FEATURES
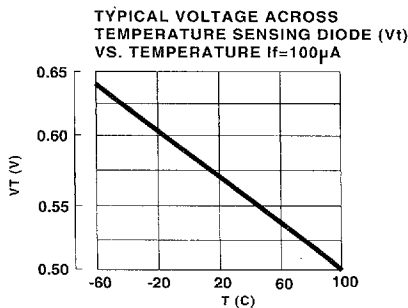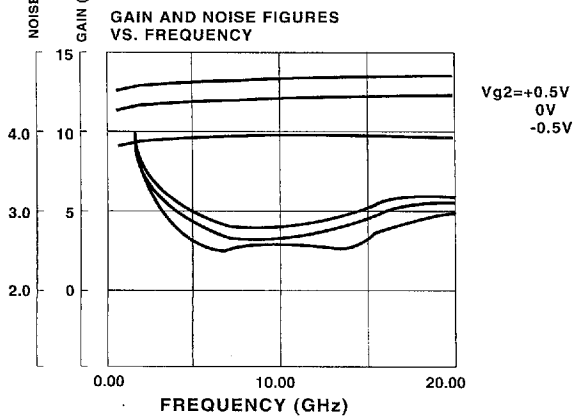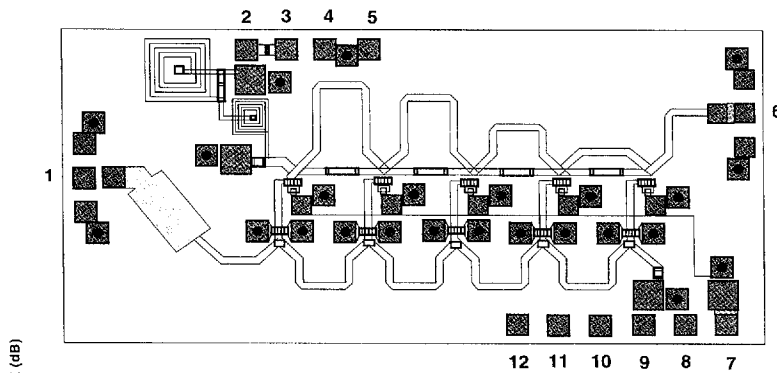
- Cascode Configuration
- 0.25 μm HEMT Technology
- 10 dB Gain
- <4dB Noise Figure 2-18GHz
- <4.5dB Noise Figure 18-20GHz
- AGC Control With Gate Bias
- -55°C to +85°C Operation
- Temperature Sensing Diode Included On Chip
- Ideal for EW and Test Equipment Applications

MODEL NO. P35-5100-0

GaAs MMIC LNA

MMIC

GAIN AND NOISE FIGURES VS. FREQUENCY

Vg2=+0.5V
0V
-0.5V

TYPICAL VOLTAGE ACROSS TEMPERATURE SENSING DIODE (Vt) VS. TEMPERATURE If=100μA

GUARANTEED PERFORMANCE
@ 25°C

PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
SMALL SIGNAL GAIN	8	10		dB	
GAIN RIPPLE			±0.6	dB	
NOISE FIGURE			4.0	dB	f = 2-18 GHz
			4.5	dB	f = 18-20 GHz
GAIN CONTROL		-7/+2		dB	
HARMONICS		-40		dBc	f =2GHz, f =9GHz, P_{in} = -18 dBm
OUTPUT POWER AT 1 dB GAIN COMP.	6			dBm	f = 2-18 GHz
INPUT RETURN LOSS	10			dB	
OUTPUT RETURN LOSS	10			dB	
MAXIMUM INPUT POWER			+14	dBm	
DC POWER SUPPLY		60	95	mA	V_{DD} = 4.0V
	0		-1.5	V	$Vg1$, V_{DD} = 4.0V
	-1		+0.5	V	$Vg2$, V_{DD} =4.0V
OPERATING TEMPERATURE	-55		+85	°C	

CONDITION IS V_{DD} = 3.5V, Vg1 SET TO Idd = 0.5Idss, Vg2 =0V

NOTES:

1. Bias-up arrangement. Apply Vdd
   with Vg1 and Vg2 set to 0V
   Apply Vg1 to set Ids= 50% Idss
   Apply Vg2 to set required gain
   To bias down reverse procedure

2. The auxiliary common-source bias, Vg1a,
   is connected to Vg1 via a 1K Ω on-chip resistor.
   For normal operation Vg1 is used.

3. The input bond wire should ideally be 0.3mm,
   and the output 0.4mm long.

DAICO INDUSTRIES

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This product is manufactured by GEC Marconi Materials, UK, and is distributed by Daico Industries.