

# ASC2975C

**20 - 3000 MHz  
Cascade Amplifier**



**Features: (typical values)**

- Bandwidth ..... 20-3000 MHz.
- Power Out ..... 20 dBm.
- Gain ..... 24 dB.
- Noise Figure..... 3.5 dB.
- IP<sub>3</sub> ..... 33 dBm.
- Internal Voltage Regulator
- No external components required

**Maximum Ratings**

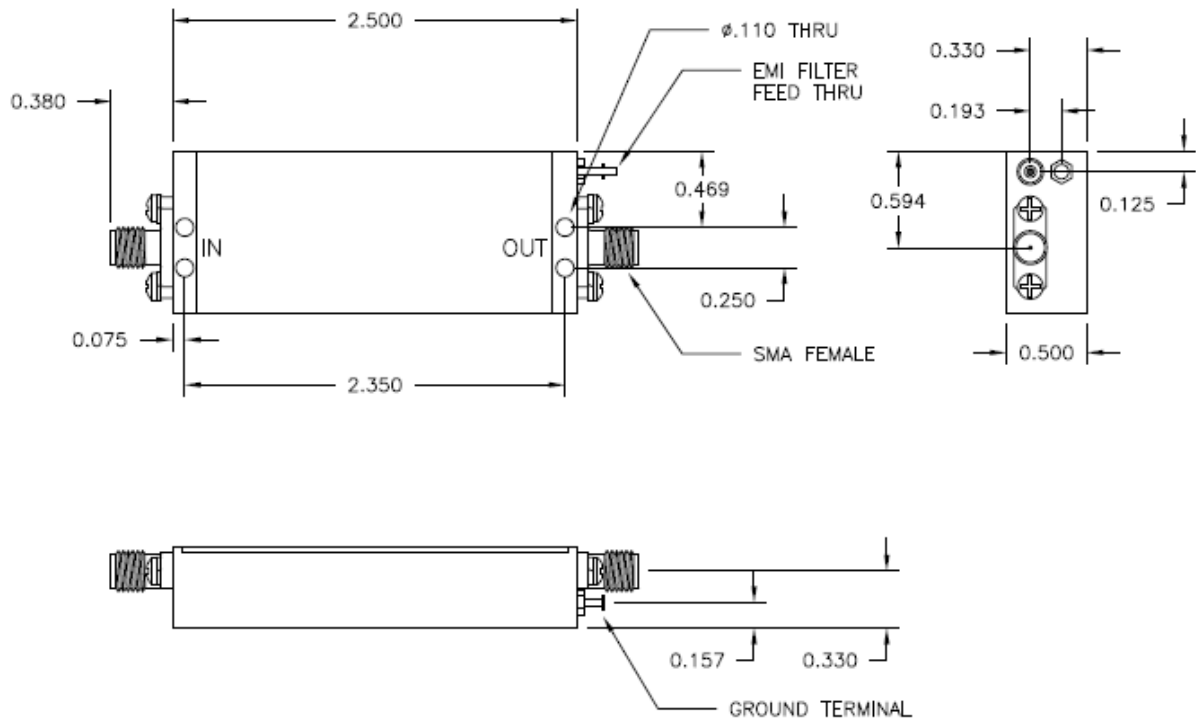
Storage Temperature ..... -62°C to +125°C  
 DC Voltage ..... +28 volts  
 RF Input Power ..... +10 dBm.  
 Case Temperature ..... +100°C

Specifications (Referenced to 50 ohms)

Parameter	Typical Conditions	Min Value	Max Value	Units
Frequency		20	3000	MHz.
Gain	24	22		dB.
Gain Flatness	±0.75		±1.0	dB.
Gain Var. over temp	1.0			ΔdB.
Pout @ 1dB Comp	+20	+18		dBm.
Noise Figure	20-50MHz 50-3000MHz	5.0 3.5	6.5 4.0	dB.
IP3	33	30		dBm.
VSWR In/Out	1.7:1		2.0:1	
Supply Required	+28/250		+28/270	v/mA.

Min. and max. Values are from -20°C to +75°C

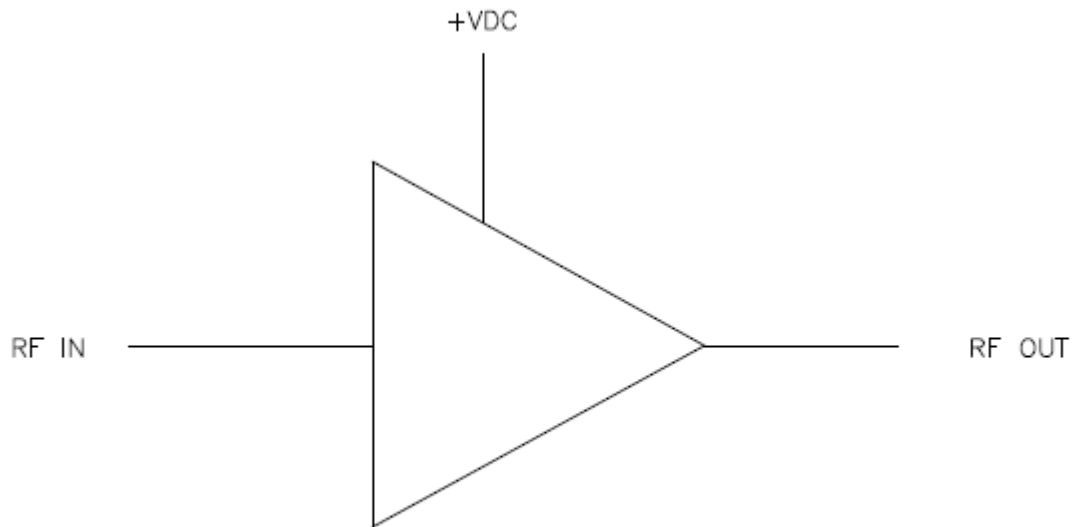
# OUTLINE



**FINAL ELECTRICAL TEST REPORT**
**RECORD DATA @ +25°C ONLY**

TEST Vdc +28V		LIMITS -20°C/+25°C/+75°C	DATA S/N 0100	DATA S/N 0101	DATA S/N 0102
Gain	20 MHz to 3000 MHz	22.0 dB Min 24.0 dB Typ.	23.4 24.7	23.2 24.6	24.0 25.4
Gain Flatness	20 MHz to 3000 MHz	±1.0 dB Max	±0.65	±0.7	±0.7
Spurious Response		Accept/Reject	AC	AC	AC
DC Current at +28 Vdc		270 mA Max	206	207	209
Input VSWR	20 MHz to 3000 MHz	2.0 : 1 max	1.6	1.61	1.65
Output VSWR	20 MHz to 3000 MHz	2.0 : 1 max	1.90	1.91	1.93
Noise Figure	20 MHz to 50 MHz	6.5 dB Max	6.21	6.17	6.30
	50 MHz to 3000 MHz	4.0 dB Max	3.87	3.84	3.9
P 1.0 dB Compression 20 MHz to 3000 MHz		18.0 dBm Min	21	21	21
IP3 with Pout = +5.0 dBm each tone		30.0 dBm Min	31.5	31.5	31.5
1) F1/F2=21/22 MHz, Fc=19/23 MHz			33.5	33.0	33.5
2) F1/F2=1500//1501 MHz, Fc=1499/1502 MHz			32.0	32.0	31.5
1) F1/F2=2998/2999 MHz, Fc=2997/3000 MHz					
Stability Test. For all frequency range where $ S_{21}  > 0$ dB		0 dB max	< 0	< 0	< 0

FUNCTIONAL BLOCK DIAGRAM



NO EXTERNAL COMPONENT REQUIRED