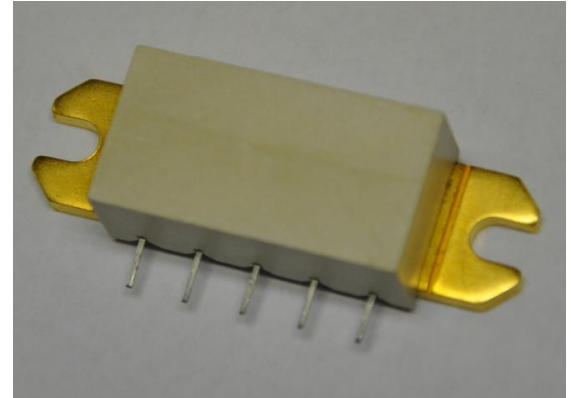


**Features: (typical values)**

- Ultra High Linearity
- Low Noise Figure
- Rugged Construction
- Operation over wide voltage range
- **Super Low Cost**
- Unconditional Stability
- No external components required

**20 – 1200 MHz  
22dB Ultra-linear  
Amplifier**



**Maximum Ratings**

Storage temperature ..... -40°C to +100°C  
 DC Operating Voltage ..... +26.0 volts  
 RF Input Voltage ..... 40 dBmV max.  
 Operating Base Temp. .... +100°C

**Product Description:**

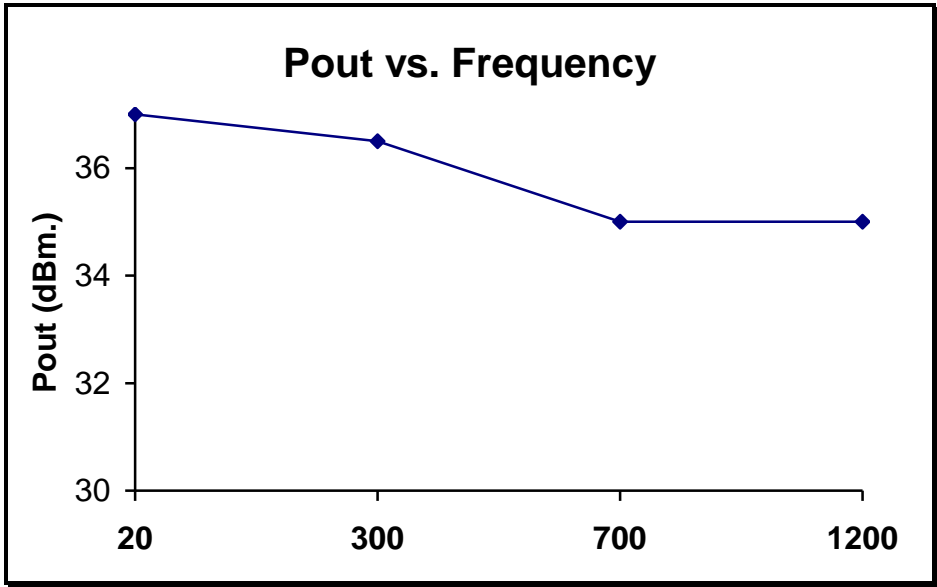
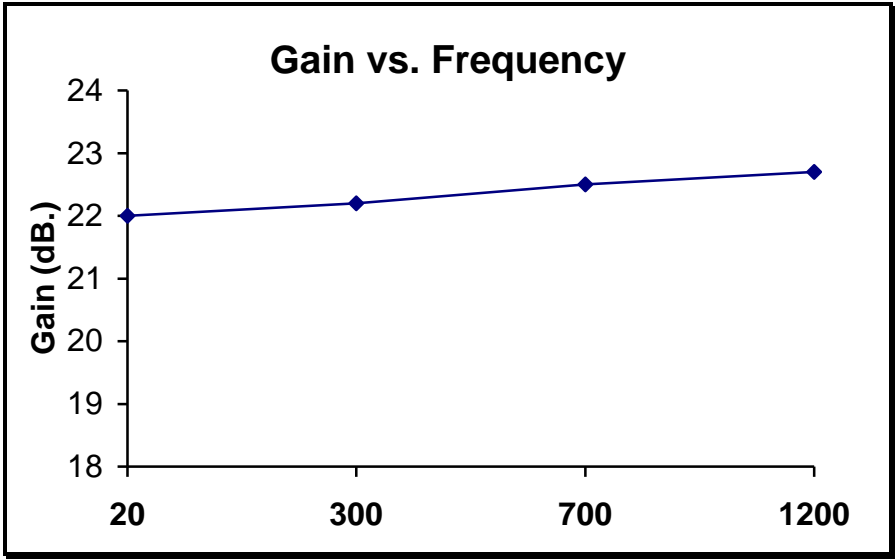
ASC520 is a Power Doubler SMD module. It contains GaAs pHEMT die driving GaN die and is operating from 20MHz to 1200MHz. It provides excellent linearity with low Noise Figure and optimal reliability.

Specifications @ Tcase = 30°C (Referenced to 50 ohms)

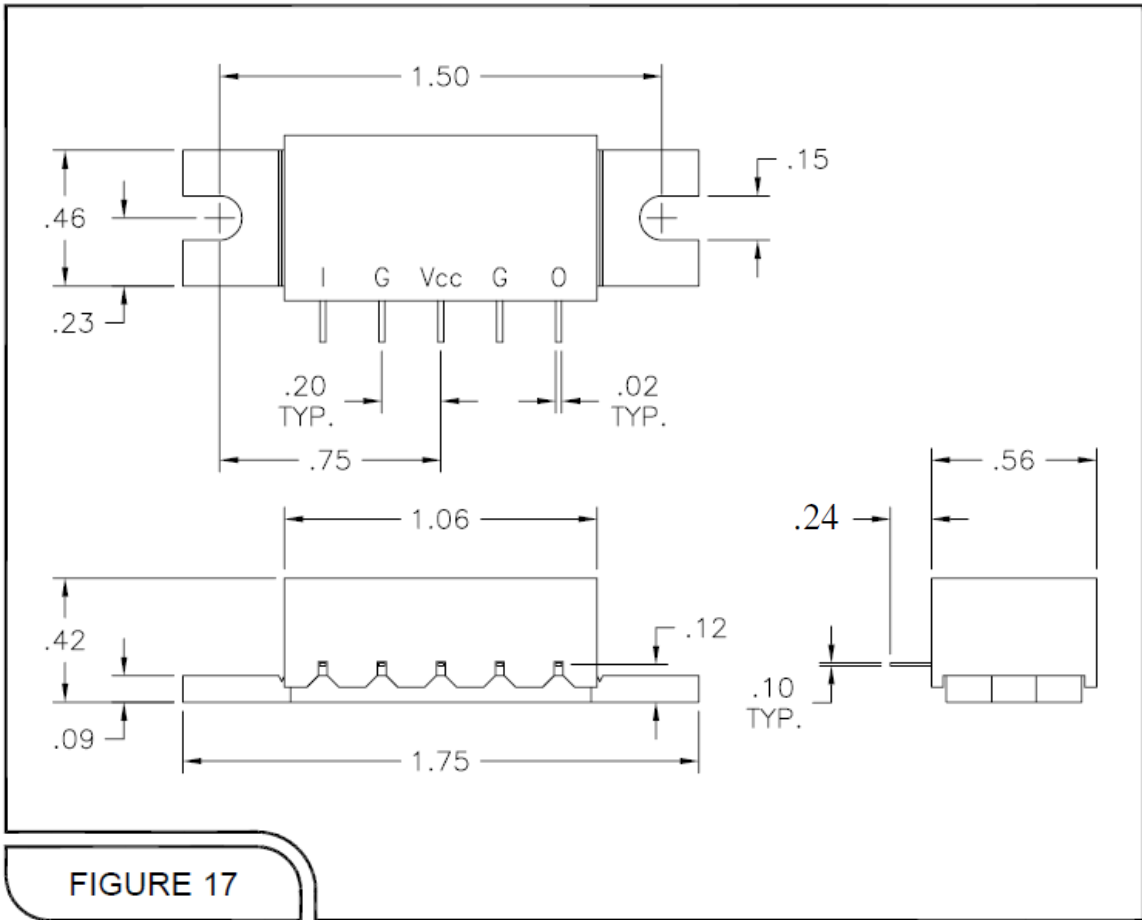
Parameter	Typical Conditions	Min Value	Max Value	Units
Frequency Range		20	1200	MHz.
Power Gain	22.0 dB	21.0	23.0	dB.
Gain Flatness	f = 20MHz. TO 1200MHz.		1.0	dB.
Input/Output VSWR			2.0 :1	dB.
IP3    2 tones @ +15dbm per tone	52dBm	49.0		dBm.
IP2    2 tones @ +15dbm per tone	80 dBm	70.0		dBm.
P1dB	+37 dbm 20mhz-550mhz +35dbm 550mhz-860mhz	33		dbm
Noise Figure (NF)	2.3 dB		4.0	dB.
Total Current (I <sub>TOT</sub> )	+24V/470mA		500	mA.

**FINAL ELECTRICAL TEST REPORT**  
**RECORD DATA @ +30°C ONLY**

TEST Vdc +24V	LIMITS +30°C	ACTUAL DATA
Power Gain 20 MHz – 1200 MHz	21.0 dB min 23.0 dB max	21.8 22.5
Gain Flatness (peak to peak) 20 MHz to 1200 MHz	1.0 dB pp max	0.7
Noise Figure	4.0 dB max	2.15
DC Current at +24 Vdc	440 mA max	425
P1dB 20-550mhz	33.0 dBm Min	>34.0
VSWR In	2.0 :1 max	1.98
VSWR Out	2.0 :1 max	1.96
IP3 @ Pout = +15.0 dBm 1) F(1,2)= 40,42 MHz Fc(38,44 MHz) 2)F(1,2)= 548,549 MHz Fc(547,550) MHz)	+49.0 dBm min	51.0
IP2 @ Pout = +15 dBm 1) (F1-F2) = (550-510) MHz Fc = 40 MHz 2) (F1+F2) = (210+340) MHz Fc = 550 MHz	+70.0 dBm min	77.0
Stability Test for all frequency range where  S21  > 0 dB	0 dB max	<0



**OUTLINE DRAWING**



**FIGURE 17**

**Pin Configuration**

PIN#.....	Description
I.....	Input
G.....	Ground
Vcc.....	+24V.
O.....	Output

FUNCTIONAL BLOCK DIAGRAM

