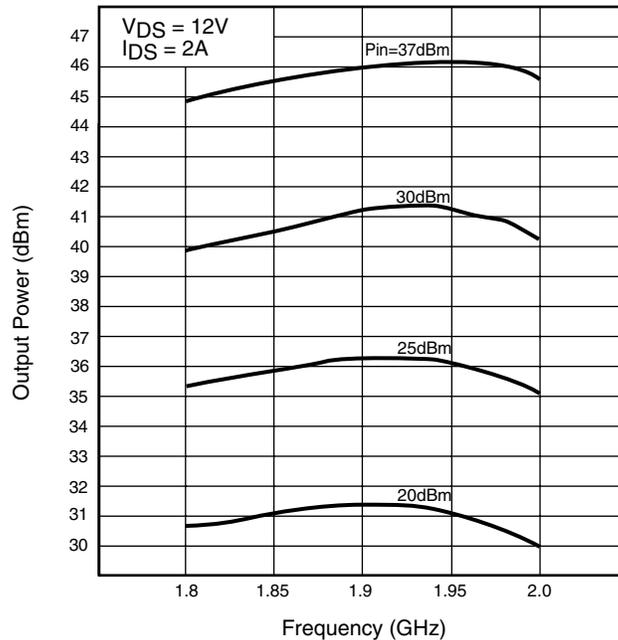
### POWER DERATING CURVE



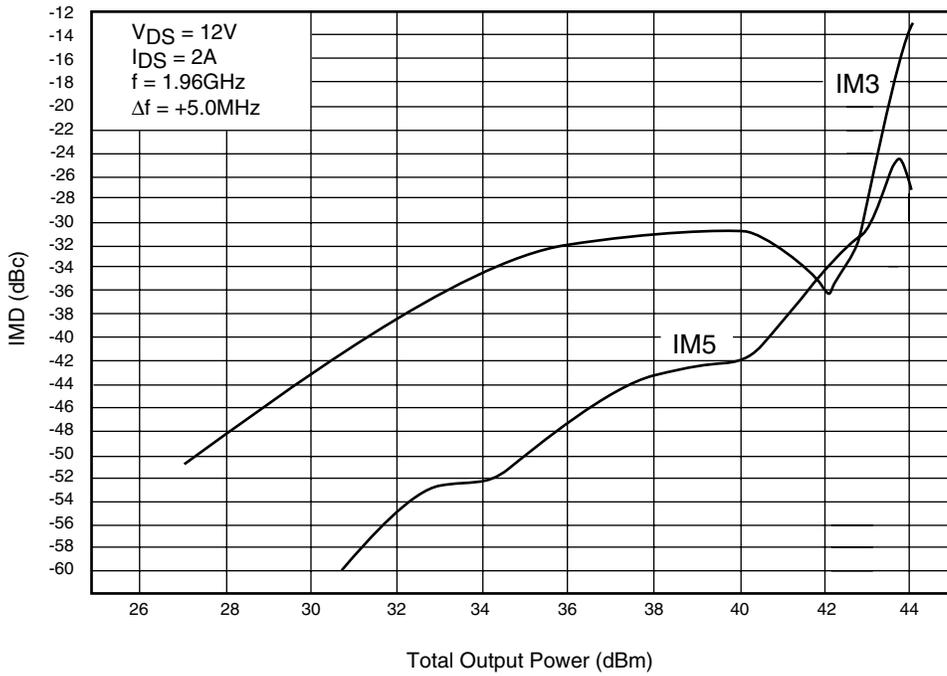
### OUTPUT POWER & $\eta_{add}$ vs. INPUT POWER



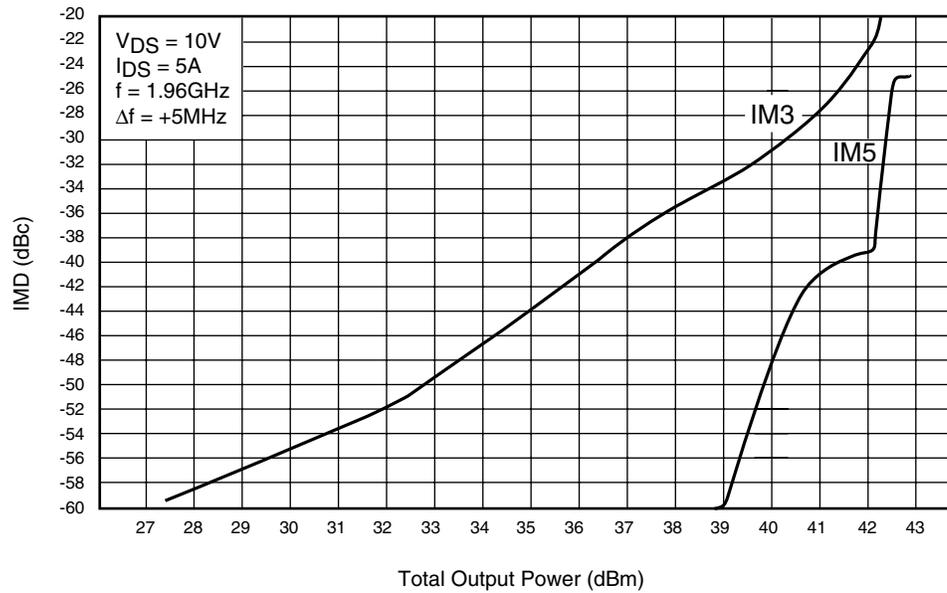
### OUTPUT POWER vs. FREQUENCY



### OUTPUT POWER vs. IMD



### OUTPUT POWER vs. IMD

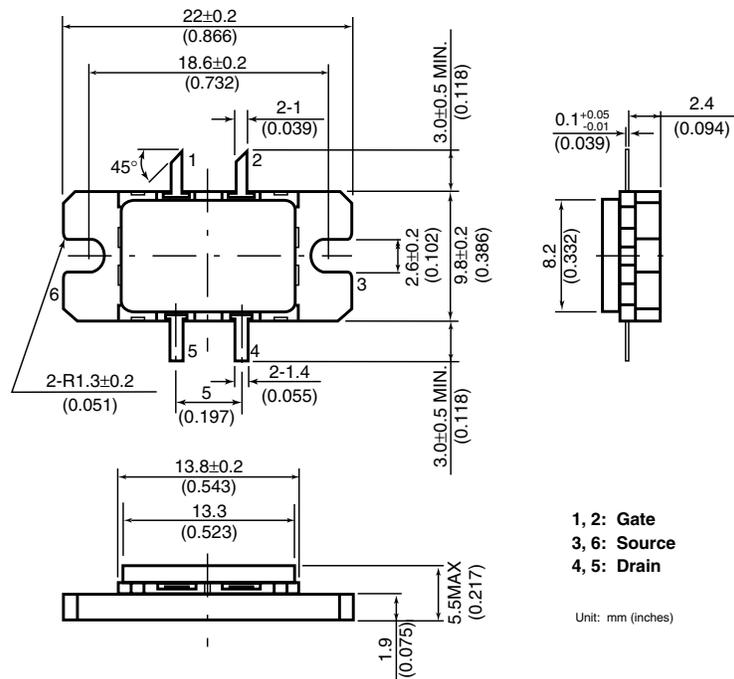


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## L-Band Medium & High Power GaAs FET

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### Case Style "IP" Metal-Ceramic Hermetic Package



### For further information please contact:

#### FUJITSU COMPOUND SEMICONDUCTOR, INC.

2355 Zanker Rd.

San Jose, CA 95131-1138, U.S.A.

Phone: (408) 232-9500

FAX: (408) 428-9111

www.fcsi.fujitsu.com

#### FUJITSU MICROELECTRONICS EUROPE, GmbH

##### Quantum Devices Division

Network House

Norreys Drive

Maidenhead, Berkshire SL6 4FJ

Phone: +44 (0)1628 504800

FAX: +44 (0)1628 504888

### CAUTION

Fujitsu Compound Semiconductor 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 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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