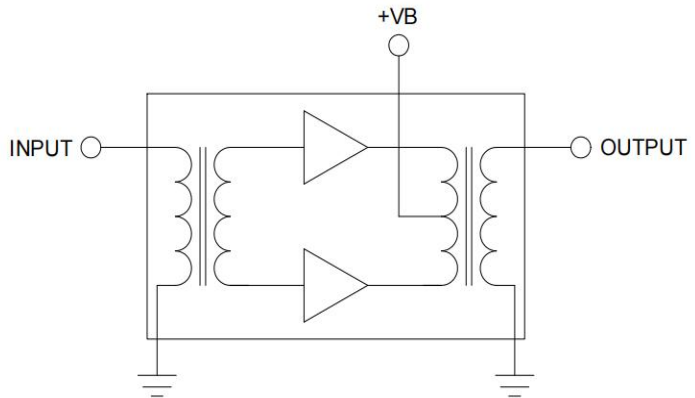




The SMG1220DG is a Hybrid amplifier module. The part employs GaAs dies and is operated from 40MHz to 1218MHz with supply voltage +24V( DC). It provides excellent linearity and superior return loss performance with low noise and optimal reliability.

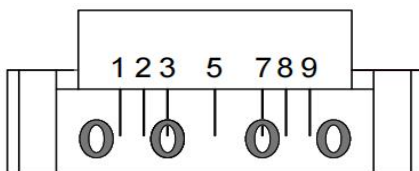
### FEATURES

- Excellent Linearity
- Superior Return Loss Performance
- Extremely Low Distortion
- Optimal Reliability
- Low Noise
- Unconditionally Stable Under All Terminations
- Power gain @20dB
- 460mA Max. at 24VDC



### OUTLINE

#### PIN CONFIGURATION



side view

Pin	Description
1	Input
5	+V <sub>B</sub>
9	Output
2、3、7、8	GND

### QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNITS
G <sub>p</sub>	Power Gain	f=50 MHz	19.5	20.5	dB
I <sub>tot</sub>	Total current consumption(DC)	V <sub>B</sub> =24V	420	460	mA

### LIMITING VALUES

In accordance with the Absolute Maximum Rating System

SYMBOL	PARAMETER	MIN	MAX	UNITS
V <sub>i</sub>	RF input voltage	-	70	dBmV
T <sub>stg</sub>	Storage temperature	-40	+100	°C
T <sub>mb</sub>	Operating mounting base temperature	-30	+100	°C

### CHARACTERISTICS

(Bandwidth 40 to 1218MHz ; T<sub>mb</sub> =25°C, V<sub>B</sub> =24V, Z<sub>S</sub> =Z<sub>L</sub> =75Ω)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNIT	CONDITIONS
GP	power gain	19.5	20	20.5	dB	f =50MHz
GP	power gain	-	20.5	-	dB	f =870MHz
GP	power gain	20.0	21.0	22	dB	f =1218MHz
SL	slope cable equivalent	0.5	1.0	2.0	dB	f =40 to 1218MHz
FL	flatness of frequency response	-	-	0.8	dB	f =40 to 1218MHz
S11 & S22	Input & output return loss	-	-	-20	dB	f =47 to 320 MHz
S11 & S22	Input & output return loss	-	-	-19	dB	f =320 to 640 MHz
S11 & S22	Input & output return loss	-	-	-17	dB	f =640 to 870 MHz
S11 & S22	Input & output return loss	-	-	-16	dB	f =870 to 1218 MHz
CTB	composite triple beat	-	-66	-62	dB	Vo=48dBmV at 862MHz, flat, 98 Analog channels
CSO	composite second order distortion	-	-65	-62	dB	
XMOD	X modulation	-	-68	-	dB	VO=56.4dBmV at 1218MHz, 13.4dB extrapolated tilt 79 analog channels plus 75 digital channels (-6dB offset)
CTB	composite triple beat	-	-75	-	dB	
CSO	composite second order distortion	-	-79	-	dB	
XMOD	X modulation	-	-70	-	dB	
CIN		-	-66	-	dB	
F	noise figure	-	5.0	5.5	dB	f=50 to 1218 MHz
I <sub>tot</sub>	total current consumption(DC)	420	440	460	mA	V <sub>B</sub> =+24V

The module normally operates at V<sub>B</sub>=24 V(±0.5)

### MODULE DIMENSIONS

