WIDE DYNAMIC RANGE LOW NOISE AMPLIFIERS

Many applications require operation in an environment where very large spurious signals occur in the presence of low level signals of interest. In such cases a low noise figure is important in order to receive the desired signal, but a typical low noise amplifier usually has a low intercept point and can become compressed or even saturated in the presence of the large inteferer. This can de-sensitize the amplifier to the low level desired signal. ACC's wide dynamic range amplifiers can often eliminate this problem and find wide application in environments where there are multiple, close-by transmitters, such as on towers or aircraft receivers that may be swept by high power radar transmitters. The tables below list a small portion of the units we have designed. Most parameters such as bandwidth, gain, noise figure, compression point etc. can be tailored to your requirements. Contact the factory to discuss any modifications or additions of special functions such as gain control, power monitoring, temperature compensation, etc.

All models are available with hermetic seal and high-rel screening for mil and spaced-based applications.

Part Number	Frequency Range (MHz)	Gain (dB max)	Flatness (+/-dB) (max)	1dB Compression (+dBm min)	Noise Figure (dB max)	IP3 (+dBm typ)	Supply Voltage (VDC)	Current (mA max)	Standard Case Style
ACAM7519	2 - 250	17	0.5	25	2.0	37	15	180	S003
ACAM7520	30 - 250	30	0.5	33	1.8	45	28	900	P002
WD250BL	220 - 280	18	0.5	31.5	1.5	41	15	350	S002
WD250C	220 - 280	30	0.5	41	1.5	51	28	1500	P001A
WD250M2-37	2 - 250	17	0.5	25	2.0	37	15	180	S003
WD250M18-45	30 - 250	30	0.5	33	1.8	45	15	900	P003
AP270M35	243 - 270	18	1.0	35	1.5	45	15	800	3" x 7" x 1"
WD400M2-27	225 - 400	15	0.5	15	2.0	27	15	60	S003
WD400M18-40	225 - 400	17	0.5	28	1.8	40	15	400	S003
WD400M2-45	225 - 400	28	0.5	33	2.0	45	15	1000	S009
WD625M2-42	400 - 625	28	0.5	30	2.0	42	15	1000	S009
WD851M18-40	821 - 851	17	0.5	28	1.8	40	15	400	S003
WD960M2-40	820 - 960	14	0.5	28	2.0	40	15	400	S003
WD960M18-43	820 - 960	27	0.5	33	1.8	43	15	900	S009*
ACAM7528	2700 - 3200	15	0.5	15	2.5	27	15	100	S003

Notes:

- All specifications guaranteed at +25°C.
- Operating temperature range: -50°C to +70°C. Extended operating temperature range available,
- VSWR is specified at 2.0:1 maximum input and output at 50Ω. Typical performance is 1.7:1.
- All models can be optimized for different frequency ranges.
- Custom packaging is available for all models.
- Standard package finish: Chemical film per MIL-C-5541, Class C.
- RF connectors per MIL-PRF-39012 (SMA female standard)

611 Industrial Way West, Eatontown, NJ 07724 tel: 732-460-0212 fax: 732-460-0214 sales@advanced-control.com www.advanced-control.com

ENVIRONMENTAL SPECIFICATIONS:
MIL-E-5400, MIL-STD-202, MIL-E-16400
Operating Temp: -50°C to +70°C
Storage Temp: -65°C to +125°C
Humidity: MIL-STD-202F, M103, Cond B
Shock: MIL-STD-202F, M213, Cond B
Altitude: MIL-STD-202F, M105, Cond B
Vibration: MIL-STD-202F, M204, Cond B
Thermal Shock: MIL-STD-202F, M107, Cond A
Temperature Cycle: MIL-STD-202F, M105C, Cond D

SCREENING :
Standard Screening:
Internal Visual per MIL-STD-883, Method 2017
Temperature Cycle: -65°C to +100°C, 10 cycles
Optional High-Rel Screening (Ref MIL-PRF-38534):
Internal Visual per MIL-STD-883, Method 2017
Stabilization Bake per MIL-STD-883, Method 1008
Temperature Cycle per MIL-STD-883, Method 1010
Constant Acceleration per MIL-STD-883, Method 2001
Burn-in per MIL-STD-883, Method 1015
Leak Test per MIL-STD-883, Method 1014
External Visual per MIL-STD-883, Method 2009

Refer to Standard Amplifier Outline Drawing specification for mechanical details

OPTIONS:

- Custom frequency ranges available to 40GHz
- Alternate standard and custom packaging
- Available as open cards or drop-in modules
- Hermetic seal
- Integrated power supplies
- Multiple outputs
- Interstage access points
- Hi-rel screening
- Supply voltage options
- Voltage-controlled gain
- Temperature compensation
- Input and output limiting
- Integrated filters
- Unit-to-unit gain and phase matching
- Detected outputs
- Power monitoring

*** Contact the factory for price and delivery or to discuss options and custom requirements**

Advanced Control Components is your source for custom amplifiers and amplifier assemblies. With complete design and test capability to 40GHz, we have the resources to help develop and realize a new design, build to an existing specification or replace an obsolete component. From commercial to space qualified applications, we can help.

In addition to high performance amplifier design capability, Advanced Control Components produces custom amplifier-based multi-function assemblies to 40GHz. With our extensive expertise, we can integrate a wide variety of components and functions such as mixers, limiters, switches, attenuators, combiners/dividers, filters, detectors, etc. Additional capabilities include microprocessor control and monitoring, RF signal monitoring, and power supply conditioning. Contact the factory to discuss your design and application.

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