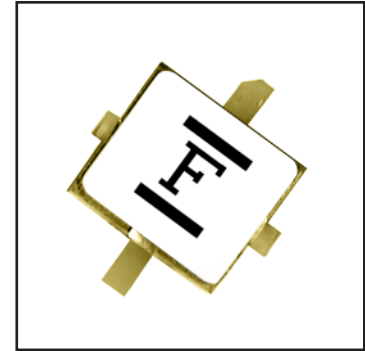


### FEATURES

- High Output Power:  $P_{1dB}=35.5dBm$  (Typ.)
- High Gain:  $G_{1dB}=12.5dB$  (Typ.)
- High PAE:  $\eta_{add}=46%$  (Typ.)
- Hermetic Metal/Ceramic (SMT) Package
- Tape and Reel Available



### DESCRIPTION

The FLU35XM 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 $T_a=25^\circ C$ )

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

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 19.4 and -2.0 mA respectively with gate resistance of  $100\Omega$ .
3. The operating channel temperature ( $T_{ch}$ ) should not exceed  $145^\circ C$ .

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

Item	Symbol	Conditions	Limits			Unit
			Min.	Typ.	Max.	
Drain Current	$I_{DSS}$	$V_{DS} = 5V, V_{GS}=0V$	-	1200	1800	mA
Transconductance	gm	$V_{DS} = 5V, I_{DS}=800mA$	-	600	-	mS
Pinch-Off Voltage	$V_p$	$V_{DS} = 5V, I_{DS}=60mA$	-1.0	-2.0	-3.5	V
Gate-Source Breakdown Voltage	$V_{GSO}$	$I_{GS} = -60\mu A$	-5	-	-	V
Output Power at 1 dB G.C.P.	$P_{1dB}$	$V_{DS} = 10V$ $f=2.0 GHz$ $I_{DS}=0.6I_{DSS}$	34.5	35.5	-	dBm
Power Gain at 1 dB G.C.P.	$G_{1dB}$		11.5	12.5	-	dB
Power Added Efficiency	$\eta_{add}$		-	46	-	%
Thermal Resistance	$R_{th}$	Channel to Case	-	7.5	10	$^\circ C/W$

#### Case Style: XM

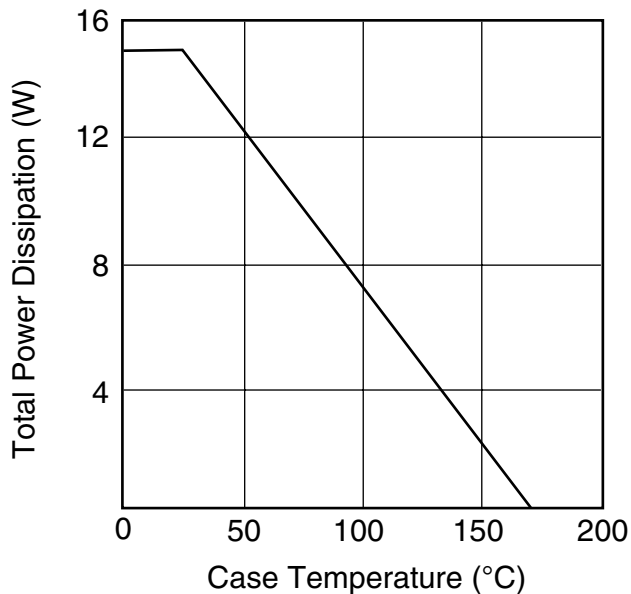
G.C.P.: Gain Compression Point

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.

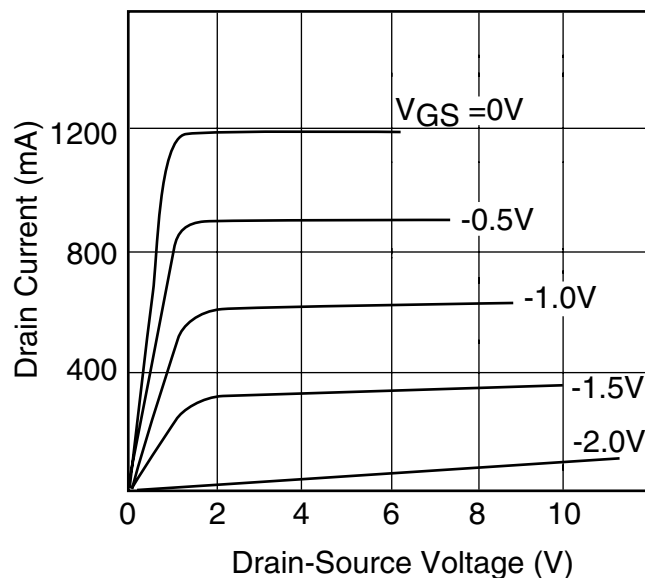
# FLU35XM

## L-Band Medium & High Power GaAs FET

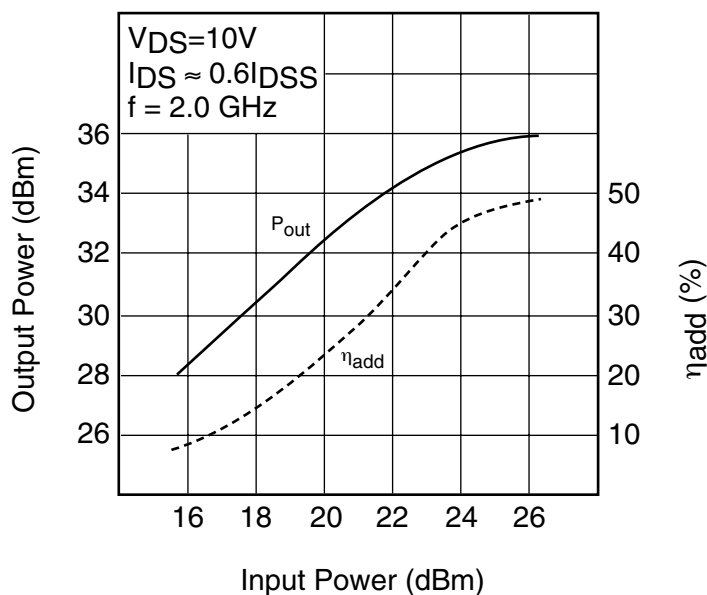
### POWER DERATING CURVE

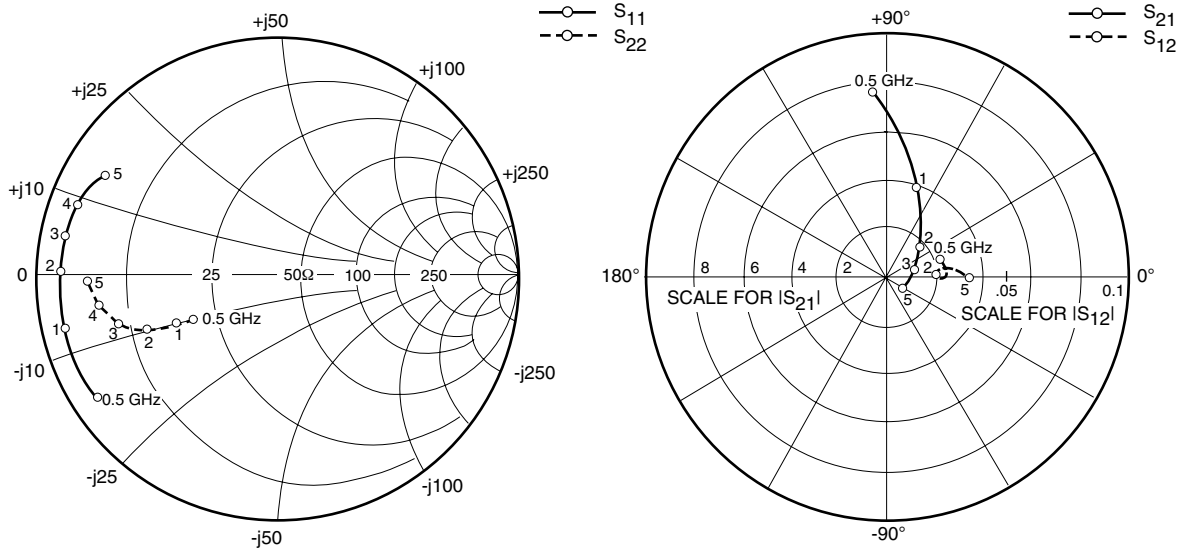


### DRAIN CURRENT vs. DRAIN-SOURCE VOLTAGE



### OUTPUT POWER vs. INPUT POWER





### S-PARAMETERS

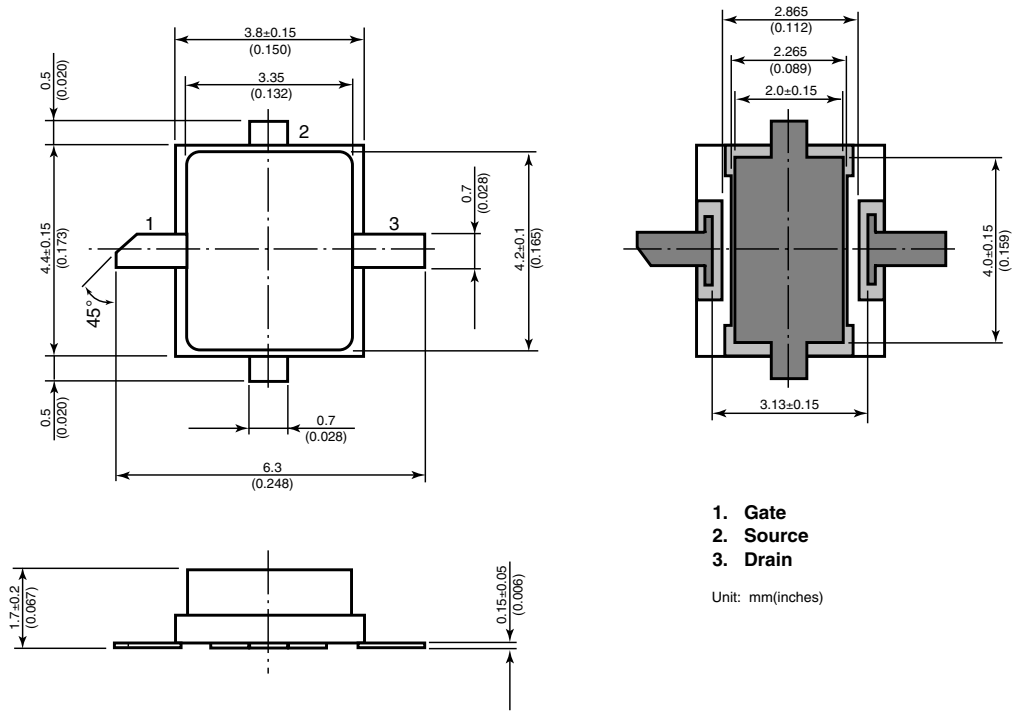
$V_{DS} = 10V, I_{DS} = 720mA$

FREQUENCY (MHZ)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
100	.957	-66.2	22.578	145.6	.014	60.6	.186	-125.7
500	.894	-147.0	7.757	94.1	.023	17.4	.386	-154.8
1000	.902	-167.1	3.947	71.6	.023	5.2	.455	-157.0
1500	.899	-176.1	2.592	55.8	.023	1.5	.517	-157.1
2000	.897	177.8	1.897	41.9	.022	-1.0	.578	-158.9
2500	.896	172.9	1.492	29.5	.021	3.9	.634	-161.3
3000	.892	168.1	1.223	17.9	.022	1.5	.679	-164.7
3500	.883	163.4	1.041	7.0	.023	.3	.714	-168.0
4000	.871	158.6	.921	-3.9	.026	5.3	.742	-171.7
4500	.858	153.9	.839	-14.8	.029	2.9	.766	-175.4
5000	.830	148.8	.790	-26.5	.034	-1.0	.786	-179.4

# FLU35XM

## L-Band Medium & High Power GaAs FET

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



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#### 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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