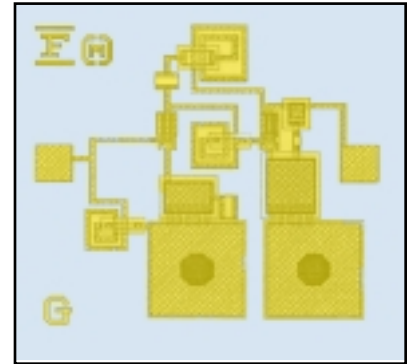


### FEATURES

- Low Noise Figure: NF = 1.6dB (Typ.) @ f=30 GHz
- High Associated Gain:  $G_{as}$  = 13dB (Typ.) @ f=30 GHz
- Wide Frequency Band: 27-32 GHz
- Impedance Matched  $Z_{in}/Z_{out}$  = 50Ω



### DESCRIPTION

The FMM5702X is a LNA MMIC designed for applications in the 27-32 GHz frequency range. This product is well suited for satellite communications and radio link applications where low noise and high gain is required.

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

Item	Symbol	Condition	Rating	Unit
Drain-Source Voltage	$V_{DD}$		5	V
Input Power	$P_{in}$		-4	dBm
Storage Temperature	$T_{stg}$		-65 to +175	$^{\circ}\text{C}$
Operating Backside Temperature	$T_{op}$		-45 to +125	$^{\circ}\text{C}$

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

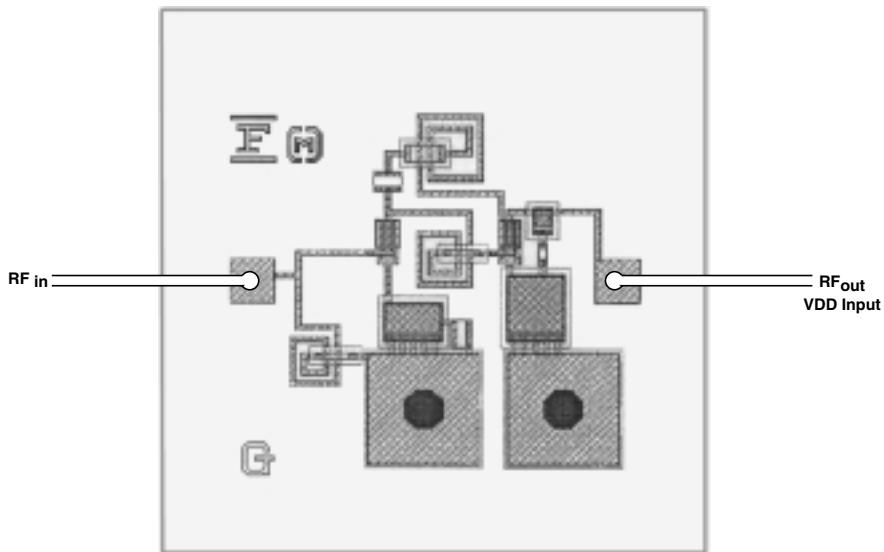
1. The drain-source operating voltage ( $V_{DD}$ ) should not exceed 4 volts.
2. This product should be hermetically packaged.

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

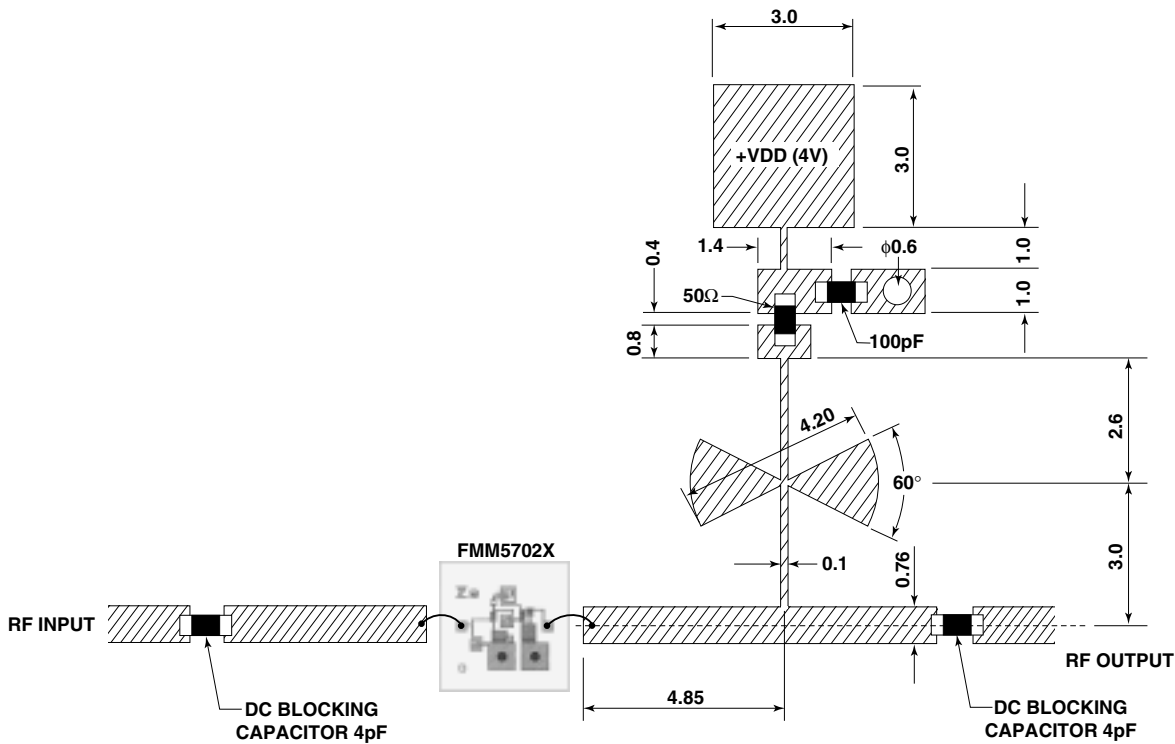
Item	Symbol	Conditions	Limits			Unit
			Min.	Typ.	Max.	
Noise Figure	NF	$V_{DD} = 4\text{V}$ $f = 30.0\text{ GHz}$ $I_{DD} = 5\text{mA (Typ.)}$ $Z_S = Z_L = 50\Omega$	-	1.6	2.0	dB
Associated Gain	$G_{as}$		11.0	13.0	-	dB
Input Return Loss	$RL_{in}$		-	-12	-	dB
Output Return Loss	$RL_{out}$		-	-9	-	dB

Note: RF parameter sample size 10pcs. Criteria (accept/reject)=(0/1)

## BONDING LAYOUT



## RF MEASUREMENT CIRCUIT

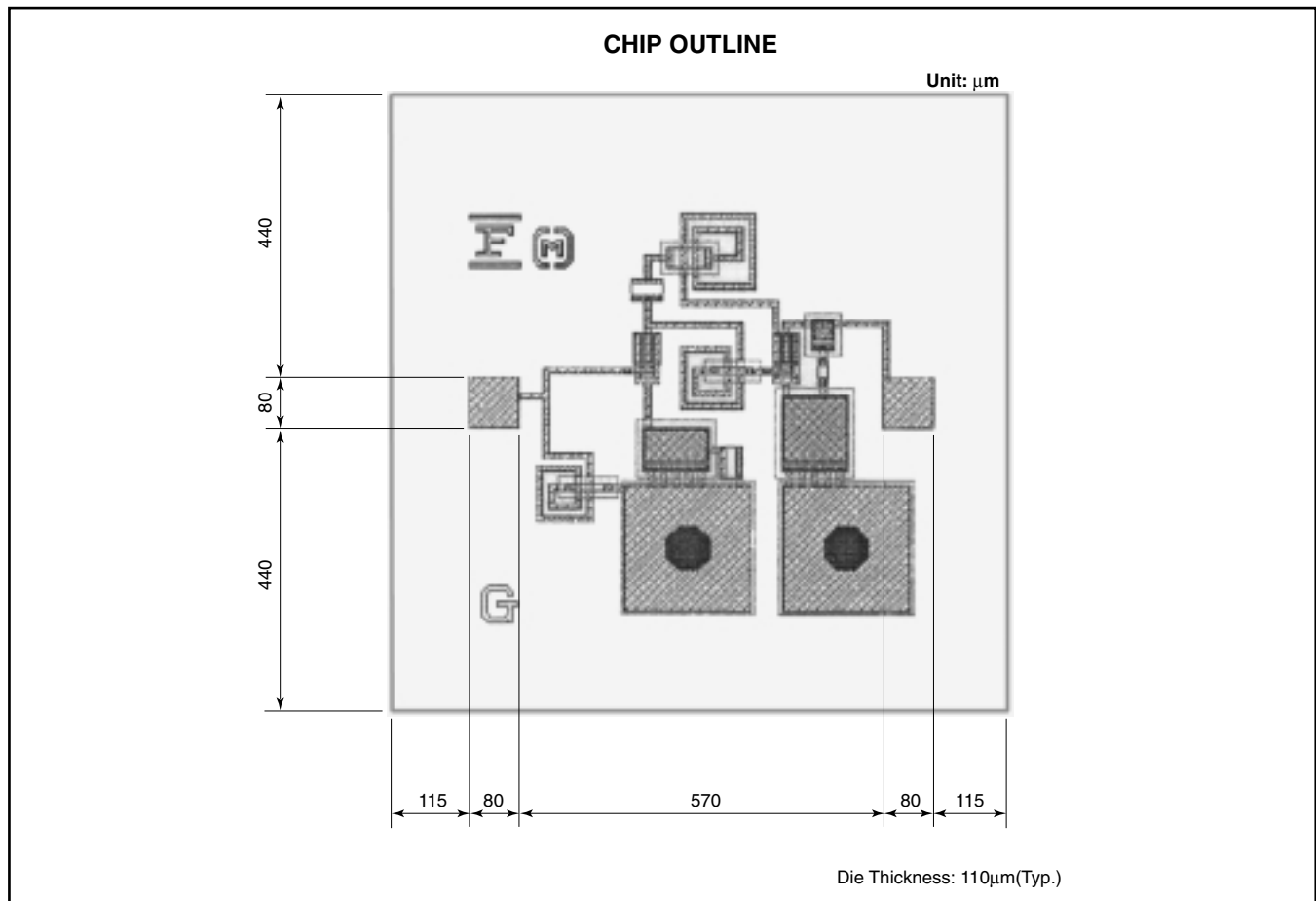


Unit: mm  
 Thickness: 0.254mm  
 $\epsilon_r$ : 2.17



# FMM5702X

27-32GHz LNA MMIC



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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 ingest.
- 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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Printed in U.S.A. FCSI0599M200

  
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