

ASC426C

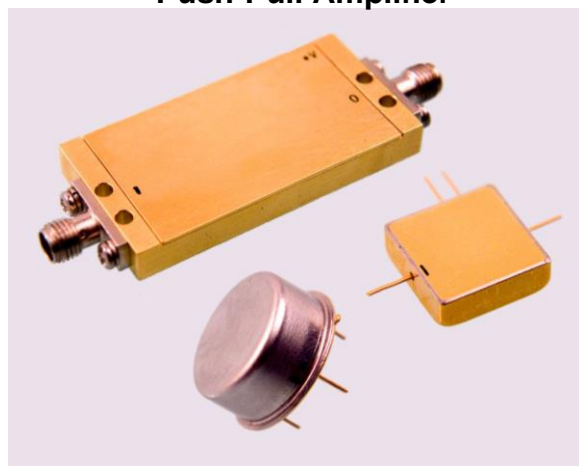
20-500 MHz Push-Pull Amplifier

Features: (typical values)

- Low Distortion
- High Second Order IP2 +75.0 dBm.
- High Third Order IP3 +43.0 dBm.
- High Gain..... +28 dB.
- No external components required

Maximum Ratings

Storage Temperature -55°C to +125°C
 DC Voltage +17 volts
 RF Input Power +15.0 dBm.
 Case Temperature +95°C

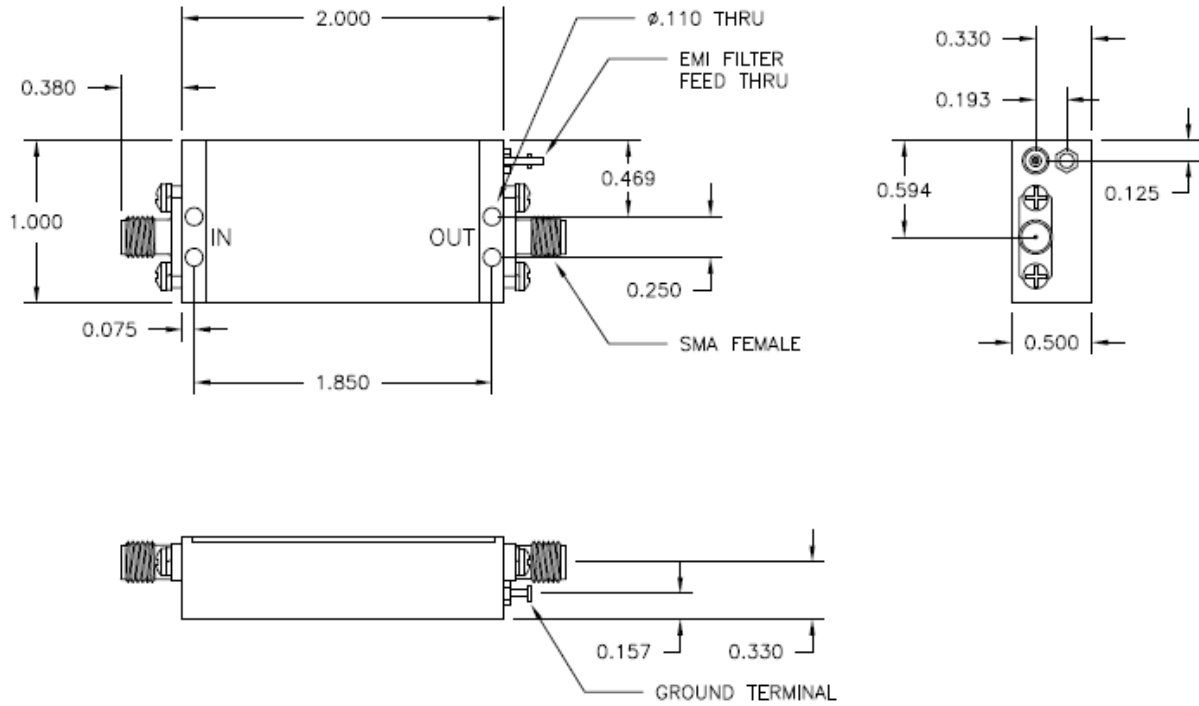


Specifications (Referenced to 50 ohms)

| Parameter | Typical Conditions | Min Value | Max Value | Units |
|--|--------------------|-----------|-----------|-------|
| Frequency | | 20 | 500 | MHz. |
| Gain | 28 | 27 | 30 | dB. |
| Gain Flatness | ±0.3 | | ±1.0 | dB. |
| Gain Var. over temp. | 0.5 | | | ΔdB. |
| Pout @ 1dB Comp | +28 | +26 | | dBm. |
| Noise Figure | 3.5 | | 4.0 | dB. |
| Reverse Isolation | 37 | | | dB. |
| IP ₃ /IP ₂ (two tone)* | 43/75 | | | dBm. |
| HIP2 (2 nd harm.) | 75 | | | dBm. |
| VSWR In/Out | 1.4:1 | | 2.0:1 | Ratio |
| Supply Required | +15/300 | | +15V/320 | v/mA |

Min. and max. values are from 0°C to +85°C
 *IP₃ and IP₂ are in band output intercept points

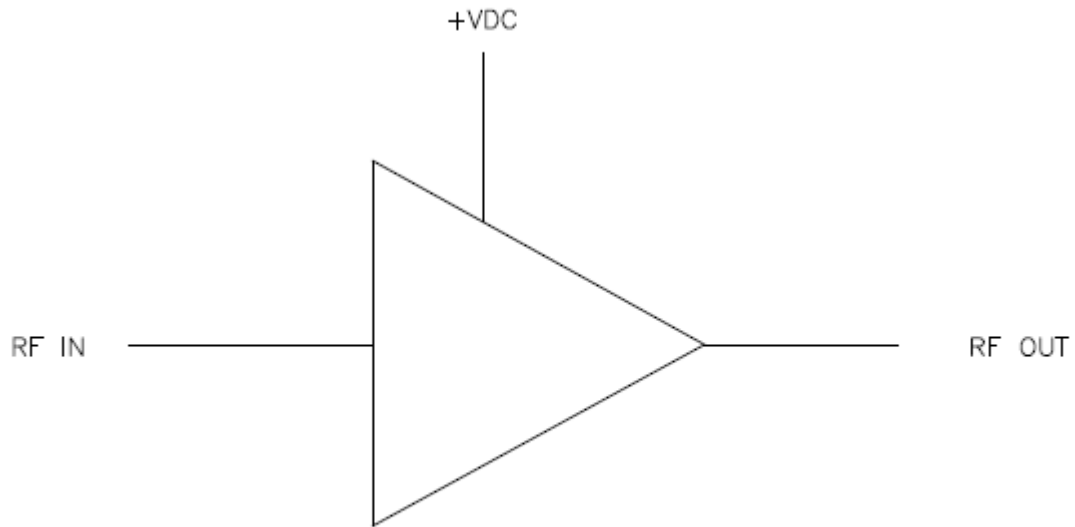
OUTLINE



FINAL ELECTRICAL TEST REPORT

| TEST | LIMITS +25°C | ACTUAL DATA |
|--|----------------------------|----------------|
| Gain 20 MHz to 500 MHz | 27.0 dB min 30.0 dB max | 28.3 28.8 |
| Gain Flatness 20 MHz to 500 MHz | ± 1.0 dB max | ± 0.25 |
| Var. Over Temp 20 MHz to 500 MHz | 0.5 dB typ | N/A |
| Rev. Isolation 20 MHz to 500 MHz | 37.0 dB typ | 40 |
| DC Current at +15 Vdc | 320 mA max | 308 |
| Input VSWR 20 MHz to 500 MHz | 2.0 : 1 max | 1.65 |
| Output VSWR 20 MHz to 500 MHz | 2.0 : 1 max | 1.7 |
| Noise Figure 20 MHz to 500 MHz | 4.0 dB max | 2.5 |
| P 1.0 dB Compression 20, 300 & 500 MHz | 26.0 dBm min | >27.0 |
| IP3 with Pout = 16 dBm each tone 1) F1/F2=21/22 MHz, Fc=20/23 MHz 2) F1/F2=301/302 MHz, Fc=300/303 MHz 3) F1/F2=498/499 MHz; Fc=497/500 MHz | 43.0 dBm typ | 41.0 |
| IP2 with Pout = 16 dBm each tone 1) F1-F2=495MHz-475MHz, Fc=20MHz 2) F1+F2=100MHz+200MHz, Fc=300MHz 3) F1+F2=25MHz+475MHz, Fc=500MHz | 75.0 dBm typ | 64.0 |
| Stability & Reliability Test. For all frequency range where $ S_{21} > 0\text{dB}$ | 0 dB max | <0 |
| Maximum Input power: no significant change in NF after +15 dBm @20 MHz applied to RF input | No change | N C |
| 2 nd Harmonic @ 300 & 500 MHz +16 dBm each frequency | 75 dBm typ | 70 |

FUNCTIONAL BLOCK DIAGRAM



NO EXTERNAL COMPONENT REQUIRED