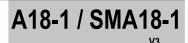


Electronics

Cascadable Amplifier 10 to 1000 MHz





Features

- HIGH DYNAMIC RANGE
- HIGH OUTPUT POWER: +16 dBm (TYP.)
- HIGH THIRD ORDER I.P.: +30 dBM (TYP.)
- LOW NOISE: 3.8 dB (TYP.)

Description

The A18-1 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability.

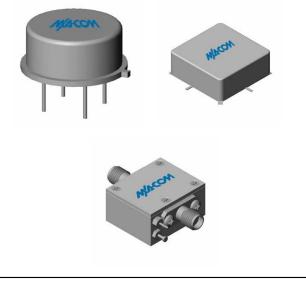
This single stage GaAs FET feedback amplifier design displays impressive performance characteristics over a broadband frequency range. An RF choke is used for DC power supply decoupling.

Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

Ordering Information

Part Number	Package		
A18-1	TO-8		
SMA18-1	Surface Mount		
CA18-1	SMA Connectorized		

Product Image



Electrical Specifications: $Z_0 = 50\Omega$, $V_{CC} = +15 V_{DC}$

Parameter	Unito	Typical	Guaranteed	
Parameter	Units	25°C	0º to 50ºC	-54° to +85°C*
Frequency	MHz	5-1100	10-1000	10-1000
Small Signal Gain (min)	dB	14.7	14.0	13.5
Gain Flatness (max)	dB	±0.3	±0.5	±1.0
Reverse Isolation	dB	17		
Noise Figure (max)	dB	3.8	5.0	5.5
Power Output @ 1 dB comp. (min)	dBm	16.0	15.0	14.5
IP3	dBm	+30		
IP2	dBm	+42		
Second Order Harmonic IP	dBm	+45		
VSWR Input / Output (max)		1.5:1 / 1.5:1	1.8:1 / 1.8:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	44	46	48

Absolute Maximum Ratings

Parameter	Absolute Maximum	
Storage Temperature	-62°C to +125°C	
Case Temperature	+125°C	
DC Voltage	+17 V	
Continuous Input Power	+13 dBm	
Short Term Input power (1 minute max.)	50 mW	
Peak Power (3 µsec max.)	0.5 W	
"S" Series Burn-In Temperature (case)	+125°C	

Thermal Data: V_{CC} = +15 V_{DC}

Parameter	Rating
Thermal Resistance θ_{jc}	145°C/W
Transistor Power Dissipation P_d	0.4 W
Junction Temperature Rise Above Case T _{jc}	+58°C

1

* Over temperature performance limits for part number CA18-1, guaranteed from 0°C to +50°C only.

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Cascadable Amplifier 10 to 1000 MHz



GROUND

2X .300 ± .010 (7.62 ± .25)

+DC VOLTAGE

4X .059 (1.27)

.320±.01 (8.13±.25

(İ

-a₽ (4.57

OUTPUT

28 200 ± 15 080 ± 1.20

28.225±.005 (5.720±.127)

2X.095 (2.41)

28.810 ± 010 (20.57 ± 25)

X MOUNTING HOLE

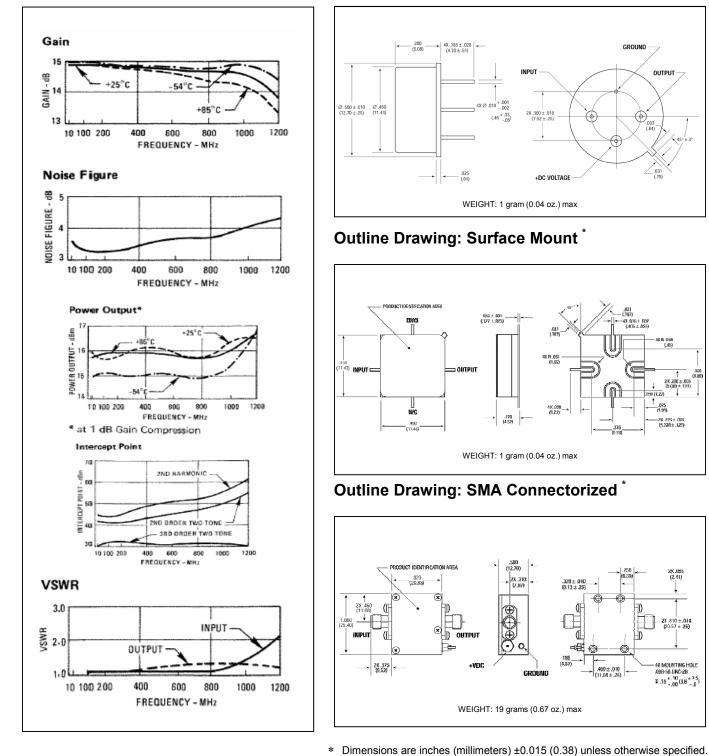
₹.15^{*.10},00(38^{*25},0)

088-58 UNC-28

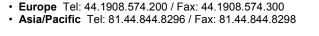
.075

Typical Performance Curves at +25°C

Outline Drawing: TO-8 *



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