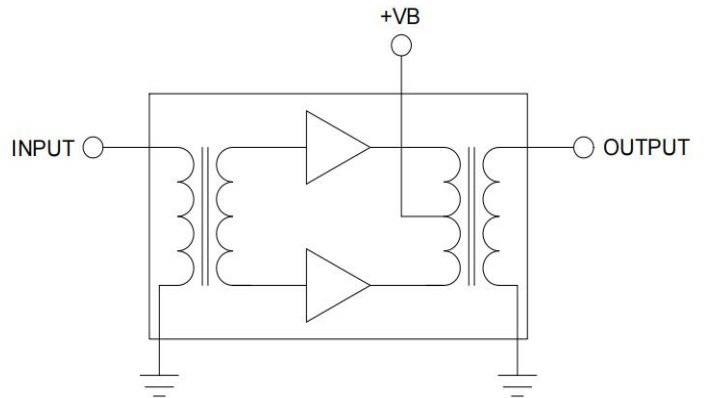




The SMG1820DG is a Push Pull module. The part employs GaN dies and is operated from 47MHz to 1800MHz with supply voltage +12V(DC). It provides excellent linearity and superior return loss performance with low noise and optimal reliability.

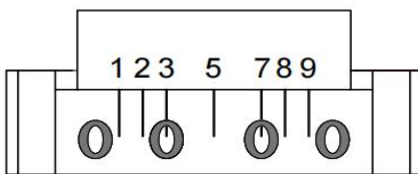
FEATURES

- Excellent Linearity
- Superior Return Loss Performance
- Extremely Low Distortion
- Optimal Reliability
- Low Noise
- Unconditionally Stable Under All Terminations
- Power gain @20dB
- 480mA Max. at 12VDC



OUTLINE

PIN CONFIGURATION



side view

Pin	Description
1	Input
5	+V _B
9	Output
2、3、7、8	GND

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNITS
G _p	Power Gain	f=47 MHz	19	20.5	dB
I _{tot}	Total current consumption(DC)	V _B =12V	440	480	mA

LIMITING VALUES

In accordance with the Absolute Maximum Rating System

SYMBOL	PARAMETER	MIN	MAX	UNITS
V _i	RF input voltage	-	70	dBmV
T _{stg}	Storage temperature	-40	+100	°C
T _{mb}	Operating mounting base temperature	-20	+90	°C

CHARACTERISTICS

(Bandwidth 47 to 1800MHz ; T_{mb} = 25°C, V_B = 12V, Z_S = Z_L = 75Ω)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNIT	CONDITIONS
G _P	power gain	19	20	20.5	dB	f =47MHz
SL	slope cable equivalent	0.5	1	2	dB	f =47 to 1800MHz
FL	flatness of frequency response	-	-	±0.5	dB	f =47 to 1800MHz
S ₁₁ & S ₂₂	Input & output return loss	-	-	-16	dB	f =47 to 1800MHz
P _{OUT}	45dB MER, Source Corrected	-	68.6	-		dBmV Total Composite Power
	42dB MER, Source Corrected	-	69.3	-		
OIP2L	47 - 250 MHz	-	82	-	dBm	15 dBm/tone output
	250 - 1250 MHz	-	75	-	dBm	
	1250 - 1800 MHz	-	81	-	dBm	
OIP2U	47 - 250 MHz	-	81	-	dBm	15 dBm/tone output
	250 - 1250 MHz	-	67	-	dBm	
	1250 - 1800 MHz	-	73	-	dBm	
OIP3	47 - 250 MHz	-	48	-	dBm	15 dBm/tone output
	250 - 1250 MHz	-	47.7	-	dBm	
	1250 - 1800 MHz	-	42.3	-	dBm	
F	noise figure	-	-	3.0	dB	f =47 to 1800MHz
F	noise figure	-	-	3.5	dB	f =47 to 1800MHz
F	noise figure	-	-	4.5	dB	f =47 to 1800MHz
I _{tot}	total current consumption(DC)	440	460	480	mA	V _B =+12V

The module normally operates at V_B=12 V(±0.5)

MODULE DIMENSIONS

