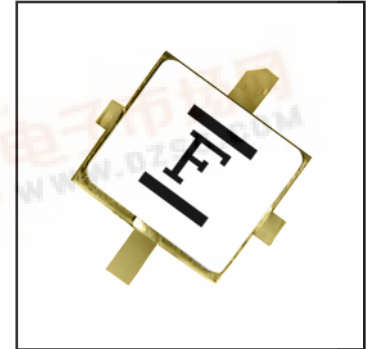


## L-Band Medium & High Power GaAs FET

### FEATURES

- High Output Power:  $P_{1dB}=32.5\text{dBm}$  (Typ.)
- High Gain:  $G_{1dB}=13.5\text{dB}$  (Typ.)
- High PAE:  $\eta_{add}=46\%$  (Typ.)
- Hermetic Metal/Ceramic (SMT) Package
- Tape and Reel Available



### DESCRIPTION

The FLU17XM is a GaAs FET designed for base station applications in the PCN/PCS frequency range. This is a new product series that uses a surface mount package that has been optimized for high volume cost driven applications.

Fujitsu's stringent Quality Assurance Program assures the highest reliability and consistent performance.

### ABSOLUTE MAXIMUM RATINGS (Ambient Temperature $T_a=25^\circ\text{C}$ )

Item	Symbol	Condition	Rating	Unit
Drain-Source Voltage	$V_{DS}$		15	V
Gate-Source Voltage	$V_{GS}$		-5	V
Total Power Dissipation	PT	$T_c = 25^\circ\text{C}$	7.5	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 10 volts.
2. The forward and reverse gate currents should not exceed 9.6 and -1.0 mA respectively with gate resistance of  $200\Omega$ .
3. The operating channel temperature ( $T_{ch}$ ) should not exceed  $145^\circ\text{C}$ .

### ELECTRICAL CHARACTERISTICS (Ambient Temperature $T_a=25^\circ\text{C}$ )

Item	Symbol	Conditions	Limits			Unit
			Min.	Typ.	Max.	
Drain Current	$I_{DSS}$	$V_{DS} = 5\text{V}, V_{GS}=0\text{V}$	-	600	900	mA
Transconductance	gm	$V_{DS} = 5\text{V}, I_{DS}=400\text{mA}$	-	300	-	mS
Pinch-Off Voltage	$V_p$	$V_{DS} = 5\text{V}, I_{DS}=30\text{mA}$	-1.0	-2.0	-3.5	V
Gate-Source Breakdown Voltage	$V_{GSO}$	$I_{GS} = -30\mu\text{A}$	-5	-	-	V
Output Power at 1 dB G.C.P.	$P_{1dB}$	$V_{DS} = 10\text{V}$ $f=2.0\text{GHz}$ $I_{DS}=0.6I_{DSS}$	31.5	32.5	-	dBm
Power Gain at 1 dB G.C.P.	$G_{1dB}$		12.5	13.5	-	dB
Power Added Efficiency	$\eta_{add}$		-	46	-	%
Thermal Resistance	$R_{th}$	Channel to Case	-	15	20	$^\circ\text{C/W}$

Case Style: XM

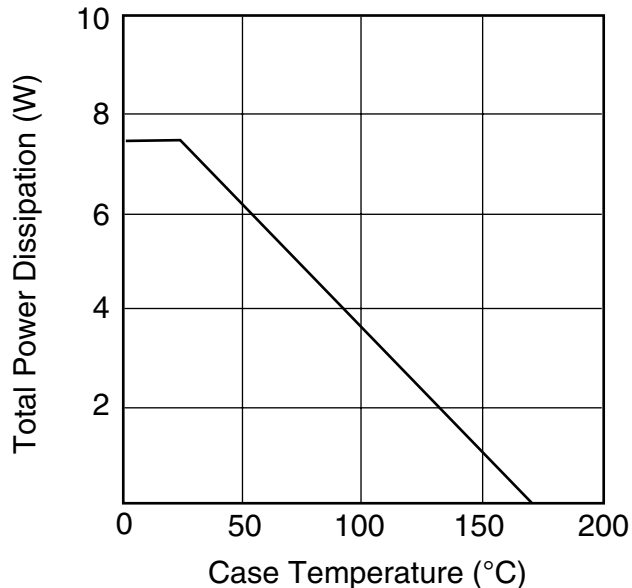
G.C.P.: Gain Compression Point

Note: The RF parameters are measured on a lot basis by sample testing at an AQL = 0.1%, Level-II inspection. Any lot failure shall be 100% retested.

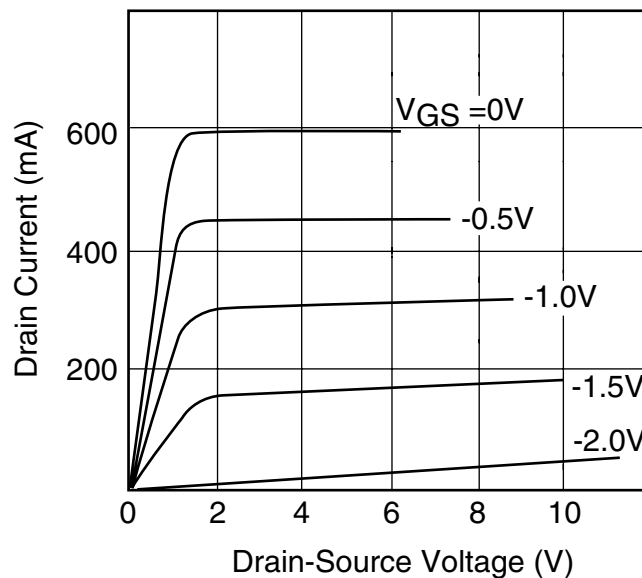
# FLU17XM

L-Band Medium & High Power GaAs FET

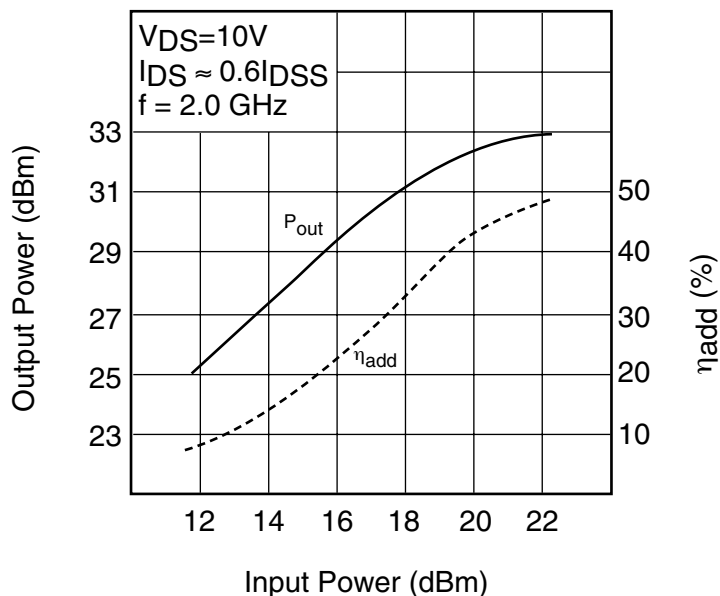
### POWER DERATING CURVE



### DRAIN CURRENT vs. DRAIN-SOURCE VOLTAGE

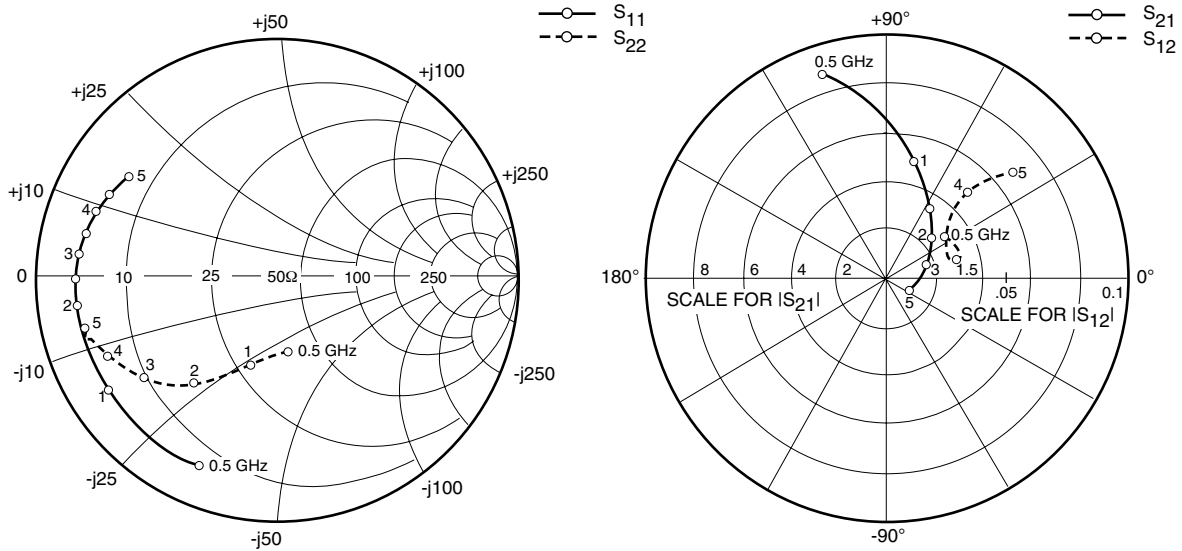


### OUTPUT POWER vs. INPUT POWER



# FLU17XM

## L-Band Medium & High Power GaAs FET



### S-PARAMETERS

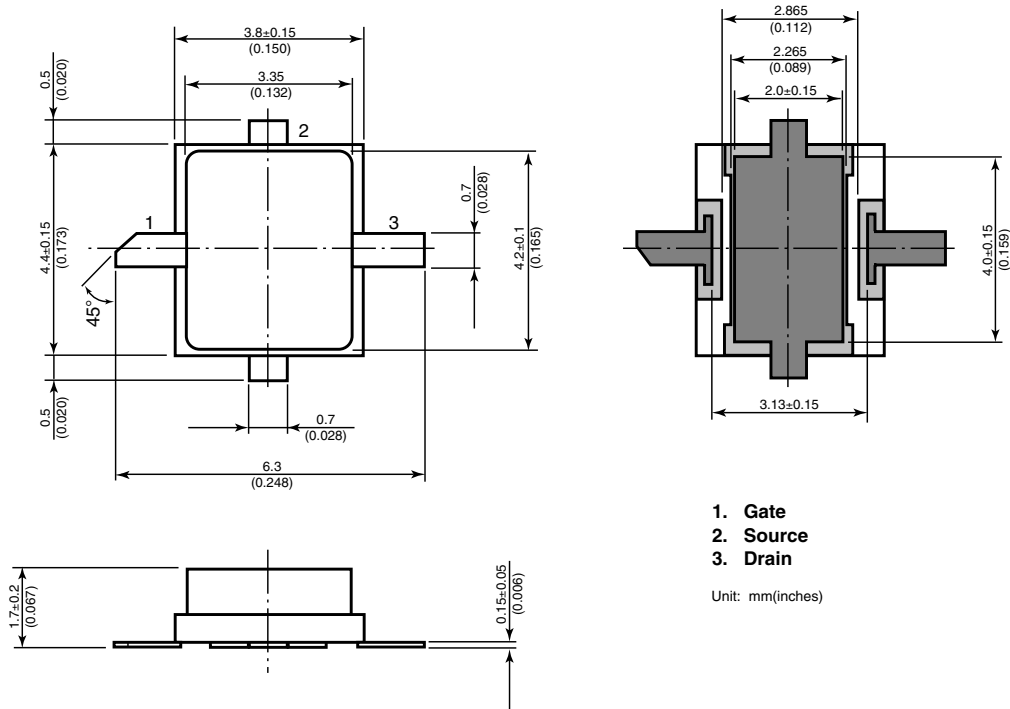
$V_{DS} = 10V, I_{DS} = 360mA$

FREQUENCY (MHZ)	S <sub>11</sub>		S <sub>21</sub>		S <sub>12</sub>		S <sub>22</sub>	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	.954	-33.9	16.330	160.4	.012	72.2	.335	-18.7
500	.839	-112.6	8.817	107.9	.028	33.4	.307	-80.7
1000	.831	-146.9	4.930	78.0	.030	18.4	.378	-106.7
1500	.824	-162.5	3.299	58.2	.029	16.6	.472	-118.6
2000	.825	-172.5	2.428	42.0	.027	21.1	.555	-128.3
2500	.825	179.7	1.912	28.1	.028	35.2	.628	-136.0
3000	.820	172.6	1.567	15.2	.032	39.3	.682	-143.3
3500	.809	165.9	1.337	3.3	.038	43.3	.726	-149.3
4000	.794	159.2	1.183	-8.3	.048	45.0	.761	-155.1
4500	.775	152.5	1.079	-19.8	.057	43.5	.790	-160.5
5000	.739	145.5	1.015	-32.1	.067	39.4	.816	-165.9

# FLU17XM

## L-Band Medium & High Power GaAs FET

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



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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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