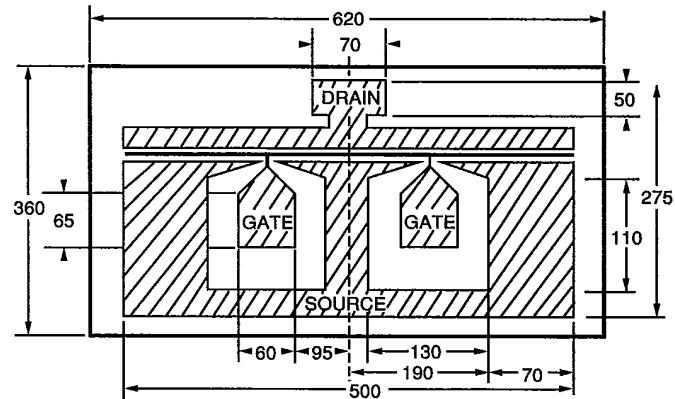


Litton**Low Noise/Medium Power Microwave GaAs FET****Electron Devices****Preliminary Specifications****D-2501****FEATURES**

- Noise Figure 2.2 dB @ 8 GHz
- Gain at NF 9.0dB @ 8 GHz
- 0.8 x 500 μm Ti/Pt/Au Gate
- Passivated



Chip Thickness = 115 ± 13
Units in μm

DESCRIPTION AND APPLICATIONS

The D-2501 is a Gallium Arsenide (GaAs) n-channel Field Effect Transistor (FET) utilizing a 0.8 micron long Schottky-barrier gate. The device offers low noise figure and high associated gain, which makes it ideal for microwave integrated circuits, operating up to 18 GHz. Litton uses the latest design and production techniques to manufacture devices for Electronic Warfare applications.

Quality is assured by quality control and test procedures patterned after MIL-STD-19500 and MIL-STD-750.

The 2501 is a device for industrial, military, and space applications. Typical uses would be in low noise, wide band, small signal receiver, telecommunications and EW systems.

RF PERFORMANCE SPECIFICATIONS ($T_a = 25^\circ\text{C}$)

SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	D-2501		
			MIN	TYP	MAX
NF	Minimum Noise Figure $V_{DS}=3.5\text{V}$, $I_{DS}=15\text{mA}$	• $f=4\text{GHz}$ dB • $f=8\text{GHz}$ dB • $f=12\text{GHz}$ dB		1.5 2.2 4.0	3.0
G_{NF}	Associated Gain at NF $V_{DS}=3.5\text{V}$, $I_{DS}=15\text{mA}$	• $f=4\text{GHz}$ dB • $f=8\text{GHz}$ dB • $f=12\text{GHz}$ dB	8	11.5 9 6	
M.A.G.	Maximum Available Gain $V_{DS}=6\text{V}$, $I_{DS}=0.5 I_{DSS}$	• $f=4\text{GHz}$ dB • $f=8\text{GHz}$ dB • $f=12\text{GHz}$ dB		16 10 7.5	
P_{1dB}	Output Power at 1dB Compression Point $V_{DS}=6\text{V}$, $I_{DS}=0.5 I_{DSS}$	• $f=4\text{GHz}$ dBm • $f=8\text{GHz}$ dBm • $f=12\text{GHz}$ dBm		16 16 16	

Preliminary Specifications

D-2501

SYMBOLS	PARAMETERS	UNITS	RATINGS**
V_{DS}	Drain–Source Voltage	V	10
V_{GS}	Gate–Source Voltage	V	-6
I_{DS}	Drain Current	mA	I_{DSS}
I_{GSF}	Forward Gate Current	mA	50
P_{IN}	RF Input Power	mW	250
T_{CH}	Channel Temperature	°C	175
T_{STG}	Storage Temperature	°C	-65 to +175
P_T	Power Dissipation	mW	500

$V_{DS}=3.5$ volts, $I_{DS}=15mA$

NOTE: * Measurements include 0.7 mil diameter Au bonding wire.
** Operation of this device above any one of these parameters may cause permanent damage.