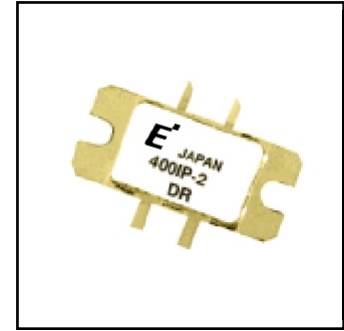


FEATURES

- 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	°C
Channel Temperature	T_{ch}		+175	°C

Eudyna 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 25Ω.
3. The operating channel temperature (T_{ch}) should not exceed 145°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	η_{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	°C/W

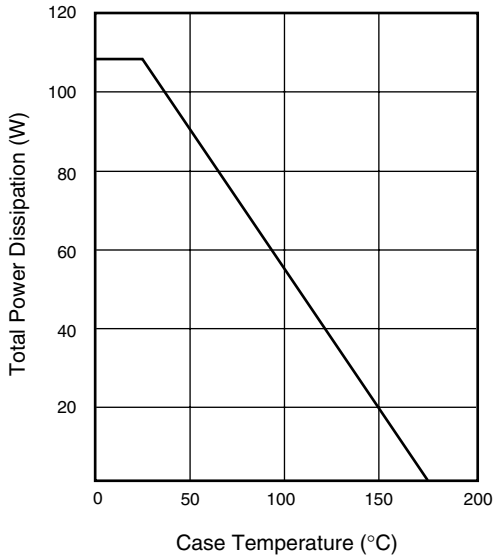
CASE STYLE: IP

G.C.P.: Gain Compression Point

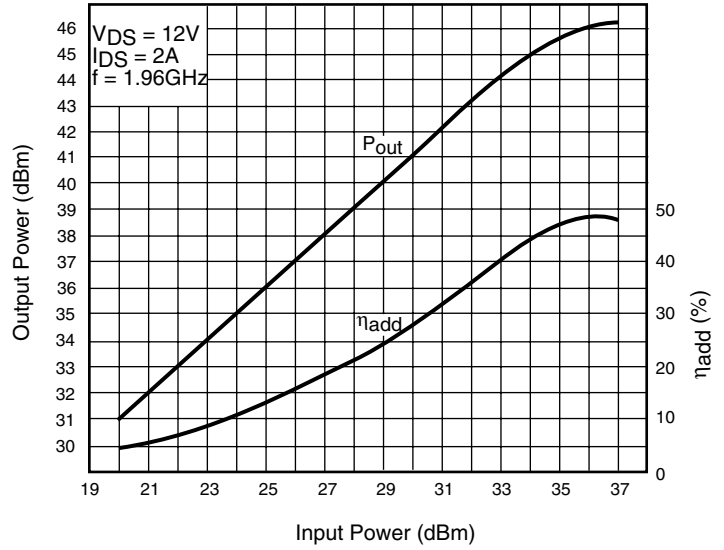
FLL400IP-2

L-Band Medium & High Power GaAs FET

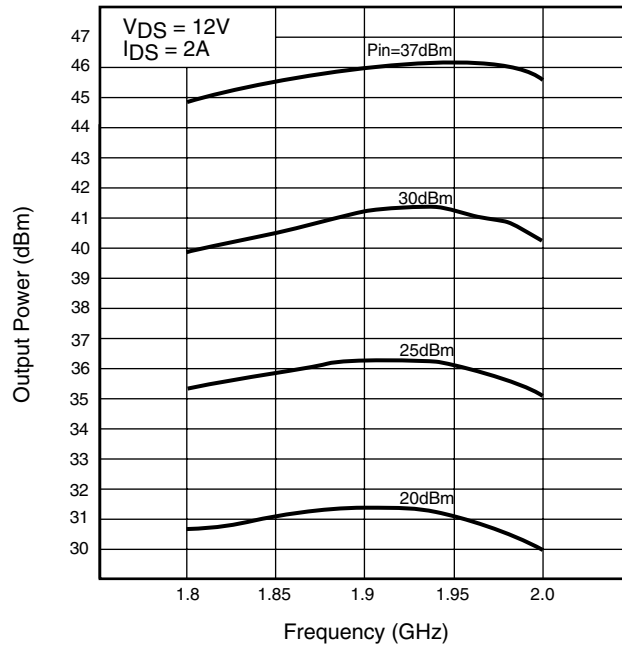
POWER DERATING CURVE



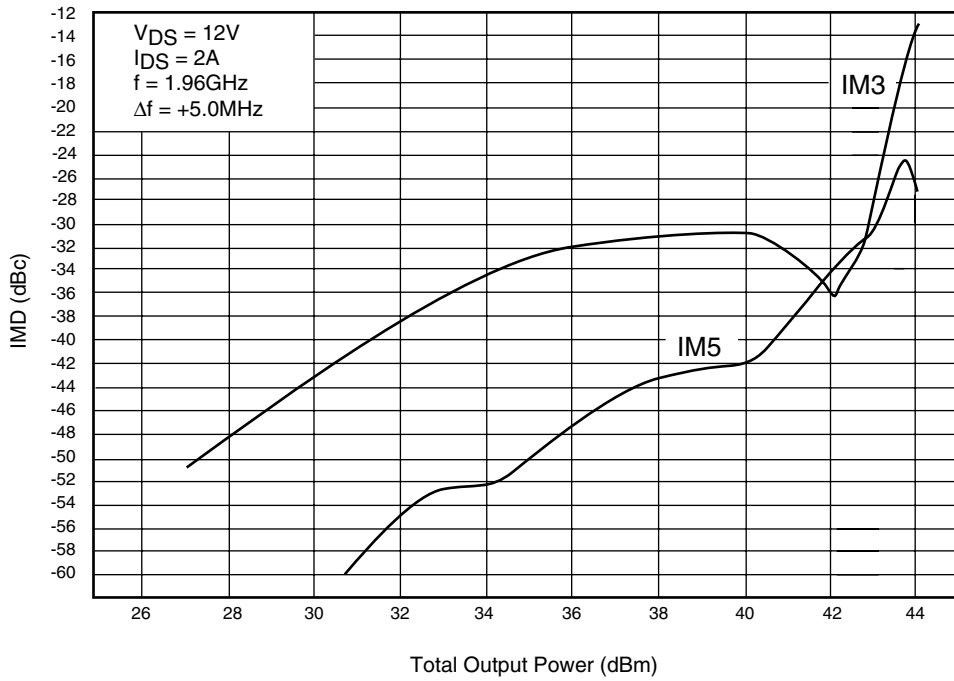
OUTPUT POWER & η_{add} vs. INPUT POWER



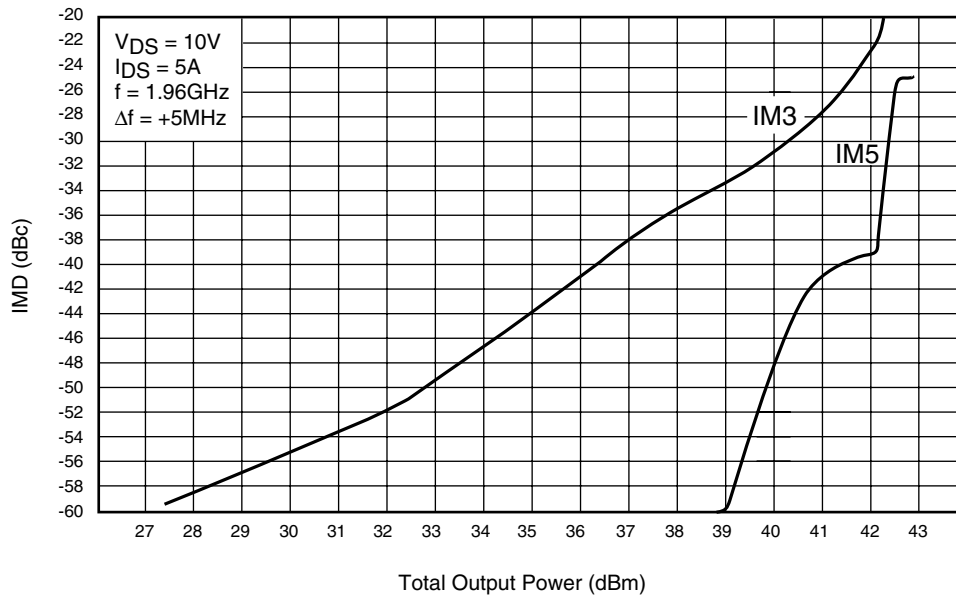
OUTPUT POWER vs. FREQUENCY



OUTPUT POWER vs. IMD



OUTPUT POWER vs. IMD



FLL400IP-2

L-Band Medium & High Power GaAs FET

Case Style "IP" Metal-Ceramic Hermetic Package

