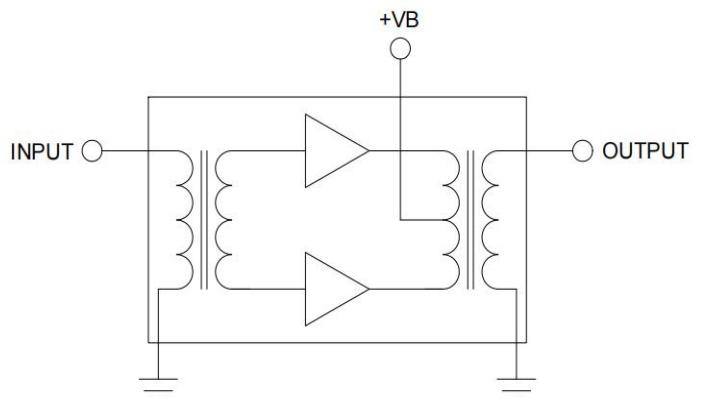




The SMG1224 is a Hybrid Push Pull amplifier module. The part employs GaAs dies and is operated from 50MHz to 1218MHz with supply voltage +24V(DC). It provides excellent linearity and superior return loss performance with low noise and optimal reliability.

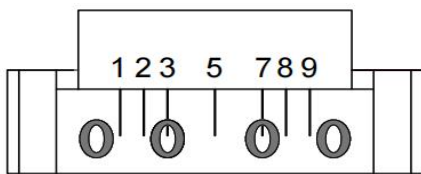
FEATURES

- Excellent Linearity
- Superior Return Loss Performance
- Extremely Low Distortion
- Optimal Reliability
- Low Noise
- Unconditionally Stable Under All Terminations
- Power gain @24dB
- 300mA Max. at 24VDC



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=50 MHz | 23.5 | 24.5 | dB |
| I _{tot} | Total current consumption(DC) | V _B =24V | 260 | 300 | 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 | -30 | +100 | °C |

CHARACTERISTICS

(Bandwidth 50 to 1218MHz ; T_{mb} =25°C, V_B =24V, Z_S =Z_L =75Ω)

| SYMBOL | PARAMETER | MIN | TYP | MAX | UNIT | CONDITIONS |
|-----------------------------------|-----------------------------------|------|------|------|------|---|
| G _p | Power Gain | 24.5 | - | 26.5 | dB | f=50MHz |
| G _p | Power Gain | - | 24.8 | - | dB | f=870MHz |
| G _p | Power Gain | 24.5 | 25 | 26 | dB | f=1218MHz |
| SL | Slope cable equivalent | 0.5 | - | 2.0 | dB | f=50 to 1218 MHz |
| FL | Flatness of frequency response | - | - | ±0.5 | dB | f=50 to 1218 MHz |
| S ₁₁ & S ₂₂ | Input & Output Return Loss | - | - | -20 | dB | f=50 to 320 MHz |
| S ₁₁ & S ₂₂ | Input&Output Return Loss | - | - | -19 | dB | f=321 to 640 MHz |
| S ₁₁ & S ₂₂ | Input&Output Return Loss | - | - | -17 | dB | f=641 to 870 MHz |
| S ₁₁ & S ₂₂ | Input&Output Return Loss | - | - | -16 | dB | f=871 to 1000 MHz |
| S ₁₁ & S ₂₂ | Input&Output Return Loss | - | - | -15 | dB | f=1001 to 1218 MHz |
| CTB | Composite Triple Beat | - | -68 | -63 | dB | PAL99 channelsflat; |
| CSO | Composite Second Order distortion | - | -66 | -61 | dB | V _o =46dBmV; CTB measured at 543.25 MHz; |
| X _{mod} | Cross Modulation | - | -67 | - | dB | CSO measured at 544.5 MHz; |
| V _o | Output Voltage | 60 | - | - | dBmV | d _{im} =-60dB |
| F | Noise Figure | - | 4.5 | 5.0 | dB | f=50 to 1218 MHz |
| I _{tot} | Total Current Consumption | 260 | 280 | 300 | mA | V _B =+24V |

The module normally operates at V_B=24 V(±0.5)

MODULE DIMENSIONS

