



# MwT - 1719S-12P1/MwT-1719Z-12P1

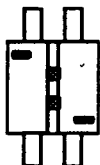
## 17.7 – 19.7 GHz

### BALANCED AMPLIFIER MODULE

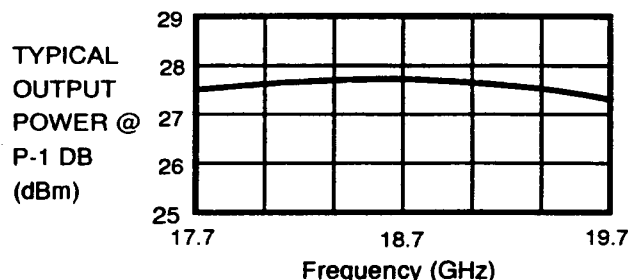
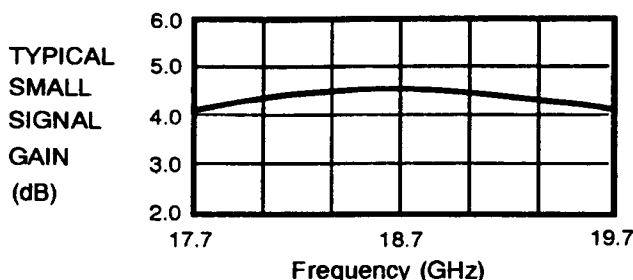
MICROWAVE TECHNOLOGY

4268 Solar Way Fremont, CA 94538 510-651-6700 FAX 510-651-2208

#### TYPICAL SPECIFICATIONS @ 25°C



- +27.5 dBm P-1dB
- 4 dB SMALL SIGNAL GAIN
- 15 dB INPUT/OUTPUT RETURN LOSS
- 350 mA @ +8V



#### ELECTRICAL SPECIFICATIONS (Ta=25°C)

SYMBOL	PARAMETERS	UNITS	MIN	TYP	MAX
FREQ	Frequency Range	GHz	17.7		19.7
SSG	Small Signal Gain (1)	dB	3.5	4.0	
$\Delta G/\Delta F$	SSG Flatness	$\pm$ dB		0.3	0.4
$\Delta G/\Delta T$	SSG Variation over Temperature	dB/°C		-0.012	
P-1dB	Output Power at 1 dB Compression	dBm	27.0	27.5	
PSAT	Output Power at 6 dB Compression	dBm		28.0	
$\Delta P-1/\Delta T$	P-1dB Variation over Temperature	dB/°C		-0.008	
IP3	Third Order Intercept Point	dBm		+38.0	
2nd HAR	2nd Harmonic at Pout = 27.5 dBm	dBc		-21.0	
2nd HAR	2nd Harmonic at Pout = 28.0 dBm	dBc		-16.0	
NF	Noise Figure	dB		8.5	
VSWR,IN	Input VSWR	---		1.4:1	1.6:1
VSWR,OUT	Output VSWR	---		1.4:1	1.6:1
ISO	Reverse Isolation	dB		-18.0	
VDD	Power Supply Voltage	+V	7.9	8.0	8.1
IDD	Small Signal Module Current	mA		350.0	450.0
RTH	Thermal Resistance Including FET (2)	°C/W		55.0	

(1) - Small signal gain can be higher if the operating bandwidth is less than 2 GHz.

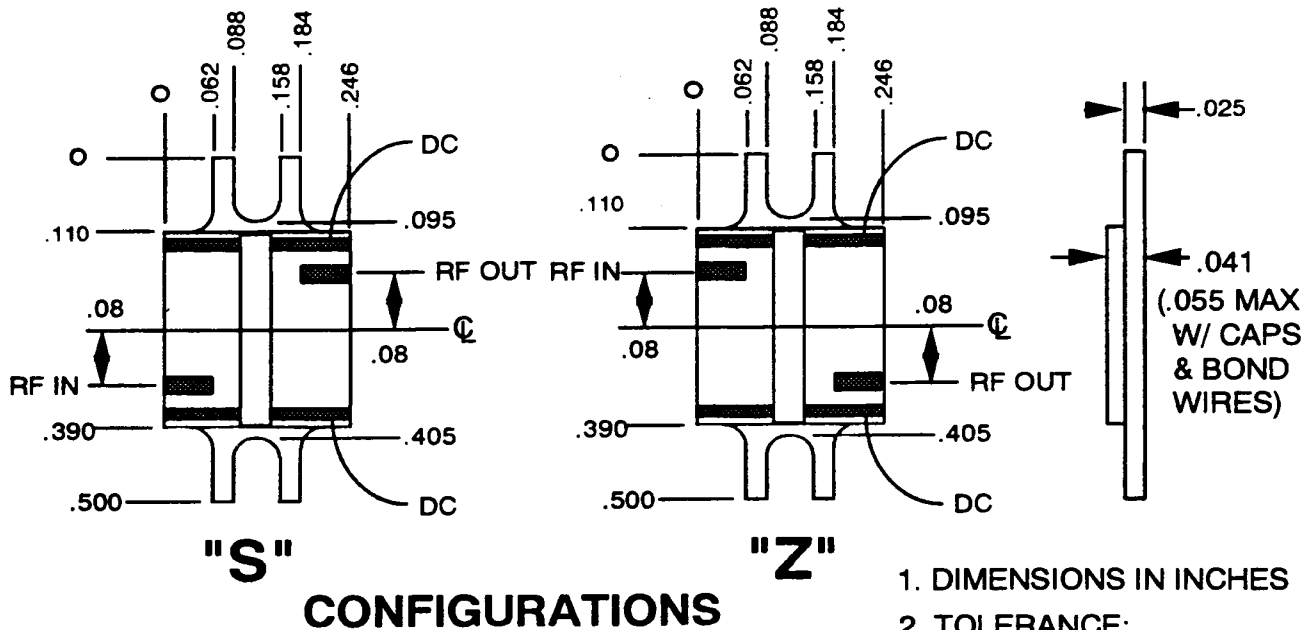
Contact factory for details

(2) - When calculating Tch, use FET Vds = 6.0 volts and FET Ids = 175 mA.

Specifications subject to change without notice.

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## MODULE OUTLINES



### CONSTRUCTION:

The 15 mil alumina substrates and 10 mil copper FET ridge are brazed onto the 25 mil Cu-W carrier using AuGe preform. The GaAs FETs (standard 5 mil thickness) 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°C to +105°C.
3. All modules are serialized and shipped with data measured at 25°C. 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 gain and/or power above the typical specifications.

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