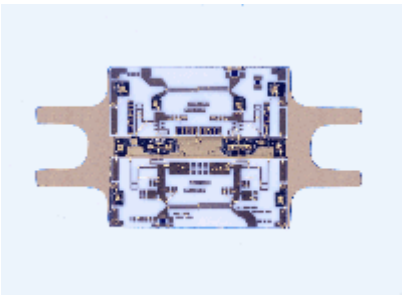
MwT-0513S/Z-LN300

5 – 13 GHz Low Noise
Balanced Amplifier Module

May 2015

Features:

- **Frequency Range 5 - 13 GHz**
- **Noise Figure 1.6 dB**
- **Small Signal Gain 13 dB**
- **P1dB 16 dBm**
- **Input/Output RL 15 dB**



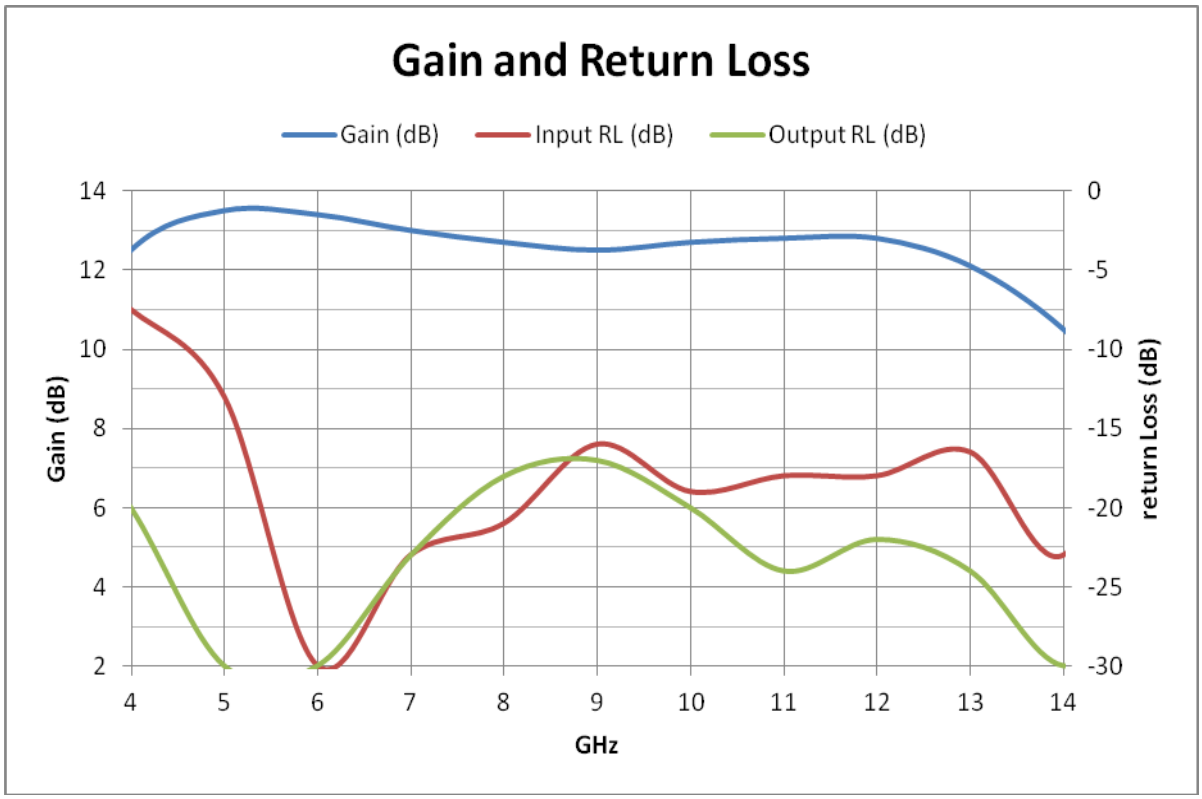
Description:

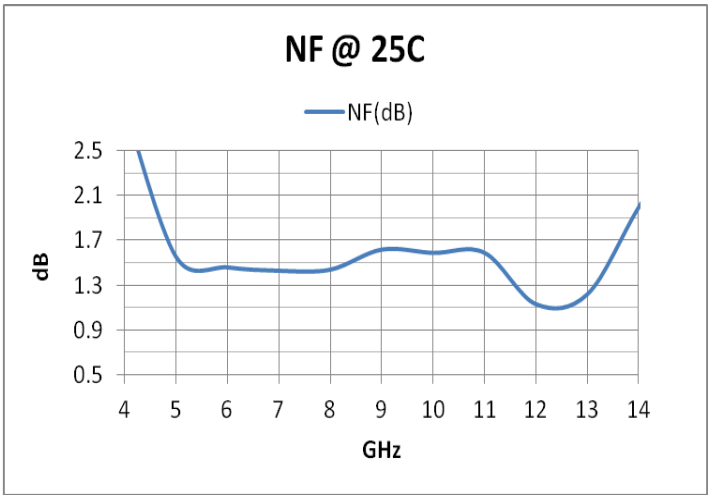
The MwT-0513S-LN300 and the MwT-0513Z-LN300 are low noise open-carrier amplifier modules operating between 5 and 13GHz with input and output ports matched to 50 Ω impedance. The substrates for the input and the output matching circuits are ceramic and are mounted on metal carriers. The module can be easily mounted onto the housing of a connectorized amplifier. It has excellent noise figure of 1.6 dB across the wideband. The typical small signal gain is 13 dB. The output power at 1dB compression point is 16 dBm. The input and output VSWRs are 1.4:1.

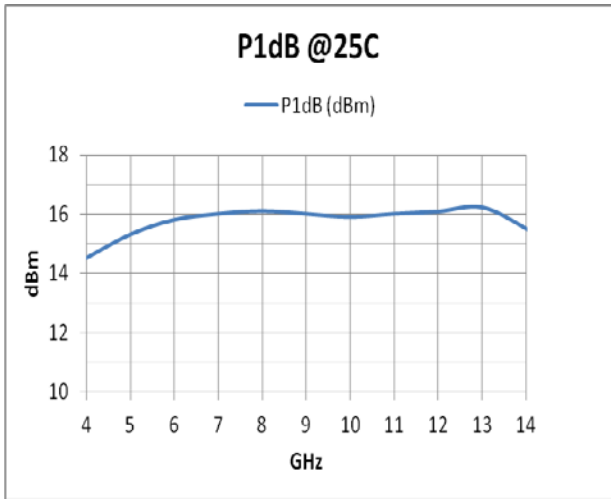
Electrical Specifications: *Vds=5.0V, Ta=25 ℃, Z0=50 ohm*

SYMBOL	PARAMETERS	Unit	Typical Performance
FREQ	Frequency Range	GHz	5 - 13
SSG	Small Signal Gain	dB	13
GOF	SSG Flatness	+/- dB	1.0
GOT	SSG Variation over Temperature	dB/°C	-0.012
P-1dB	Output Power at 1 dB Compression	dBm	16
NF	Noise Figure	dB	1.5
VSWR	Input/Output VSWR	--	1.5:1
VDD	Power Supply Voltage	+V	5
IDD	Small Signal Module Current	mA	70

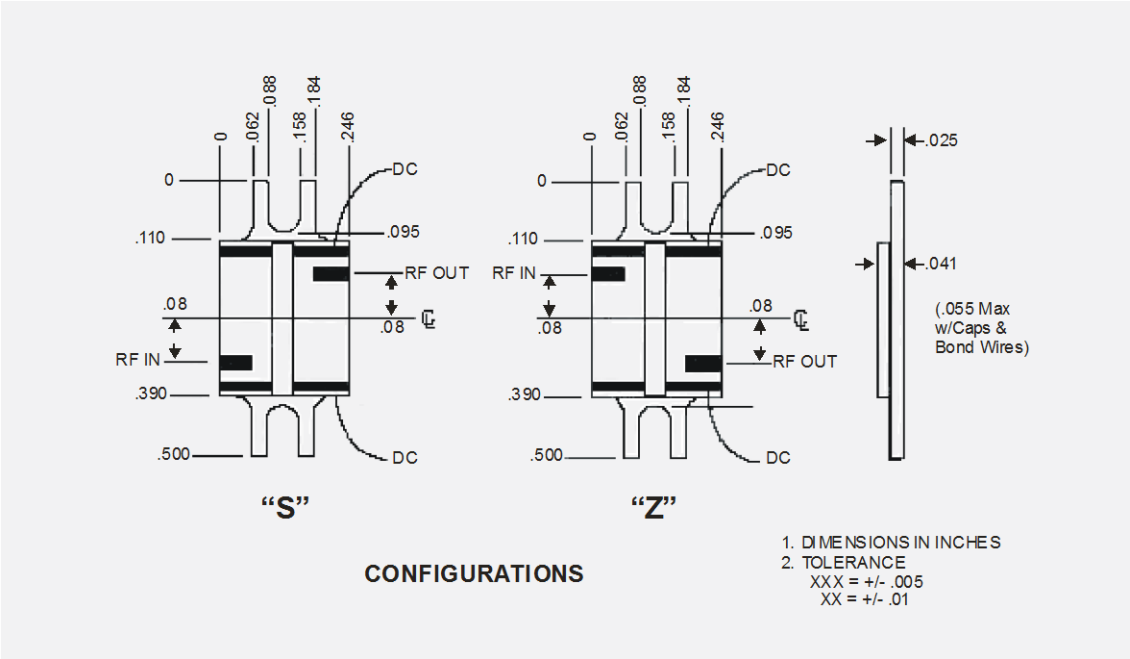
Typical RF Performance: *Vds=5.0V, Idd = 70 mA, Ta=25 °C, Z0=50 ohm*







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.