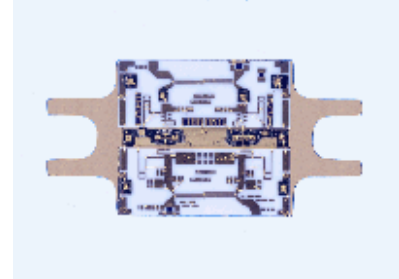


## Features:

- 1.0 dB Typ Noise Figure
- 15 dB Typ Small Signal Gain
- 15 dBm Typ P1dB
- 1.7:1 Typ VSWR



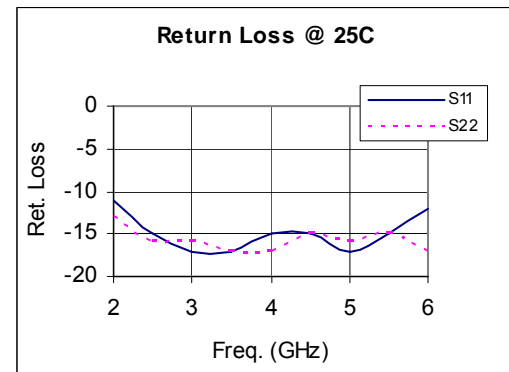
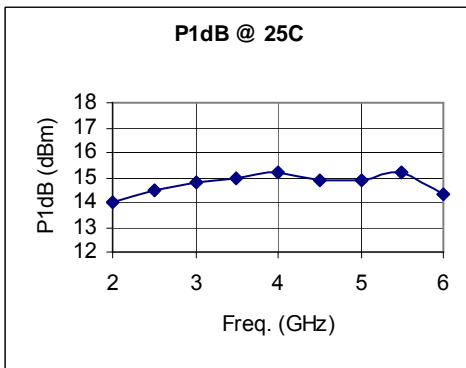
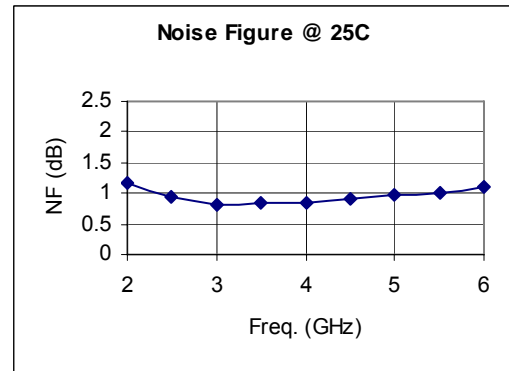
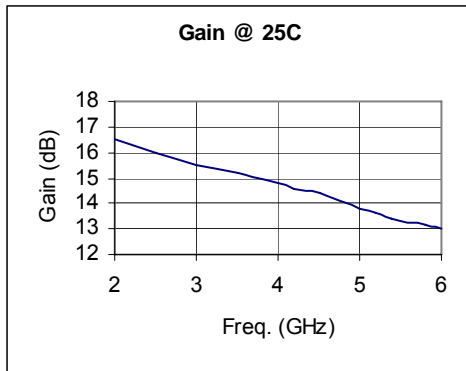
## Description:

The MwT-0206S-A9N2/0206Z-A9N2 is a low noise open-carrier amplifier module operating between 2 and 6 GHz. Its input and output ports are matched to 50  $\Omega$  impedance. The substrates for the input and the output matching circuits are ceramic. They are mounted on metal carriers. The module can be easily mounted onto the housing of a connectorized amplifier. The noise figure is 1.0 dB. Typical small signal gain is 15 dB. The power output at 1dB compression point is 15 dBm. The input and the output VSWR are 1.7:1.

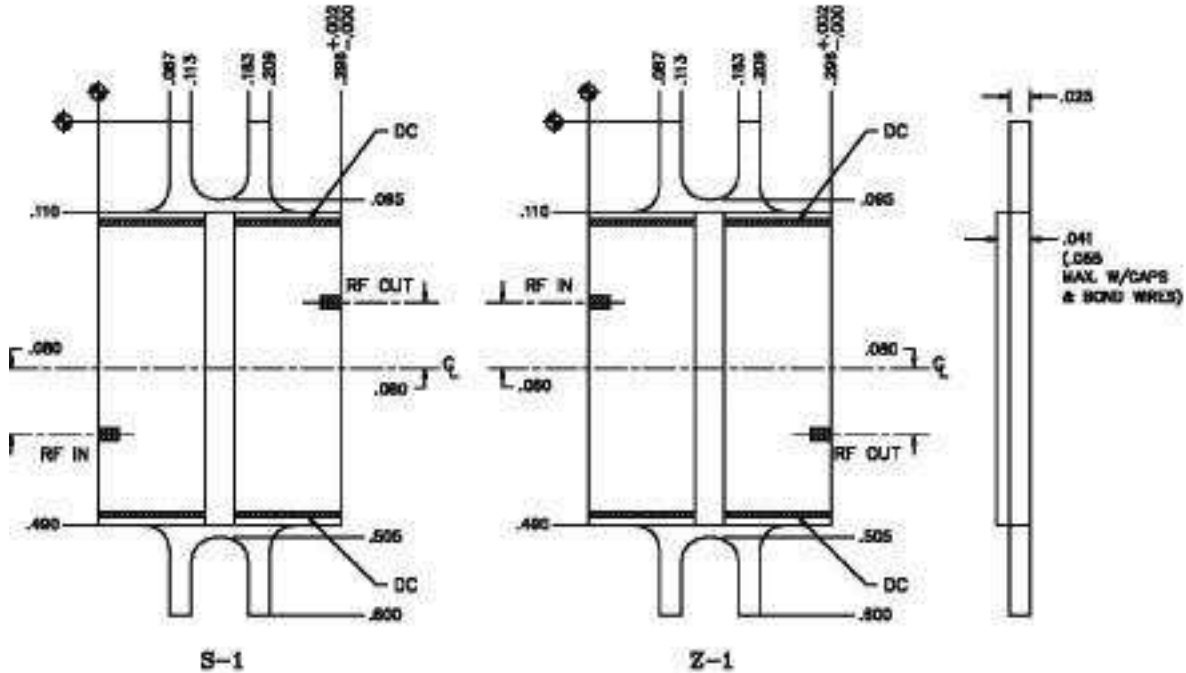
## Electrical Specifications: *V<sub>ds</sub>=8.0V, T<sub>a</sub>=25 °C, Z<sub>0</sub>=50 ohm*

SYMBOL	PARAMETERS	Unit	Min	Typ	Max
FREQ	Frequency Range	GHz	2.0		6.0
SSG	Small Signal Gain	dB	12.5	15.0	
NF	Noise Figure, 2 - 6 GHz	dB		1.0	1.4
	Noise Figure, 3 – 5 GHz	dB		0.9	1.2
GOF	SSG Flatness	+/- dB		2.0	2.5
GOT	SSG Variation over Temperature	dB/°C		-0.012	
P-1dB	Output Power at 1 dB Compression	dBm	13.0	15.0	
PSAT	Output Power at 6 dB Compression	dBm		18.0	
P-1/T	P-1dB Variation over Temperature	dB/°C		-0.008	
IP3	Third Order Intercept Point	dBm		25.0	
2 <sup>nd</sup> HAR	2 <sup>nd</sup> Harmonic @ P <sub>out</sub> =15 dBm	dBc		-21	
VSWR	Input/Output VSWR	--		1.7:1	2.0:1
ISO	Reverse Isolation	dB		-17.0	
VDD	Power Supply Voltage	+V	7.9	8.0	8.1
IDD	Small Signal Module Current	mA		50	70

## Typical RF Performance: $V_{ds}=8.0V, T_a=25\text{ }^\circ\text{C}, Z_0=50\text{ ohm}$



## Package Outline:



## Construction:

The 15 mil alumina substrates and 10 mil copper FET ridge are brazed onto the 25 mil carrier using AuGe perform. The GaAs FETs are attached to the Cu ridge using AuSn perform. All capacitors are attached using AuSn performs. The flanges are designed to accommodate 0-80 UNF-2A socket or Fillister head screws on .400 center-to-center hole spacing. The modules are mechanically and electrically designed to be cascaded.

## Notes:

1. Custom module specifications and/or custom module mechanical configurations are available.
2. Operating Temperature Range is  $-55$  degrees Celsius to  $+105$  degrees Celsius.
3. All modules are serialized and shipped with data measured at 25 degrees Celsius. Data includes swept small signal gain, swept input and output return loss. Noise figure and P1dB are measured in 1 GHz increments. Special module testing is available.
4. Test Fixtures are available.
5. Microwave Technology reserves the right to ship modules with performance above the typical specification.