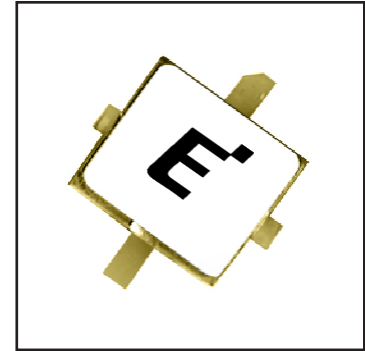


FEATURES

- High Output Power: $P_{1dB}=32.5dBm$ (Typ.)
- High Gain: $G_{1dB}=13.5dB$ (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.

Eudyna 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 | $T_c = 25^\circ C$ | 7.5 | W |
| Storage Temperature | T_{stg} | | -65 to +175 | $^\circ C$ |
| Channel Temperature | T_{ch} | | +175 | $^\circ C$ |

Eudyna 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 200Ω .
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} | $V_{DS} = 5V, V_{GS}=0V$ | - | 600 | 900 | mA |
| Transconductance | gm | $V_{DS} = 5V, I_{DS}=400mA$ | - | 300 | - | mS |
| Pinch-Off Voltage | V_p | $V_{DS} = 5V, I_{DS}=30mA$ | -1.0 | -2.0 | -3.5 | V |
| Gate-Source Breakdown Voltage | V_{GSO} | $I_{GS} = -30\mu A$ | -5 | - | - | V |
| Output Power at 1 dB G.C.P. | P_{1dB} | $V_{DS} = 10V$ $f=2.0 GHz$ $I_{DS} = 0.6I_{DSS}$ | 31.5 | 32.5 | - | dBm |
| Power Gain at 1 dB G.C.P. | G_{1dB} | | 12.5 | 13.5 | - | dB |
| Power Added Efficiency | η_{add} | | - | 46 | - | % |
| Thermal Resistance | R_{th} | Channel to Case | - | 15 | 20 | $^\circ C/W$ |

Case Style: XM

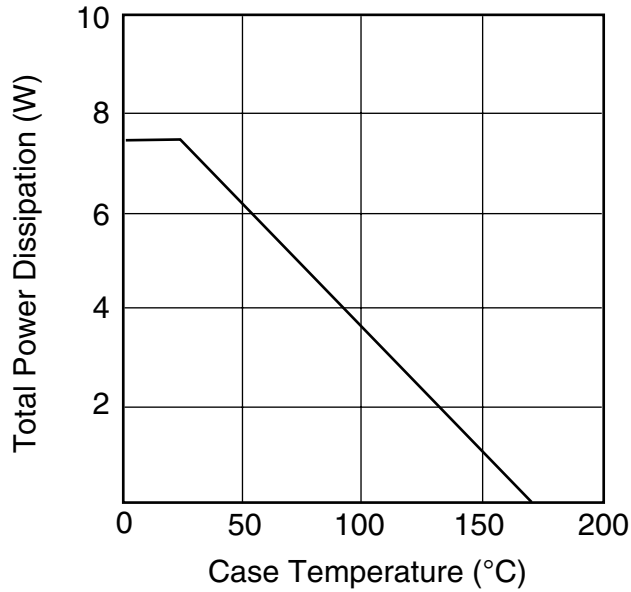
G.C.P.: Gain Compression Point

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.

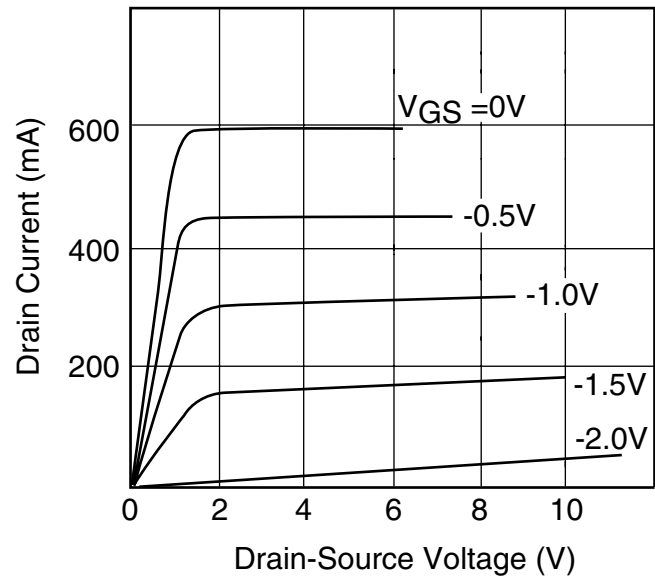
FLU17XM

L-Band Medium & High Power GaAs FET

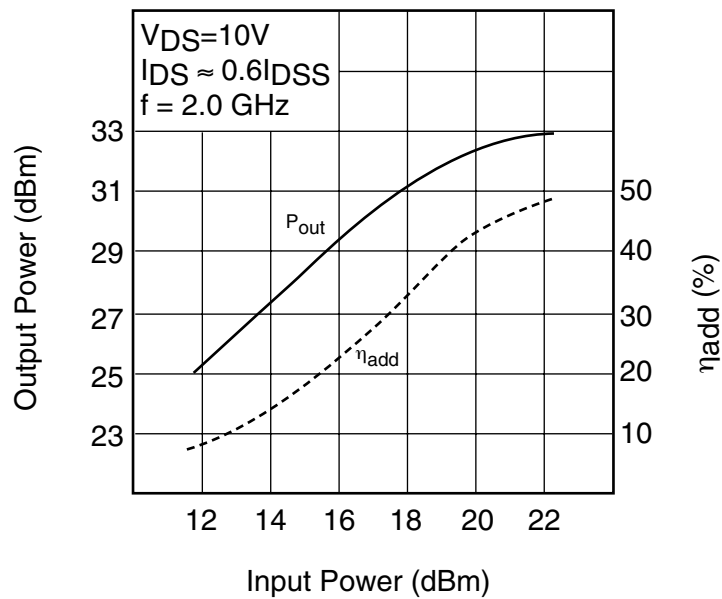
POWER DERATING CURVE

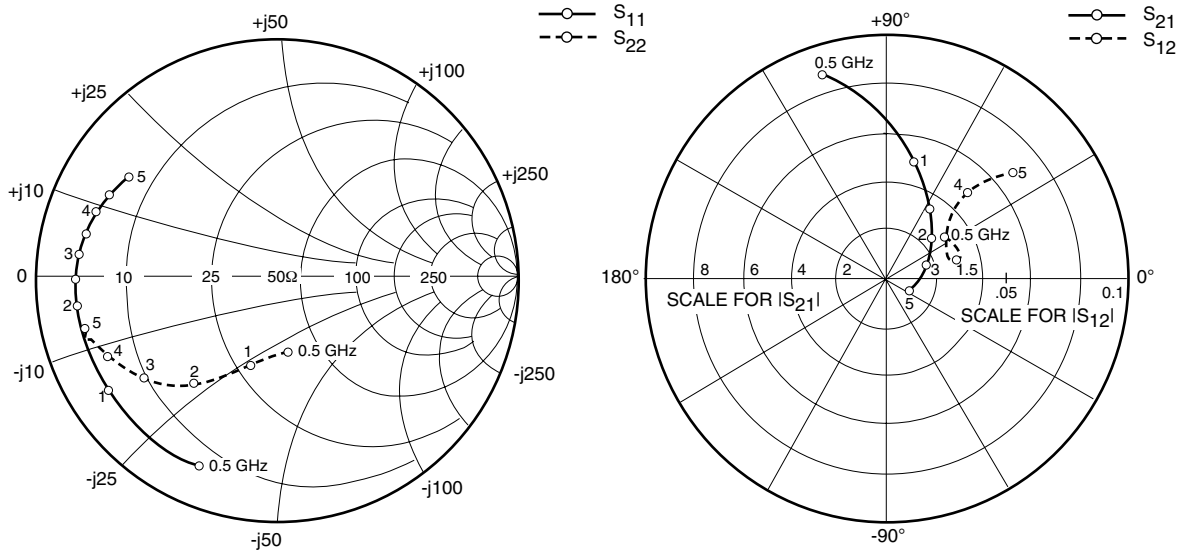


DRAIN CURRENT vs. DRAIN-SOURCE VOLTAGE



OUTPUT POWER vs. INPUT POWER





S-PARAMETERS

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

| FREQUENCY (MHZ) | S ₁₁ | | S ₂₁ | | S ₁₂ | | S ₂₂ | |
|--------------------|-----------------|--------|-----------------|-------|-----------------|------|-----------------|--------|
| | 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

