

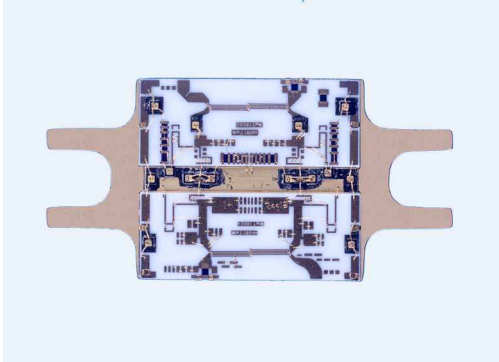


MwT-0820S-4N1/0820Z-4N1

8.0-20.0 GHz Balanced Amplifier Module

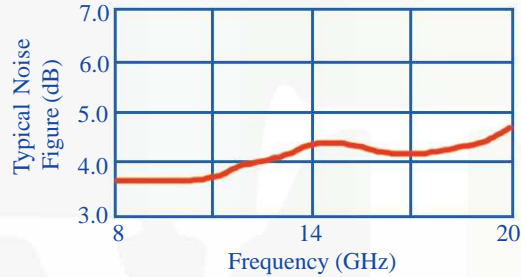
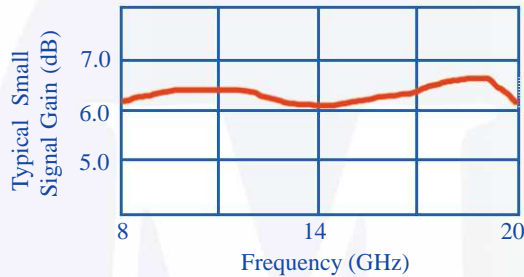
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TYPICAL SPECIFICATIONS AT 25 °C

- 14.0 dBm P-1dB
- 6.0 dB SMALL SIGNAL GAIN
- 15.0 dB RETURN LOSS
- 40 mA @ +8V
- USES TWO MwT-4 GaAs FET DEVICES
- 5.5 dB NOISE FIGURE



ELECTRICAL SPECIFICATIONS (Ta=25°C)

SYMBOL	PARAMETERS	UNITS	MIN	TYP	MAX
FREQ	Frequency Range	GHz	8.0		20.0
SSG	Small Signal Gain	dB	5.5	6.0	
$\Delta G/\Delta F$	SSG Flatness	+/-dB		0.4	0.6
$\Delta G/\Delta T$	SSG Variation over Temperature	dB/°C		-0.012	
P-1dB	Output Power at 1dB Compression	dBm	12.0	14.0	
PSAT	Output Power at 6 dB Compression	dBm		16.0	
$\Delta P/\Delta T$	P-1dB Variation over Temperature	dB/°C		-0.008	
IP3	Third Order Intercept Point	dBm		25.0	
2nd HAR	2nd Harmonic at Pout=14.0 dBm	dBc		-21.0	
2nd HAR	2nd Harmonic at Pout=16.0 dBm	dBc		-16.0	
NF	Noise Figure	dB		4.5	5.5
VSWR IN	Input VSWR	----		1.5:1	1.7:1
VSWR OUT	Output VSWR	----		1.5:1	1.7:1
ISO	Reverse Isolation	dB		-20.0	
VDD	Power Supply Voltage	+V	7.9	8.0	8.1
IDD	Small Signal Module Current	mA		40.0	60.0
RTH	Thermal Resistance Including FET*	°C/W		216.0	

* When calculating Tch, use FET Vds = 4.0 volts and FET Ids = 20 mA

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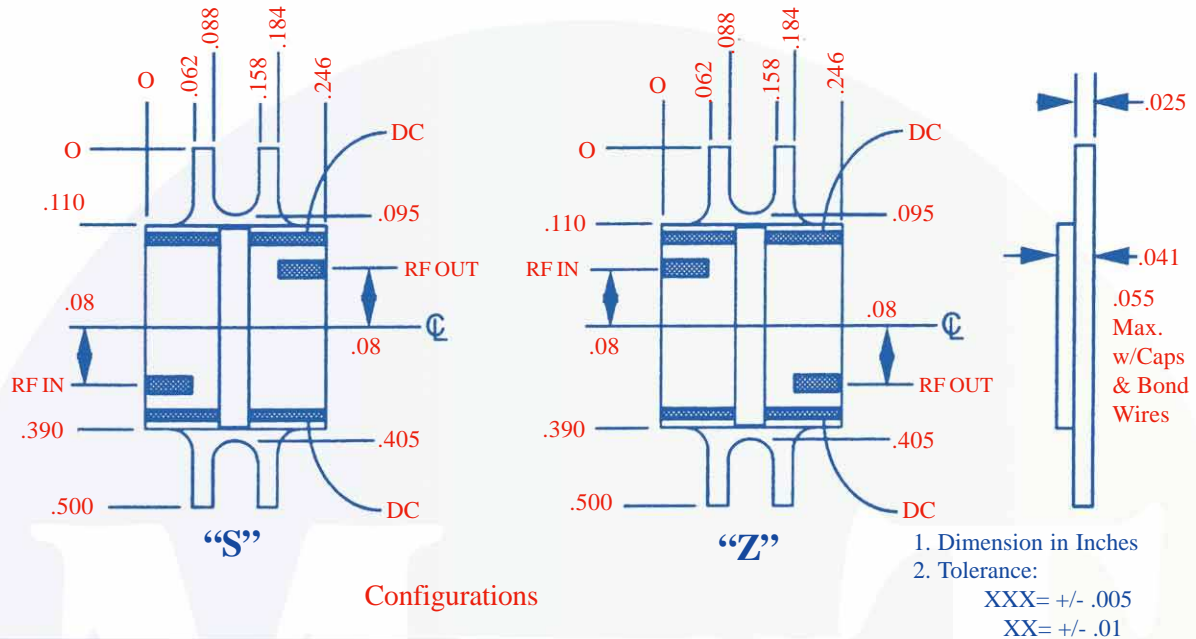


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Construction:

The 15 mil alumina substrates and 10 mil copper FET ridge are brazed onto the 25 mil carrier using AuGe preform. The GaAs FETs are attached to the Cu ridge using AuSn preform. All capacitors are attached using AuSn preforms. 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 P-1dB 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 specifications.

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