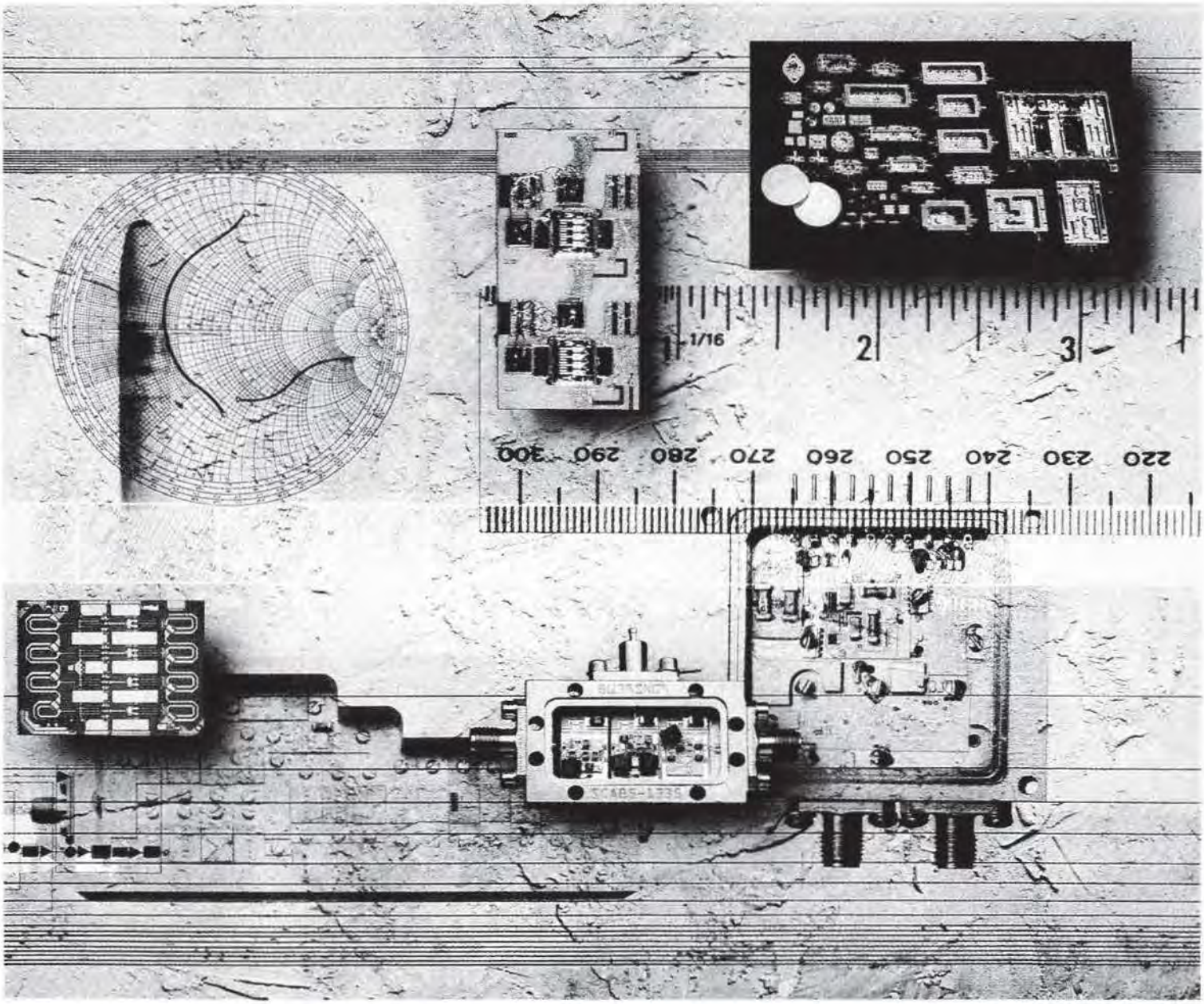
AVANTEK

Product Guide



1988

This product guide is intended to provide a listing of the most widely-used solid-state microwave components available from Avantek, and to assist you in selecting the basic product types for your application.

Data sheets detailing the guaranteed and typical performance, and the physical dimensions of most products are available from stocking distributors (thin-film modular components only), from any of the worldwide network of factory-authorized representatives, or by contacting Avantek Component Sales.

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Although every effort has been made to insure accuracy of the information contained herein, **Avantek, Inc.** assumes no responsibility for errors or omissions.

Unless otherwise indicated, all specifications indicated as minimum or maximum are guaranteed at the temperature(s) and under the conditions described. All specifications indicated as typical are tested on a periodic basis and are intended to provide a good indication of actual performance, but are not guaranteed. FOR MORE DETAILED INFORMATION ON ANY PRODUCT, CONTACT THE FACTORY OR ANY AVANTEK AUTHORIZED REPRESENTATIVE.

Some **Avantek** products are manufactured under the following U.S. patents: 3809817, 3931472, 3978282, Rd. 29844

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PRODUCT SELECTION CHART

Note: Indicated characteristics do not necessarily apply to all devices in a listing.

STANDARD AMPLIFIER PRODUCTS IN CONNECTORED CASES

	Militarized	Commercial	Low cost, general purpose	Premium performance	Point to point communications	Satellite communications	Radar band	Temperature compensated	Low noise	Wide dynamic range	One Watt or more output power	Output limiting	Voltage controlled	Less than octave bandwidth	Octave bandwidth	Greater than octave bandwidth	Monolithic construction	Thin-film construction	Microstrip PC construction
ACT Series	●	●		●										●					
ACT 141223	●	●		●					●					●					
UTC Series		●	●											●		●			
AMG Series			●													●			●
AFT Series			●						●	●					●	●			
AMT Series	●	●		●				●	●	●					●			●	
AWT Series	●	●		●				●	●	●						●		●	
AMT Series	●	●		●				●	●	●				●				●	
AMT Series	●	●		●	●	●	●				●			●				●	
AMT Series	●	●		●										●	●			●	
AGT Series		●		●					●	●			●	●		●		●	
APT Series	●			●				●		●	●					●		●	
LMT/LWT Series	●	●		●				●				●		●	●	●		●	●
APG Series	●	●									●					●			●
APM-1000 Series		●									●					●			●
AMT Series	●	●		●	●	●	●	●	●		●			●				●	
AMP-10500 Series	●			●			●				●			●					●
AM-4280 Series		●			●	●			●					●					
AM/AW/AWC-2000 Series		●	●	●	●	●			●	●				●				●	
AW-13251		●			●				●					●					
AWP-132400		●			●						●			●					
AM-14500 Series		●				●				●				●					
AW-6400 Series		●			●				●					●					
AW-11700		●			●				●					●					
AWP Series		●		●	●				●	●	●	●		●				●	
AWP-900		●			●						●		●	●					
AM-900		●		●					●	●	●	●		●					●
ATR Series	●			●				●						●	●			●	
AWP Series		●			●						●	●	●	●					
ACU-64100		●			●						●	●	●	●					

Avanpak™ packaged	PlanarPak™ packaged	Transistor packaged	Machined metal cases	Coaxial input and/or output	Waveguide input and/or output	Connectorless(wire-lead)	Frequency range	For more information refer to the Data Book indicated*	Products listed on the indicated pg.	Comments
●			●	●			10-2000 MHz	M	21	Cascaded, miniature amplifiers with removable SMA connectors
			●	●		●	1200-1400 MHz	M	21	Ultra low noise, narrow band, connectored amplifiers
			●	●			10-2000 MHz	M	22	Low noise, wideband, connectored, modular amplifier cascades
			●	●			50-4000 MHz	M	23	Low noise, ultra-wideband, connectored amplifier
●			●	●		●	0.5-18 GHz	A	24	Miniature, small-signal, wideband amplifiers with removable SMA connectors
			●	●	●		2-40 GHz	A	24	Low noise, connectored, wideband amplifiers
			●	●	●		0.5-40 GHz	A	24	Low noise, connectored, wideband amplifiers
			●	●	●		34.5-35.5 GHz & 43.5-45.5 GHz	A	36	Low noise, connectored, narrow band, millimeter wave amplifiers
			●	●	●		20 to 45 GHz	A	35	Narrow band, power, millimeter wave amplifiers
			●	●	●		9-20(X2 or X4) GHz	A	35	Active frequency doublers and quadrupler
			●	●			2-18 GHz	A	36	Wideband, connectored, gain control amplifiers
			●	●			2-18 GHz	A	40	Wideband, medium power, temperature compensated connectored amplifiers
			●	●			2-18 GHz	A	46	Thin-film, small signal, connectored, limiting amplifiers
			●	●			10-4000 MHz	A	43	Wideband, medium power, connectored amplifier
			●	●			10-1000 MHz	A	43	Ultra wideband, medium power, connectored amplifiers
			●	●			8.5-21.2 GHz	A	48	Low noise, connectored, narrow band amplifiers
			●	●			9.5-10.5 GHz	A	48	Medium power, connectored, military, radar band amplifiers
				●			3.7-4.2 GHz		51	Point-to-point and TV satellite downlink, commercial, connectored LNAs
				●	●		11.7-12.2 GHz		51	Low noise, commercial, communications satellite downlink LNAs
			●		●		12.7-13.25 GHz		51	CARS band, low noise, commercial, receiver preamplifier
			●				12.7-13.25 GHz		51	CARS band power amplifiers
			●	●			14.0-14.5 GHz		51	Communications satellite uplink driver amplifier
			●		●		5.9-6.4 GHz		54	Low noise, microwave radio preamplifiers
			●		●		10.7-11.7 GHz		54	Low noise, microwave radio preamplifier
			●	●	●		3.7-14.5 GHz		55	Medium power, commercial, narrow band, communications amplifiers
			●	●	●		860-960 MHz		57	Cellular radio, paging and multiple address system base station power amplifiers
			●	●			821-851 MHz	A	57	Cellular radio, base station, low noise pre-amplifiers
			●	●	●		4-40 GHz	A	58	Militarized, low noise, GaAs FET, TWT replacement amplifiers
			●				3.7-11.7 GHz		59	High power, TWT replacement amplifiers for terrestrial point-to-point microwave radio
			●				5.925-6.425 GHz		59	High-power TWT replacement amplifier

*(A) Amplifier;(M) Modular; (SS) Oscillator; (S) Semiconductor
See page 20 for descriptions of Avantek's series of Data Books.

PRODUCT SELECTION CHART

Note: Indicated characteristics do not necessarily apply to all devices in a listing.

MODULAR PRODUCTS—NO COAX CONNECTORS ON BASIC DEVICE PACKAGE

	Militarized	Commercial	Low cost, general purpose	Premium performance	Point to point communications	Satellite communications	Radar band	Temperature compensated	Low noise	Wide dynamic range	One Watt or more output power	Output limiting	Voltage controlled	Less than octave bandwidth	Octave bandwidth	Greater than octave bandwidth	Monolithic construction	Thin-film construction	Microstrip PC construction
MSA Series	●	●	●	●		●	●		●	●						●	●		
PPA Series	●	●	●	●												●		●	
GPD/GPM Series	●	●	●						●	●						●	●	●	
UTO/UTM Series	●	●		●				●	●	●						●	●	●	
AGC Series	●	●	●	●						●									
UTL-500 Series	●	●	●	●								●	●			●		●	
UDL-500 Series	●	●	●	●								●	●			●		●	
PPL-504	●	●	●	●								●	●			●		●	

SIGNAL SOURCES

	Militarized	Commercial	Low cost, general purpose	Premium performance	Point to point communications	Satellite communications	Radar band	Temperature compensated	Low noise	Wide dynamic range	One Watt or more output power	Output limiting	Voltage controlled	Less than octave bandwidth	Octave bandwidth	Greater than octave bandwidth	Monolithic construction	Thin-film construction	Microstrip PC construction
AV-7000 Series	●	●		●			●		●					●	●	●		●	
HTO Series	●				●		●						●	●	●			●	
DTO-2500	●			●			●						●	●	●			●	●
VCA Series	●			●										●				●	
ADD Series	●	●		●			●		●					●	●	●		●	
AVD Series	●	●		●			●		●					●	●	●		●	
VTO-8000 Series		●			●		●		●				●	●				●	
VTO-9000 Series		●			●		●		●				●	●	●			●	
MTO-8000 Series	●				●		●		●				●	●				●	
VTD Series	●				●				●				●	●				●	
LNO-550	●			●					●				●	●				●	
LNO-8000	●			●					●				●	●				●	
SO80-1506		●	●		●	●							●	●				●	
DSO-1000 Series	●	●		●										●				●	
DSO-2000 Series	●	●		●										●				●	
DSO-3000 Series	●	●		●									●	●				●	
DSO-4000 Series	●	●		●									●	●				●	
DSO-6000 Series	●	●		●					●					●				●	

Avanpak™ packaged	PlanarPak™ packaged	Transistor packaged	Machined metal cases	Coaxial input and/or output	Waveguide input and/or output	Connectorless(wire-lead)	Frequency range	For more information refer to the Data Book indicated*	Products listed on the indicated pg.	Comments
		●				●	DC-6 GHz	S	60	MODAMP™ monolithic microwave integrated circuits (MMICs), connectorless amplifiers
	●						10 MHz to 18 GHz	M	63	PlanarPak, surface-mounted amplifiers
		●				●	5-1000 MHz	M	65	Low cost, thin-film, connectorless amplifiers
		●				●	5-2300 MHz	M	66	High performance, thin-film, connectorless amplifiers
		●				●	5-1000 MHz	M	69	Thin-film, voltage controlled, connectorless amplifiers
		●				●	5-500 MHz	M	70	Thin-film, connectorless, limiting amplifiers
						●	5-500 MHz	M	70	Thin-film, dual-inline, limiting amplifier
	●					●	10-1000 MHz	M	70	PlanarPak, surface-mounted limiting amplifier

Avanpak™ packaged	PlanarPak™ packaged	Transistor packaged	Machined metal cases	Coaxial input and/or output	Waveguide input and/or output	Connectorless(wire-lead)	Frequency range	For more information refer to the Data Book indicated*	Products listed on the indicated pg.	Comments
			●	●	●		1-50 GHz	SS	71	YIG-tuned oscillators
●		●		●		●	0.9-18 GHz	SS	76	Hyperabrupt, varactor tuned oscillators
			●	●			2.5-6.5 GHz	SS	76	Digitally-tuned, varactor-tuned oscillator assembly
			●	●			0.85-18 GHz	SS	77	Linearized VCO assemblies
			●	●	●		1-26.5 GHz	SS	79	YIG-tuned oscillators with digital drivers
			●	●	●		1-26.5 GHz	SS	79	YIG-tuned oscillators with analog drivers
		●				●	0.3-10.5 GHz	SS	82	Limited frequency range, commercial, connectorless, varactor-tuned oscillators
		●				●	0.32-2.1 GHz	SS	82	Commercial, hyperabrupt, connectorless, varactor-tuned oscillators
		●				●	0.4-10.5 GHz	SS	83	Militarized, connectorless, varactor-tuned oscillators
						●	0.6-6.1 GHz	SS	83	Buffered, connectorless, varactor-tuned oscillators
		●				●	550-775 MHz	SS	84	Militarized, low noise, varactor-tuned oscillator
●				●			7.8-8.5 GHz	SS	84	Low noise VCO with two tuning ports
		●				●	3.63-4.13 GHz	SS	85	Varactor-tuned oscillator for use in TVRO receivers
			●	●			3.5-36 GHz	SS	86	Fixed-tuned, dielectrically-stabilized oscillators
			●	●			4.5-18 GHz	SS	86	Mechanically-tuned, dielectrically-stabilized oscillators
			●	●			8.0-18.0 GHz	SS	86	Electronically-tuned, dielectrically-stabilized oscillators
			●	●			8.0-18.0 GHz	SS	87	Electrically and mechanically-tuned, dielectrically-stabilized oscillators
			●	●			17-19 GHz	SS	87	High-stability, dielectrically-stabilized oscillators

*(A) Amplifier; (M) Modular; (SS) Oscillator; (S) Semiconductor
See page 20 for descriptions of Avantek's series of Data Books.

PRODUCT SELECTION CHART

Note: Indicated characteristics do not necessarily apply to all devices in a listing.

SIGNAL PROCESSING AND CONTROL PRODUCTS

	Militarized	Commercial	Low cost, general purpose	Premium performance	Point to point communications	Satellite communications	Radar band	Temperature compensated	Low noise	Wide dynamic range	One Watt or more output power	Output limiting	Voltage controlled	Less than octave bandwidth	Octave bandwidth	Greater than octave bandwidth	Monolithic construction	Thin-film construction	Microstrip PC construction
MSF Series	●	●	●	●												●	●		
TFX/TFY/TFK/TFW Series	●	●		●												●		●	
DBX/DBY Series	●	●		●												●			
MXA Series	●			●												●			
UMX Series	●	●	●	●												●			
PPM-2515M	●	●	●	●												●			
AFP Series	●	●					●	●						●	●	●			●
AFW Series	●	●					●	●						●	●	●			●
FPD Series	●	●					●	●					●	●	●	●			●
FDD Series	●	●					●	●					●	●	●	●			●
UTF Series	●	●	●	●								●	●		●	●		●	
PPF-030	●	●	●	●								●	●			●		●	
AHL Series	●			●								●	●		●	●		●	
UTL/GPL Series	●	●	●	●								●	●			●		●	
UTD-1000 Series	●	●	●	●									●			●		●	
PPD-2001	●	●		●									●			●		●	
UTD-2000 Series	●	●	●	●									●			●		●	
PPD-6002	●	●		●									●			●		●	
AH Series				●									●		●	●		●	
PPS-010			●	●									●		●	●		●	

SEMICONDUCTORS

AT Series		●	●	●		●	●		●	●	●								
AT Series		●	●	●			●		●	●	●								
IM Series		●			●	●	●				●			●				●	

Avanpak™ packaged	PlanarPak™ packaged	Transistor packaged	Machined metal cases	Coaxial input and/or output	Waveguide input and/or output	Connectorless(wire-lead)	Frequency range	For more information refer to the Data Book indicated*	Products listed on the indicated pg.	Comments
		●				●	1.6-9.0 GHz	S	91	Silicon MMIC frequency up/down converters in semiconductor packages
●				●		●	0.75-26 GHz	M	93	Wideband, thin-film, connectored, double- and triple-balanced mixers
●				●		●	0.05-18 GHz	M	94	Wideband, double-balanced, miniature, connectored mixers
●				●		●	0.5-18 GHz	M	95	Wideband, double-balanced, miniature, connectored mixer/pre-amplifier combinations
		●				●	1-4200 MHz	M	96	Modular, double-balanced, connectorless mixers
	●						50-2500 MHz	M	96	PlanarPak, surface-mounted, triple-balanced mixer
			●	●			1-26 GHz	SS	97	Wideband, YIG-tuned, bandpass filters
			●	●			8-18 GHz	SS	97	Wideband, wide bandwidth, YIG-tuned, bandpass filters
			●	●			2-18 GHz	SS	99	Wideband, commercial, YIG-tuned filters with analog drivers
			●	●			2-18 GHz	SS	99	Wideband, commercial, YIG-tuned filters with digital drivers
		●				●	5-2000 MHz	M	101	Thin-film, voltage controlled, connectorless, signal attenuators
	●					●	100-2000 MHz	M	101	PlanarPak, surface-mounted attenuator
●				●		●	2-18 GHz	M	102	Thin-film, connectored, power limiters
		●				●	5-1000 MHz	M	103	Thin-film, voltage-controlled, connectorless, signal limiters
		●				●	10-1000 MHz	M	104	Thin-film, voltage-controlled, connectorless, level detectors
	●					●	20-2000 MHz	M	104	PlanarPak, surface-mounted level detector
		●				●	10-2000 MHz	M	104	Thin-film, TTL compatible, connectorless, threshold detector
	●					●	100-6000 MHz	M	104	PlanarPak, surface-mounted threshold detector
●				●		●	0.5-18 GHz	M	106	Thin-film, miniature, connectored, PIN diode switches
	●					●	10-2000 MHz	M	111	PlanarPak, surface-mounted, non-reflective, SPDT switch
		●				●	up to 4.5 GHz	S	112	Silicon bipolar transistors
		●				●	2-15 GHz	S	115	Gallium arsenide field effect transistors
		●				●	2.9-8.4 GHz	S	116	Internally matched, power GaAs FETs

*(A) Amplifier; (M) Modular; (SS) Oscillator; (S) Semiconductor
See page 20 for descriptions of Avantek's series of Data Books.

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Model Type	Frequency Range*	Description	Page Number(s)
ACT Series	10-2000 MHz	Cascaded, miniature amplifiers with removable SMA connectors	21
ACT-141223	1200-1400 MHz	Ultra low noise, narrow band, connectored amplifiers	21
ACU-64100	5.925-6.425 GHz	High-power TWT replacement amplifier	59
ADD Series	1-26.5 GHz	Militarized and commercial YIG-tuned oscillators with digital drivers	79
AFP Series	1-26 GHz	Wideband, YIG-tuned, bandpass filters	97
AFT Series	0.5-18 GHz	Avanpak, miniature, small-signal, wideband amplifiers with removable SMA connectors	24
AFW Series	8-18 GHz	Wideband, wide bandwidth, YIG-tuned, bandpass filters	97
AGC Series	5-1000 MHz	Thin-film, voltage controlled, connectorless amplifiers	69
AGT Series	2-18 GHz	Wideband, connectored, gain control amplifiers	36
AHD Series	0.5-18 GHz	Thin-film, miniature, connectored, PIN diode single-pole, double-throw switches	108
AHF Series	0.5-18 GHz	Thin-film, miniature, connectored, PIN diode single-pole, five-throw switches	109
AHL Series	2-18 GHz	Thin-film, connectored, power limiters	102
AHQ Series	0.5-18 GHz	Thin-film, miniature, connectored, PIN diode single-pole, four-throw switches	109
AHS Series	0.5-18 GHz	Thin-film, miniature, connectored, PIN diode single-pole, single-throw switches	106
AHT Series	0.5-18 GHz	Thin-film, miniature, connectored, PIN diode single-pole, triple-throw switches	109
AM-4280 Series	3.7-4.2 GHz	Point-to-point and TV satellite downlink, commercial, connectored LNAs	51
AM-12000 Series	11.7-12.2 GHz	Low noise, commercial, communications satellite, downlink LNAs	51
AM-14500 Series	14.0-14.5 GHz	Communications satellite uplink driver amplifier	51
AM-900	821-851 MHz	Cellular radio base station, low noise pre-amplifiers	57
AMG Series	50-4000 MHz	Low noise, ultra-wideband, connectored amplifier	23
AMP-10500 Series	9.5-10.5 GHz	Medium power, connectored, military, radar band amplifiers	48
AMT Series	2-40 GHz	Wideband, low noise, connectored amplifiers	24
AMT Series	8.5-21.2 GHz	Narrow band, low noise, connectored amplifiers	48
AMT Series	34.5-35.5 GHz & 43.5-45.5 GHz	Millimeter wave, narrow band, low noise, connectored amplifiers	35
AMT Series	9-20 (X2 or X4) GHz	Active frequency doublers and quadrupler	35
AMT Series	20-45 GHz	Various narrow band, power, millimeter wave amplifiers	35
APG Series	10-4000 MHz	Wideband, medium power, connectored amplifier	43
APM-1000 Series	10-1000 MHz	Ultra wideband, medium power, connectored amplifiers	43
APT Series	2-18 GHz	Wideband, medium power, temperature compensated connectored amplifiers	40
AT Series	up to 4.5 GHz	Silicon bipolar transistors	112
AT Series	2-15 GHz	Gallium arsenide field effect transistors	114
ATR Series	4-40 GHz	Militarized, low noise, GaAs FET, TWT replacement amplifiers	58
AV-7000 Series	1-20 GHz	Commercial, microwave, YIG-tuned oscillators	71
AV-7000 Series	18-50 GHz	Commercial, millimeter wave, YIG-tuned oscillators	72
AV-7000 Series	1-20 GHz	"-9" series, commercial, low harmonic, YIG-tuned oscillators	72
AV-7000 Series	2-18 GHz	Militarized YIG-tuned oscillators	73
AV-7000 Series	4-18 GHz	"-8" series, commercial, YIG-tuned oscillators with guaranteed phase noise	72
AV-7000 Series	2-18 GHz	Low phase noise, bipolar, YIG-tuned oscillators	72
AV-7248	2-8 GHz	YIG-tuned oscillator with tracking YIG-tuned filter	72
AVD Series	1-26.5 GHz	Militarized and commercial YIG-tuned oscillators with analog drivers	79

*Frequency range may be for individual products or the total coverage of the series.

Model Type	Frequency Range*	Description	Page Number(s)
AW-6400 Series	5.9-6.4 GHz	Low noise, microwave radio preamplifiers	57
AW-11700	10.7-11.7 GHz	Low noise, microwave radio preamplifier	54
AW-12000 Series	11.7-12.2 GHz	Low noise, commercial, communications satellite downlink LNAs	51
AW-13251	12.7-13.25 GHz	CARS band, low noise, commercial, receiver preamplifier	51
AWC-12000 Series	11.7-12.2 GHz	Low noise, commercial, communications satellite downlink LNAs	51
AWP Series	3.7-11.7 GHz	High power, TWT replacement amplifiers for terrestrial point-to-point microwave radio	59
AWP Series	3.7-14.5 GHz	Medium power, commercial, narrow band, communications amplifiers	55
AWP-900	860-960 MHz	Cellular radio, paging and multiple address system base station power amplifiers	56
AWP-132400	12.7-13.25 GHz	CARS band power amplifiers	51
AWT Series	0.5-40 GHz	Ultra wideband, low noise, connectored amplifiers	24
DBX Series	0.05-18 GHz	Wideband, double-balanced, miniature, connectored mixers	94
DBY Series	0.05-18 GHz	Wideband, double-balanced, miniature, connectored mixers	94
DSO-1000 Series	3.5-36 GHz	Fixed-tuned, dielectrically-stabilized oscillators	86
DSO-2000 Series	4.5-18 GHz	Mechanically-tuned, dielectrically-stabilized oscillators	86
DSO-3000 Series	8.0-18.0 GHz	Electronically-tuned, dielectrically-stabilized oscillators	86
DSO-4000 Series	8.0-18.0 GHz	Electrically and mechanically-tuned, dielectrically-stabilized oscillators	87
DSO-6000 Series	17-19 GHz	High-stability, dielectrically-stabilized oscillators	87
DTO-2500	2.5-6.5 GHz	Digitally-tuned, varactor-tuned oscillator assembly	76
FDD Series	2-18 GHz	Wideband, commercial, YIG-tuned filters with digital drivers	99
FPD Series	2-18 GHz	Wideband, commercial, YIG-tuned filters with analog drivers	99
GPD/GPM Series	5-1000 MHz	Low cost, thin-film, connectorless amplifiers	65
GPL-1001	5-1000 MHz	Thin-film, voltage controlled, connectorless, signal limiter	103
HTO Series	0.9-18 GHz	Militarized, hyperabrupt, varactor tuned oscillators	76
IM Series	2.9-8.4 GHz	IMFET™ internally matched power GaAs FETs various narrow frequency bands	116
LMT Series	2-18 GHz	Wideband, output limiting amplifiers	46
LNO-550	550-775 MHz	Militarized, low noise, varactor-tuned oscillator	84
LNO-8000	7.8-8.5 GHz	Low noise VCO with two tuning ports	84
LWT Series	2-18 GHz	Ultra wideband, output limiting amplifiers	46
MSA Series	DC-6 GHz	MODAMP™, silicon MMIC, connectorless amplifiers	60
MSF Series	0.1-8.0 GHz	Silicon MMIC, connectorless frequency up/down converters	91
MTO-8000 Series	0.4-10.5 GHz	Militarized, connectorless, varactor-tuned oscillators	83
MXA Series	0.5-18 GHz	Wideband, double-balanced, miniature, connectored mixer/preamplifier combinations	95
PPA Series	5 MHz to 18 GHz	PlanarPak, surface-mounted amplifiers	63
PPD-2001	20-2000 MHz	PlanarPak, surface-mounted level detector	63, 104
PPD-6002	100-6000 MHz	PlanarPak, surface-mounted threshold detector	63, 104
PPF-030	100-2000 MHz	PlanarPak, surface-mounted, voltage-controlled attenuator	63, 101
PPL-504	10-1000 MHz	PlanarPak, surface-mounted limiting amplifier	64, 70
PPM-2515M	50-2500 MHz	PlanarPak, surface-mounted, triple-balanced mixer	63, 96
PPS-010	10-2000 MHz	PlanarPak, surface-mounted, non-reflective, SPDT switch	63, 110
SO80-1506	3.63-4.13 GHz	Varactor-tuned oscillator for use in TVRO receivers	85
TFX/TFY/ TFK/TFW Series	0.75-26 GHz	Wideband, thin-film, connectored, double- and triple-balanced mixers	93
UDL-500 Series	5-500 MHz	Thin-film, dual-inline, limiting amplifier	70
UMX Series	1-4200 MHz	Modular, double balanced, connectorless mixers	96
UTC Series	10-2000 MHz	Low noise, wideband, connectored, modular amplifier cascades	22
UTD-1000 Series	10-1000 MHz	Thin-film, connectorless, level detectors	104
UTD-2000 Series	10-2000 MHz	Thin-film, TTL compatible, connectorless, threshold detector	104
UTF Series	5-2000 MHz	Thin-film, voltage controlled, connectorless, signal attenuators	101
UTL-500 Series	5-500 MHz	Thin-film, connectorless, limiting amplifiers	70
UTL-1000 Series	5-1000 MHz	Thin-film, voltage-controlled, connectorless, signal limiters	103
UTO/UTM Series	5-2300 MHz	High performance, thin-film, connectorless amplifiers	66
VCA Series	0.85-18 GHz	Militarized, linearized VCO assemblies	77
VTD Series	0.6-6.1 GHz	Buffered, connectorless, varactor-tuned oscillators	83
VTO-8000 Series	0.3-10.5 GHz	Limited frequency range, commercial, connectorless, varactor-tuned oscillators	82
VTO-9000 Series	0.32-2.1 GHz	Commercial, hyperabrupt, connectorless, varactor-tuned oscillators	82

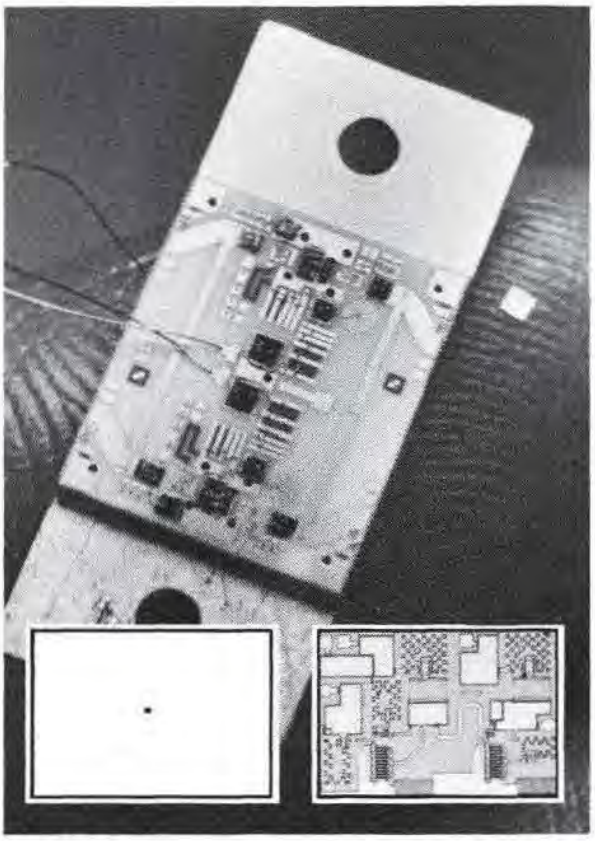
*Frequency range may be for individual products or the total coverage of the series.

AVANTEK VERTICAL INTEGRATION

From Transistors and MMICs to complete Telecommunications Systems

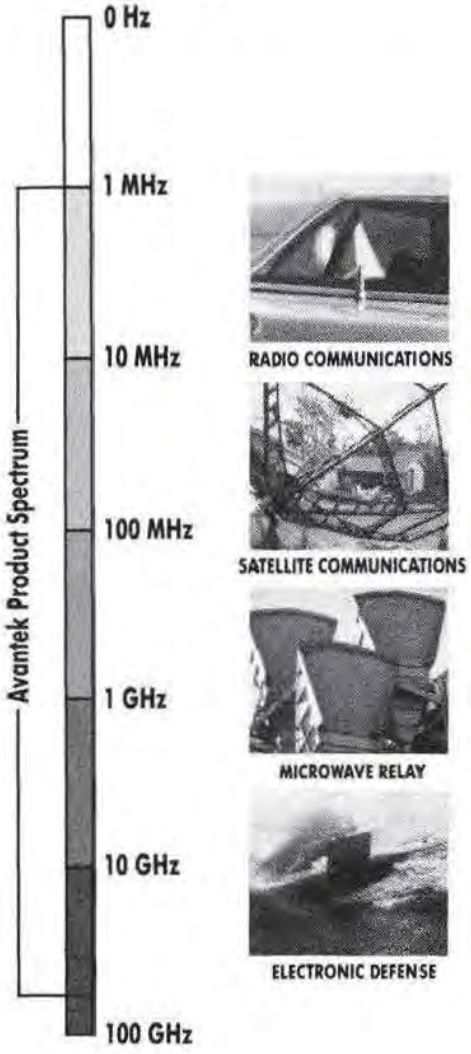
1. Space-Age Technology:

- Silicon and GaAs Semiconductors
- High Electron Mobility Transistors (HEMT)
- Si and GaAs Monolithic Microwave Integrated Circuits (MMICs)
- Thin-film hybrid Microwave Integrated Circuits (MICs)
- Mixers and RF switches
- Digital microwave radio
- Fiber-optic communications
- Advanced fabrication technology
- Proprietary packaging



The tiny GaAs monolithic microwave integrated circuit performs the same basic function as the similar hybrid circuit in 1/25th the area and eliminates most circuit adjustments. Insets: The same MMIC shown actual size and enlarged 35 times.

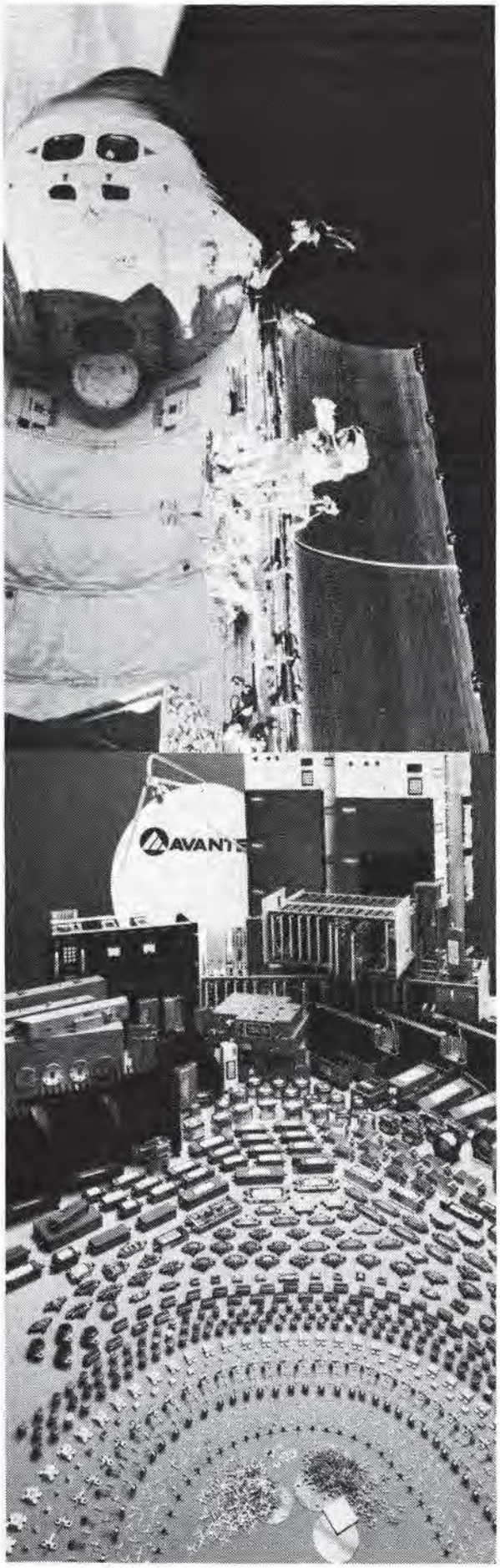
Frequency Spectrum Chart



2. Premium Product Performance:

- GaAs FETs operating beyond 50 GHz
- GaAs MMICs through 20 GHz
- Amplifiers through 44 GHz
- Widest oscillator and amplifier bandwidths
  - Only available 2-18, 18-40 GHz transistor amplifiers
  - Only available 18-26, 26-40 and 33-50 GHz transistor YTOs
- Lowest amplifier noise figures

Avantek, Inc. • 3175 Bowers Ave., Santa Clara, Ca 95054 • Phone: (408) 727-0700 • FAX: (408) 727-0539 • TWX: 310-371-8717 or 310-371-8478 • TELEX: 34-6337



3. **High Quality/Reliability:**
   - Supplier to virtually all airborne electronic warfare systems
   - Space-qualified products
   - Integrated QA/QC system
   - High-reliability screening available
   - Dedicated Space Rel Production Time
   - Applied for Certification under Mil-Std-1772

4. **Vertical Integration:**
   - Microwave transistors
   - Silicon and GaAs MMICs
   - Modular amplifiers and signal-processing components
   - Modular signal control components
   - Wideband and communications/radar-band amplifiers
   - Variable- and fixed-frequency oscillators
   - Digitally- and voltage-tuned oscillator and filter assemblies
   - YIG filters
   - Downconverters, amplifier-downconverters and mixer-preamps
   - Thin-film and component functional subassemblies
   - Telecommunications systems
   - Over 700 standard products in all

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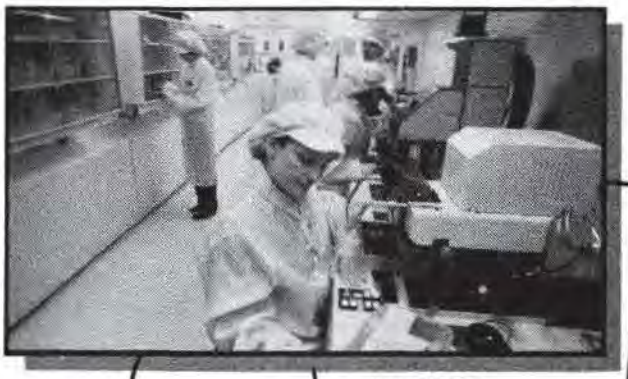


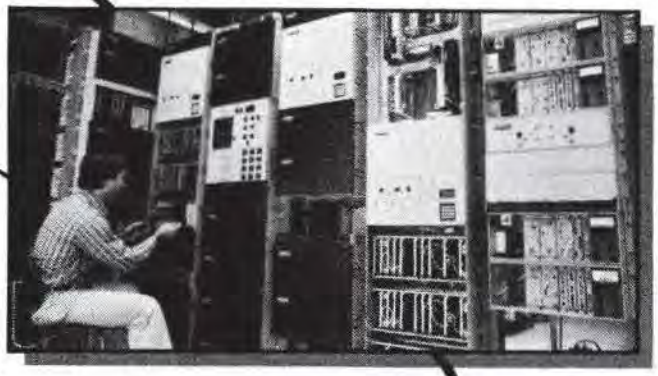
NEWARK

5. Volume Manufacturing Capability:

- Six locations
- Over 700,000 sq. ft.
- Over 3300 employees
- Industry's most advanced microwave semiconductor fabrication facility
- Over 1,500,000 product units shipped in 1986

FOLSOM

FREMONT



SANTA CLARA (2)

MILPITAS

6. Over 20 Years of Experience:

- Manufacturing solid-state microwave components since 1965
- Semiconductors and thin-film hybrids since 1968
- YIG-tuned oscillators since 1969
- Digital microwave radio since 1972
- Varactor-tuned oscillators since 1973
- Microwave mixers since 1980
- TV earth stations since 1981
- Monolithic microwave ICs since 1982
- Fiber Optic/Lightwave systems since 1985
- Thin-film mixers to 26 GHz since 1986
- MMIC self-oscillating mixers since 1986
- Frequency Synthesizers added in 1987
- HEMT and MSI Silicon MMICs added in 1988

TWENTY-TWO YEARS of Solid State Leadership

Avantek, Inc. was founded in late 1965 to meet the electronic industry's need for high performance solid state VHF, UHF and microwave transistor amplifiers.

By December, 1965, the company had developed and introduced a family of low-noise solid state preamplifiers covering the 30 to 1000 MHz frequency range. Less than six months later, Avantek added solid state microwave amplifiers with octave band coverage through 2300 MHz as well as narrowband amplifiers for specific communications bands in that frequency range. This early family of highly reliable Avantek transistor amplifiers played a significant part in the microwave industry's decision to replace tube-type amplifiers with solid state.

Advances in solid state amplifier technology were hampered in these early years by the limited and sporadic availability of microwave transistors. Device suppliers simply were not able to keep pace with the progress made by Avantek circuit designers.

Consequently, in the spring of 1968, Avantek added the staff and facilities to design, develop and manufacture its own gold-metallized planar epitaxial microwave transistors. The capability to design and produce high performance microwave transistors in-house is one of the important factors leading to Avantek's present success. Today, virtually every microwave transistor used in an Avantek product is an Avantek transistor. In 1968, Avantek also established a facility for the production of hybrid thin-film microwave integrated circuits (MICs).

In February, 1970, Avantek was granted a patent on the techniques of producing unconditionally-stable, cascadable wideband amplifier modules. This concept resulted in a wide variety of modular "gain blocks" in packages ranging from conventional cases with connectors to tiny thin-film modules in TO-8 and TO-12 transistor packages. To meet the needs of both the commercial and military user Avantek introduced thin-film fundamental YIG-tuned transistor oscillators in 1969. In 1973, varactor-tuned transistor oscillators were added to the growing component line. In 1980, Avantek developed and introduced a series of advanced wideband microwave mixers offering a remarkable combination of features with even more remarkable thin-film mixers introduced in 1986.

In 1986, Avantek shipped over 1,500,000 product units. Avantek's more than 3000 customers can now choose from over 700 company developed standard products.

Avantek is organized into three functional groups:

- **Microwave Semiconductors** — Develops and produces high-performance microwave transistors, diodes and monolithic integrated circuits which are used in virtually all Avantek products, most of which are also sold to outside customers.
- **Microwave Products** — Develops and manufactures amplifiers, mixers, control devices, YIG oscillators and filters, varactor and dielectrically-tuned oscillators and multi-function integrated assemblies.
- **Telecommunications** — Develops and manufactures equipment such as digital microwave radios, satellite earth station video receivers and digital earth terminals as well as high-performance amplifiers and functional supercomponents particularly optimized for telecommunications applications. Avantek offers its telecommunications equipment fully integrated into complete, ready-to-operate telecommunications systems.

Today the Avantek microwave product line includes:

- Microwave Semiconductors:
  - Silicon Transistors
  - Silicon Diodes
  - Gallium Arsenide Field Effect Transistors
  - Monolithic Microwave Integrated Circuits
  - Internally Matched GaAs FETs
- Avanpak™ Miniature Flatpack Products
- PlanarPak™ Surface Mounted Products
- Control Components:
  - Mixers
  - Switches
  - Limiters
  - Attenuators
- YIG-Tuned Oscillators and Filters
- Varactor-Tuned Oscillators
- Dielectrically-Stabilized Oscillators
- Wideband Microwave Amplifiers
- Low Noise Communications Amplifiers
- Medium Power Amplifiers
- Modular Amplifiers
- Special Purpose Amplifiers including:
  - TWT Retrofit Power Amplifiers for Microwave Radios
  - Cellular Radio Base Station Amplifiers
- Multifunction Integrated Assemblies
- INMARSAT RF Transceiver
- Microwave Digital Radios
- Lightwave/Fiber Optic Systems

These products cover frequencies from DC to over 50 GHz for use in electronic warfare and radar, missiles and satellites, test equipment and instrumentation and various types of communications equipment for the military, commercial, industrial and consumer markets, both domestic and international.

Avantek Employees and Facilities: Today, there are over 3200 employees in the Avantek family supported by some of the industry's most modern equipment and facilities. Manufacturing, engineering and administrative facilities, all located in California, include 255,000 sq. ft. in Santa Clara, 180,000 sq. ft. in Milpitas, an 88,000 sq. ft. engineering and manufacturing facility in Folsom, a 91,000 sq. ft. Telecommunications Group facility in Fremont, and a 90,000 sq. ft. microwave semiconductor fabrication facility in Newark. This staff and floorspace supports Avantek's fundamental vertical integration strategy: to manufacture high-performance microwave transistors and monolithic circuits, to build these components into amplifiers and other functional "blocks," to integrate these various blocks into multifunction assemblies, to provide complete equipment and ready-to-operate "turnkey" telecommunications systems — and to support all products with research, engineering, quality control and customer support.

HOW TO USE THIS PRODUCT GUIDE

This Product Guide contains a complete listing of all standard Avantek microwave component products presenting their most important specifications. They have been grouped by major product type, such as AMPLIFIERS, SIGNAL SOURCES and MODULAR PRODUCTS. Within these major categories, products are arranged in functionally logical groupings and sequences which can be determined by referring to the TABLE OF CONTENTS. When you have identified the product or products for which you want additional information, you should refer to the appropriate Avantek Data Book which presents fully detailed information on all products in that volume. See THE AVANTEK DATA BOOK SERIES below for more information.

CASE DRAWINGS

Product case drawings are interspersed throughout the catalog as close as possible to the product listing where that case type is first used. Cases which are used for more than one product type are normally only shown once with subsequent entries referred to the page where the illustration appears although some case drawings are repeated when space permits.

SHADING

Shading within tables is variously used to separate products by the following parameters:

- A constant major parameter such as Frequency Range, Power Output or Noise Figure.
- Families of products with similar characteristics except for one major parameter such as Power Output or Gain.
- To make it easier to read.

THE AVANTEK DATA BOOK SERIES

The Avantek Data Book set consists of the following items:

1. **Product Guide** (This book). This volume presents summary specifications on most of Avantek's standard component products. Some telecommunications products are also presented for reference.
2. **Amplifier Data Book.** This volume presents detailed information on all standard Avantek microwave amplifiers.
3. **Modular Data Book.** This volume presents detailed information on all Avantek modular amplifiers, mixers, limiters, attenuators, detectors and switches.
4. **Signal Sources and Filters Data Book.** This volume presents detailed information on all standard Avantek oscillator and filter products.
5. **Semiconductor Data Book - Silicon Products.** Presents detailed specifications on all Avantek standard silicon bipolar transistors and silicon MMIC products.
6. **Semiconductor Data Book - GaAs Products.** Presents detailed specifications on all Avantek standard gallium arsenide field effect transistors (GaAs FETs) and internally matched power GaAs FETs.
7. **Subassemblies Capabilities Brochure.** This volume presents Avantek's capabilities in the design and manufacture of multi-function subassemblies which may combine, with custom matching and interfacing, various standard and/or custom Avantek products in one lightweight, compact case.

Avantek Data Books are available from your nearest authorized Avantek distributor or sales representative or from the Avantek Corporate Communications Department at the address shown at the bottom of this page. If a particular data book is not available, you should request data sheets for the product(s) of interest.

LOW NOISE WIDEBAND CONNECTORED AMPLIFIERS

AVANPAK MINIATURE WIDEBAND AMPLIFIERS

The ACT series is recommended where either small size, premium performance, or microstrip compatibility is required. Each amplifier consists of one, two, or three stages of UTO series amplifier substrates cascaded within the Avanpak miniature flatpack. Each stage can be tuned for maximum performance and efficient matching with the next unit.

This is a sample of the Avanpak™-packaged cascades available from Avantek. 5V supply, high efficiency and higher output power versions are also available.

ACT SERIES CASCADED AMPLIFIERS

Guaranteed Specifications @ 0° to 50° C Case Temperature, V = 15 Vdc

PC2

Model #	Frequency Range MHz	Gain (dB) Typ./Min.	Noise Figure (dB) Max.	Power Output at 1.0 dB Gain Compression (dBm), Min.	Gain Flatness (±dB) Maximum	Intercept Point for IM Products (dBm) Typical	VSWR 50 ohms In/Out Maximum	Input Bias Current (mA) Typical	Case Type
10 to 500 MHz									
ACT5-200	10-500	26.5/25	2.7	+6	±1.5	+22	2.0	35	AS2
ACT5-201	10-500	37/35	2.7	+7	±1.5	+20	2.0	33	AS2
ACT5-202	10-500	51.5/49	2.7	+6	±1.5	+18	2.0	60	AS2
ACT5-203	10-500	64.5/62	2.7	+6	±2.0	+18	2.0	70	AS2
ACT5-210	10-500	27.5/26	3.0	+14	±1.5	+30	2.0	78	AS2
ACT5-211	10-500	38/36	3.5	+14	±1.5	+30	2.0	76	AS2
ACT5-212	10-500	47/45	2.7	+14	±1.5	+27	2.0	80	AS2
ACT5-213	10-500	54/52	2.7	+14	±2.0	+27	2.0	92	AS2
ACT5-214	10-500	67/65	2.7	+14	±2.0	+27	2.0	103	AS2
ACT5-220	10-500	24.5/23	3.5	+23	±1.5	+35	2.0	165	AS2
ACT5-221	10-500	35/33	3.0	+23	±2.0	+35	2.0	190	AS2
ACT5-222	10-500	46/44	3.0	+23	±2.0	+35	2.0	193	AS2
ACT5-223	10-500	60.5/58	3.0	+23	±2.0	+35	2.0	210	AS2
10 to 1000 MHz									
ACT10-210	10-1000	21.5/20	4.5	+11	±2.0	+28	2.0	60	AS2
ACT10-211	10-1000	31/29	3.7	+9	±1.5	+20	2.0	37	AS2
ACT10-212	10-1000	41/39	3.7	+9	±2.0	+20	2.0	62	AS2
ACT10-213	10-1000	52/50	3.7	+12	±2.0	+27	2.0	101	AS2
ACT10-220	10-1000	22.5/21	5.0	+20	±1.5	+35	2.0	125	AS2
ACT10-221	10-1000	33/31	4.5	+20	±2.0	+35	2.0	150	AS2
ACT10-222	10-1000	42/40	3.7	+20	±2.0	+35	2.0	127	AS2
ACT10-223	10-1000	49/47	3.7	+20	±2.0	+35	2.0	163	AS2
10 to 2000 MHz									
ACT20-210	10-2000	19.5/18	5.0	+7	±1.5	+17	2.2	41	AS2
ACT20-211	10-2000	28/26	5.0	+14	±2.0	+29	2.2	91	AS2
ACT20-212	10-2000	34/32	6.0	+14	±2.0	+29	2.2	104	AS2
ACT20-213	10-2000	40/38	6.0	+12	±2.0	+29	2.2	126	AS2

ULTRA LOW NOISE, NARROW BAND AMPLIFIER

These ultra low noise, narrow band amplifiers are designed to receive and transport low noise signals with optimum efficiency. The primary application is in RF and IF front ends. Internal regulation is provided for +12 to +15 VDC operation. These ultra low noise, narrow band amplifiers may be custom aligned for special applications. Contact the factory for information on future releases in this new series.

ULTRA LOW NOISE, NARROW BAND AMPLIFIER

Guaranteed Specifications @ 0° to 50° C Case Temperature

PC2

Model	Frequency Range (MHz) Min.	Gain (dB) Min.	Noise Figure (dB) Max.	Power Out @ 1 dB Gain Compression (dBm) Min.	Gain Flatness (±dB) Max.	Third Order Intercept Point (dBm) Typ.	Input Power Voltage (VDC)	Input Power Current (mA) Typ.	Case Type
ACT-120923	950-1250	35.5	1.5	+14	0.5	26	12-15	95	AX2
ACT-141223	1200-1400	35	1.5	+13	0.5	25	12-15	95	AX2

CASE DRAWINGS—See page 36

PACKAGED MODULAR AMPLIFIER CASCADES WITH COAX CONNECTORS

UTC Series amplifiers contain one to four modular products from any of several of Avantek's modular product lines. They are supplied in sealed aluminum cases with RFI-filtered DC feedthroughs and SMA connectors installed and are ready for immediate operation. 5V supply versions are also available.

UTC SERIES FACTORY-ASSEMBLED THIN-FILM AMPLIFIERS

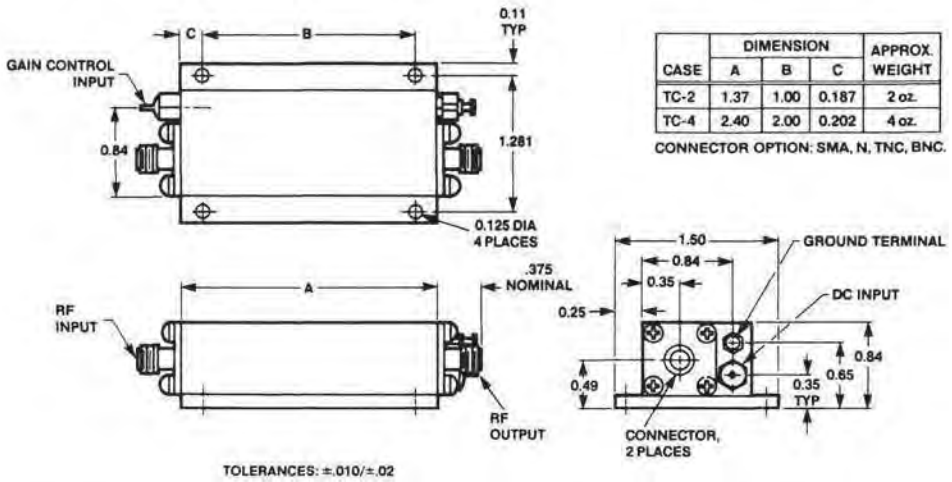
Guaranteed Specifications @ 0° to 50° C, V = +15 Vdc

PC2

Model	Frequency Range MHz	Gain (dB) Typ/Min	Noise Figure (dB) Maximum	Power Output @ 1 dB Gain Compression (dBm), Min.	Gain Flatness (±dB) Maximum	Intercept Point for IM Products (dBm) Typical	VSWR 50 Ohms In/Out Maximum	Input Bias Current (mA) Typical	Case Type
10 to 500 MHz									
UTC5-200	10-500	26.5/25	2.7	+6	±1.5	+22	2.0	35	TC2
UTC5-201	10-500	37/35	2.7	+7	±1.5	+20	2.0	33	TC2
UTC5-202	10-500	51.5/49	2.7	+6	±1.5	+18	2.0	60	TC2
UTC5-203	10-500	64.5/62	2.7	+6	±2.0	+18	2.0	70	TC4
UTC5-210	10-500	27.5/26	3.0	+14	±1.5	+30	2.0	78	TC2
UTC5-211	10-500	38/36	3.5	+14	±1.5	+30	2.0	76	TC2
UTC5-212	10-500	47/45	2.7	+14	±1.5	+27	2.0	80	TC2
UTC5-213	10-500	54/52	2.7	+14	±2.0	+27	2.0	92	TC2
UTC5-214	10-500	67/65	2.7	+14	±2.0	+27	2.0	103	TC4
UTC5-220	10-500	24.5/23	3.5	+23	±1.5	+35	2.0	165	TC2
UTC5-221	10-500	35/33	3.0	+23	±2.0	+35	2.0	190	TC4
UTC5-222	10-500	46/44	3.0	+23	±2.0	+35	2.0	193	TC4
UTC5-223	10-500	60.5/58	3.0	+23	±2.0	+35	2.0	210	TC4
10 to 1000 MHz									
UTC10-210	10-1000	21.5/20	4.5	+11	±2.0	+28	2.0	60	TC2
UTC10-211	10-1000	31/29	3.7	+9	±1.5	+20	2.0	100	TC2
UTC10-212	10-1000	41/39	3.7	+9	±2.0	+20	2.0	62	TC4
UTC10-213	10-1000	52/50	3.7	+12	±2.0	+27	2.0	101	TC4
UTC10-220	10-1000	22.5/21	5.0	+20	±1.5	+35	2.0	125	TC2
UTC10-221	10-1000	33/31	4.5	+20	±2.0	+35	2.0	150	TC4
UTC10-222	10-1000	42/40	3.7	+20	±2.0	+35	2.0	127	TC4
UTC10-223	10-1000	49/47	3.7	+20	±2.0	+35	2.0	163	TC4
10 to 2000 MHz									
UTC20-210	10-2000	19.5/18	5.0	+7	±1.5	+17	2.2	41	TC2
UTC20-211	10-2000	28/26	5.0	+14	±2.0	+29	2.2	91	TC4
UTC20-211	10-2000	34/32	6.0	+14	±2.0	+29	2.2	104	TC4
UTC20-213	10-2000	40/38	6.0	+12	±2.0	+29	2.2	126	TC4

CASE DRAWING

TC-2/4



CASE	DIMENSION A	B	C	APPROX. WEIGHT
TC-2	1.37	1.00	0.187	2 oz.
TC-4	2.40	2.00	0.202	4 oz.

CONNECTOR OPTION: SMA, N, TNC, BNC.

ULTRA WIDEBAND AMPLIFIERS

The AMG series of ultra wideband amplifiers provides low noise, small signal performance with excellent gain flatness and very wide dynamic range.

AMG SERIES

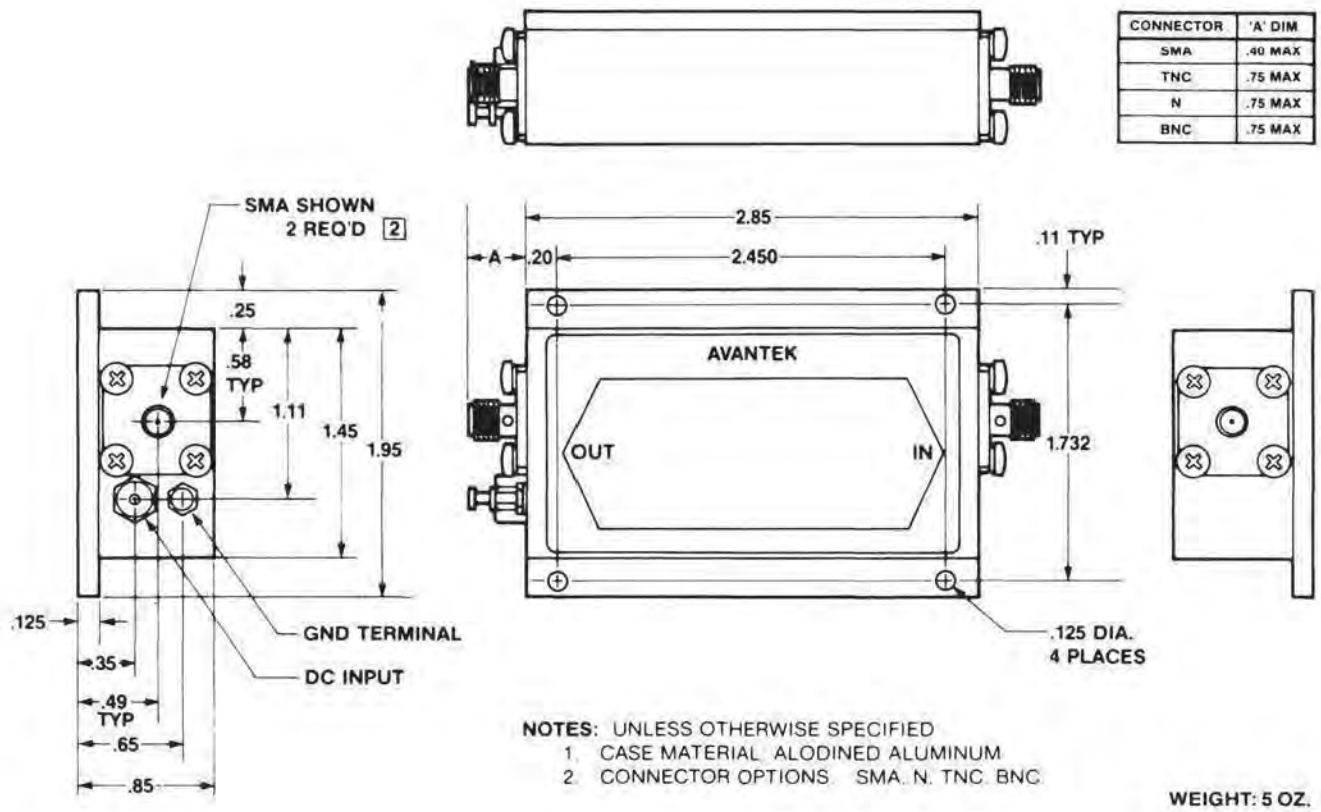
Guaranteed Specifications @ 25° C Case Temperature PC4

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Noise Figure (dB) Maximum	Power Output for 1 db Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Intercept Point for IM Products (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Typical Current (mA)	Case Type[1]
0.05 to 1.0 GHz											
AMG-1020	0.05-1	34	2.7	+10	1.0	+22	2.5	2.2	+15	50	GC4
0.5 to 4.0 GHz											
AMG-4045	0.5-4	22	6.0	+10	1.5	+22	2.5	2.0	+15	125	GC4
AMG-4046	0.5-4	32	6.0	+10	1.5	+22	2.5	2.0	+15	175	GC4
AMG-4047	0.5-4	40	6.0	+10	1.5	+22	2.5	2.0	+15	225	GC4

Notes 1: Connector Options: Types SMA and N.

CASE DRAWING

GC4



CONNECTORED WIDEBAND SMALL SIGNAL AMPLIFIERS

AFT Avanpak Series

Features

- **Avanpak™ Package**
- **Removable Connectors (Miniature Series)**
- **0.5 thru 18.0 GHz (Octave/Multioctave)**
- **Economically Priced (General Purpose)**

AFT amplifiers are general purpose amplifiers, suitable for a wide range of applications in commercial and military systems where low to medium gain "amplifier blocks" are required.

AFTs are compact and rugged and may be designed into commercial and military systems where stringent environments are encountered.

The Avanpak "flat-pak" package is suitable for conventional chassis mounting, using connectors and cables, and when the RF connectors are removed, they are ideal for use in microstrip or stripline integration.

The AFT series is economically priced to facilitate its wide usage, and most models are readily available from stock from AVANTEK's distributor network.

AMT/AWT Series

Features

- **High Performance**
- **0.5 thru 45.5 GHz**
- **Low Noise Figure**
- **Wide Dynamic Range**

The AMT/AWT series provides premium performance over octave (AMT) and multi-octave (AWT) bands at 25° C. Temperature compensated amplifiers are specified over full military temperature ranges up to +100° C.

AMT/AWT series amplifiers are ideal for specification in performance driven applications in commercial and military systems. These amplifiers have a wide range of gain options, typically up to 45-50 dB, and are optimized for noise figure and dynamic range, consistent with the best technology available. A complete range of performance specifications is standard on these series and they are guaranteed over the specified temperature range.

The rugged I-series case is designed for chassis mounting and conventional connector/cable system integration.

The MA-series case is equivalent to the Avanpak "flat-pak" package outline and is designed to withstand the same rugged environments as the I-series cases. They too are suitable for conventional chassis mounting, using connectors and cables, and when the RF connectors are removed, are ideal for use in microstrip or stripline integration.

0.1 to 4.0 GHz

PC3

Guaranteed Specifications @ 25° C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
(N) AFT-4001	0.1-4.0	7.0	8.0 Typ.	7.0/8.0	+7	0.5	+17	2.0	2.0	+12	50 Typ.	AS2
(N) AFT-4002	0.1-4.0	14.0	16.0 Typ.	7.0/8.0	+7	0.9	+17	2.0	2.0	+12	100 Typ.	AS2
(N) AFT-4003	0.1-4.0	21.0	24.0 Typ.	7.0/8.0	+7	1.25	+17	2.0	2.0	+12	150 Typ.	AS2

0.5 to 2.0 GHz

Guaranteed Specifications @ 25° C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Typical Gain (dB)	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Typical Current (mA)	Case Type
(N) AFT-2001	0.5-2.0	18.0	20.0 Typ.	4.0/4.5	+7	0.75	+20	2.0	2.0	+12	80 Typ.	AS2
(N) AFT-2002	0.5-2.0	15.0	17.0 Typ.	5.0/6.0	+10	0.75	+20	2.0	2.0	+12	100 Typ.	AS2
(N) AFT-2003	0.5-2.0	22.0	25.0 Typ.	5.0/6.0	+13	0.75	+23	2.0	2.0	+12	150 Typ.	AS2
AFT-2031	0.5-2	10.0	10.5 Typ.	3.3/3.5	+11	0.5	+21	2.0	2.0	+15	60 Typ.	AS2
AFT-2032	0.5-2	20.0	21.0 Typ.	3.5/3.7	+13	0.7	+23	2.0	2.0	+15	120 Typ.	AS2
AFT-2033	0.5-2	30.0	32.0 Typ.	3.5/3.7	+13	1.0	+23	2.0	2.0	+15	180 Typ.	AS4
AFT-2034	0.5-2	40.0	42.0 Typ.	3.5/3.7	+13	1.5	+23	2.0	2.0	+15	250 Typ.	AS4
AFT-2061	0.5-2	10.0	10.5 Typ.	4.5/5.0	+20	0.5	+29	2.0	2.0	+15	180 Typ.	AS2
AFT-2062	0.5-2	20.0	21.0 Typ.	3.5/3.7	+20	0.7	+29	2.0	2.0	+15	250 Typ.	AS2
AFT-2063	0.5-2	30.0	32.0 Typ.	3.5/3.7	+20	1.0	+29	2.0	2.0	+15	300 Typ.	AS4
AFT-2064	0.5-2	40.0	42.0 Typ.	3.5/3.7	+20	1.5	+29	2.0	2.0	+15	350 Typ.	AS4

CONNECTORED WIDEBAND SMALL SIGNAL AMPLIFIERS, Continued

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
(N) **AWT-2071**	0.5-2.0	10	13	2.1/2.5	+11	0.50	+20	2.0	2.0	+12	75	IS2
(N) **AWT-2072**	0.5-2.0	21	26	2.3/2.7	+11	0.75	+20	2.0	2.0	+12	150	IS2
(N) **AWT-2073**	0.5-2.0	33	40	2.4/2.8	+20	1.00	+29	2.0	2.0	+12	260	IS4
AWT-2032	0.5-2.0	23	27	2.8/3.5	+13	1.25	+21	2.0	2.0	+12	100	IS2
AWT-2033	0.5-2.0	35	40	2.8/3.5	+13	1.25	+21	2.0	2.0	+12	160	IS4
AWT-2034	0.5-2.0	47	53	2.8/3.5	+13	1.25	+21	2.0	2.0	+12	200	IS4
(N) **AWT-2053**	0.5-2.0	35	40	3.2/3.5	+20	1.25	+28	2.0	2.0	+12	210	IS4
(N) **AWT-2054**	0.5-2.0	47	53	3.2/3.5	+20	1.25	+28	2.0	2.0	+12	250	IS4
Guaranteed Specifications @ -54° to +100° C Case Temperature												
(N) **AWT-2082**	0.5-2.0	19	23	3.6/4.0	+13	1.50	+21	2.0	2.0	+12	170	IS4
(N) **AWT-2083**	0.5-2.0	30	34	3.4/3.8	+13	1.75	+21	2.0	2.0	+12	220	IS4
(N) **AWT-2084**	0.5-2.0	41	46	3.4/3.8	+13	2.00	+21	2.0	2.0	+12	260	IS6
AWT-2042	0.5-2.0	19	23	4.5/4.7	+13	1.50	+21	2.0	2.0	+12	150	IS4
AWT-2043	0.5-2.0	30	34	4.2/4.5	+13	1.75	+21	2.0	2.0	+12	200	IS4
AWT-2044	0.5-2.0	41	46	4.2/4.5	+13	2.00	+21	2.0	2.0	+12	250	IS6
(N) **AWT-2063**	0.5-2.0	30	34	4.2/4.5	+20	1.75	+28	2.0	2.0	+12	275	IS4
(N) **AWT-2064**	0.5-2.0	41	46	4.2/4.5	+20	2.00	+28	2.0	2.0	+12	325	IS6

0.5 to 4.5 GHz

Guaranteed Specifications @ 25° C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
(N) **AWT-4532**	0.5-4.5	18	22	3.5/3.8	+12	0.75	+21	2.0	2.0	+12	100	IS2
(N) **AWT-4533**	0.5-4.5	27	33	3.5/3.8	+12	1.0	+21	2.0	2.0	+12	150	IS4
(N) **AWT-4534**	0.5-4.5	36	44	3.5/3.8	+12	1.0	+21	2.0	2.0	+12	200	IS4

2.0 to 4.0 GHz

Guaranteed Specifications @ 25° C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Typical Gain (dB)	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Typical Current (mA)	Case Type
AFT-4231	2-4	11.5	12.0 Typ.	3.6/4.0	+13	1.0	+23	2.0	2.0	+15	75 Typ.	AS2
AFT-4232	2-4	23.0	24.0 Typ.	3.6/4.0	+13	1.0	+23	2.0	2.0	+15	150 Typ.	AS2
AFT-4233	2-4	35.0	36.0 Typ.	3.6/4.0	+13	1.0	+23	2.0	2.0	+15	225 Typ.	AS4
AFT-4234	2-4	47.0	48.0 Typ.	3.6/4.0	+13	1.5	+23	2.0	2.0	+15	300 Typ.	AS4
AFT-4261	2-4	10.0	10.5 Typ.	4.7/5.0	+20	1.0	+29	2.0	2.0	+15	175 Typ.	AS2
AFT-4262	2-4	21.5	22.5 Typ.	3.6/4.0	+20	1.0	+29	2.0	2.0	+15	225 Typ.	AS2
AFT-4263	2-4	34.0	35.0 Typ.	3.6/4.0	+20	1.0	+29	2.0	2.0	+15	275 Typ.	AS4
AFT-4264	2-4	44.5	46.0 Typ.	3.6/4.0	+20	1.5	+29	2.0	2.0	+15	325 Typ.	AS4

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
(N) **AMT-4071**	2-4	12.0	15.0	1.5/1.7	+9	0.5	+17	2.0	2.0	+12	65	IS2
(N) **AMT-4072**	2-4	25.5	30.0	1.6/1.8	+9	1.0	+17	2.0	2.0	+12	125	IS2
(N) **AMT-4073**	2-4	38.0	44.0	1.6/1.8	+18	1.0	+28	2.0	2.0	+12	225	IS4
(N) **AMT-4074**	2-4	50.0	58.0	1.6/1.8	+20	1.0	+28	2.0	2.0	+12	280	IS4
(N) **AMT-4031**	2-4	12.5	15.0	1.9/2.1	+12	0.5	+20	2.0	2.0	+12	65	IS2
(N) **AMT-4032**	2-4	26.0	30.0	2.0/2.2	+12	1.0	+20	2.0	2.0	+12	125	IS2
(N) **AMT-4033**	2-4	39.0	44.0	2.0/2.2	+20	1.0	+28	2.0	2.0	+12	225	IS4
AMT-4051	2-4	12.5	15.5	3.3/3.8	+20	1.0	+28	2.0	2.0	+12	120	IS2
AMT-4052	2-4	26.0	30.0	2.3/2.7	+20	1.0	+28	2.0	2.0	+12	175	IS2
AMT-4053	2-4	39.0	44.0	2.3/2.7	+20	1.0	+28	2.0	2.0	+12	225	IS4
AMT-4054	2-4	52.0	58.0	2.3/2.7	+20	1.0	+28	2.0	2.0	+12	280	IS4

(N) — New Product Offering - Fall 1987

CONNECTORED WIDEBAND SMALL SIGNAL AMPLIFIERS, Continued

Guaranteed Specifications @ -54° to +100° C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Typical Gain (dB)	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Typical Current (mA)	Case Type
(N) AMT-4082	2-4	22	26	3.2	+15	1.50	+23	2.0	2.0	+12	225	IS4
(N) AMT-4083	2-4	34	38	2.9	+20	1.75	+28	2.0	2.0	+12	330	IS4
(N) AMT-4084	2-4	46	51	2.9	+20	2.00	+28	2.0	2.0	+12	380	IS6
AMT-4062	2-4	22	26	5.0	+20	1.50	+28	2.0	2.0	+12	280	IS4
AMT-4063	2-4	34	38	3.8	+20	1.75	+28	2.0	2.0	+12	330	IS4
AMT-4064	2-4	46	51	3.8	+20	2.00	+28	2.0	2.0	+12	380	IS6

2.0 to 6.0 GHz

Guaranteed Specifications @ 25° C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Typical Gain (dB)	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Typical Current (mA)	Case Type
AFT-6231	2-6	8.5	9.0 Typ.	3.3/3.7	+10	0.7	+20	2.0	2.0	+15	60 Typ.	AC2
AFT-6232	2-6	18.0	19.0 Typ.	3.6/4.0	+12	1.0	+22	2.0	2.0	+15	125 Typ.	AC2
AFT-6233	2-6	27.5	28.5 Typ.	3.6/4.0	+12	1.0	+22	2.0	2.0	+15	200 Typ.	AC4
AFT-6234	2-6	37.0	38.5 Typ.	3.6/4.0	+12	1.5	+22	2.0	2.0	+15	275 Typ.	AC4
AFT-6261	2-6	7.0	8.0 Typ.	5.5/6.0	+20	0.7	+29	2.0	2.0	+15	175 Typ.	AC2
AFT-6262	2-6	15.0	16.0 Typ.	6.0/6.5	+20	1.0	+29	2.0	2.0	+15	300 Typ.	AC2
AFT-6263	2-6	24.5	26.0 Typ.	5.0/5.5	+20	1.0	+29	2.0	2.0	+15	350 Typ.	AC4
AFT-6264	2-6	33.5	35.0 Typ.	4.5/5.0	+20	1.5	+29	2.0	2.0	+15	400 Typ.	AC4

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
AWT-6032	2-6	19	23	3.3/3.5	+15	1.0	+23	2.0	2.0	+12	130	IC2
AWT-6033	2-6	28	33	3.3/3.5	+15	1.0	+23	2.0	2.0	+12	190	IC4
AWT-6034	2-6	38	44	3.3/3.5	+15	1.25	+23	2.0	2.0	+12	250	IC4
AWT-6035	2-6	48	55	3.3/3.5	+15	1.5	+23	2.0	2.0	+12	310	IC6
AWT-6052	2-6	18	23	5.0/6.0	+23	1.25	+31	2.0	2.0	+12	300	IC2
AWT-6053	2-6	27	33	3.6/4.0	+23	1.25	+31	2.0	2.0	+12	350	IC4
AWT-6054	2-6	36	43	3.2/3.5	+23	1.5	+31	2.0	2.0	+12	400	IC4
AWT-6055	2-6	46	54	3.2/3.5	+23	2.0	+31	2.0	2.0	+12	460	IC6

Guaranteed Specifications @ -54° to +100° C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
AWT-6043	2-6	24	28	4.8	+15	1.75	+23	2.0	2.0	+12	230	IC4
AWT-6044	2-6	31	36	4.5	+15	2.0	+23	2.0	2.0	+12	280	IC6
AWT-6045	2-6	40	45	4.5	+15	2.25	+23	2.0	2.0	+12	340	IC6
AWT-6063	2-6	23	28	6.5	+23	2.0	+31	2.0	2.0	+12	420	IC4
AWT-6064	2-6	31	37	5.0	+23	2.25	+31	2.0	2.0	+12	460	IC6
AWT-6065	2-6	38	45	4.5	+23	2.5	+31	2.0	2.0	+12	540	IC6

2.0 to 8.0 GHz

Guaranteed Specifications @ 25° C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Typical Gain (dB)	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Typical Current (mA)	Case Type
AFT-8231	2-8	6.5	7.0 Typ.	4.3/4.8	+12	0.7	+22	2.0	2.0	+15	100 Typ.	AC2
AFT-8232	2-8	14.0	14.5 Typ.	4.5/5.0	+12	1.0	+22	2.0	2.0	+15	175 Typ.	AC2
AFT-8233	2-8	21.0	22.0 Typ.	4.5/5.0	+12	1.0	+22	2.0	2.0	+15	235 Typ.	AC4
AFT-8234	2-8	28.0	30.0 Typ.	4.5/5.0	+12	1.5	+22	2.0	2.0	+15	300 Typ.	AC4
AFT-8261	2-8	7.5	8.0 Typ.	5.5/6.0	+17	0.7	+26	2.0	2.0	+15	150 Typ.	AC2
AFT-8262	2-8	16.5	17.0 Typ.	5.5/6.0	+17	1.0	+26	2.0	2.0	+15	300 Typ.	AC2
AFT-8263	2-8	23.0	24.0 Typ.	4.7/5.2	+17	1.0	+26	2.0	2.0	+15	375 Typ.	AC4
AFT-8264	2-8	30.0	32.0 Typ.	4.7/5.2	+17	1.5	+26	2.0	2.0	+15	450 Typ.	AC4

(N)—New Product Offering–Fall 1987

CONNECTORED WIDEBAND SMALL SIGNAL AMPLIFIERS, Continued

2.0 to 8.0 GHz

Guaranteed Specifications @ 25° C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
AWT-8032	2-8	16	21	4.0/4.2	+15	1.0	+23	2.0	2.0	+12	165	IC2
AWT-8033	2-8	24	31	3.8/4.0	+15	1.25	+23	2.0	2.0	+12	235	IC4
AWT-8034	2-8	33	41	3.8/4.0	+15	1.5	+23	2.0	2.0	+12	320	IC4
AWT-8035	2-8	41	50	3.8/4.0	+15	1.75	+23	2.0	2.0	+12	400	IC6
AWT-8052	2-8	15	20	5.0/6.0	+20	1.0	+28	2.0	2.0	+12	275	IC2
AWT-8053	2-8	23	30	3.9/4.5	+20	1.25	+28	2.0	2.0	+12	350	IC4
AWT-8054	2-8	32	40	3.8/4.0	+20	1.5	+28	2.0	2.0	+12	425	IC4
AWT-8055	2-8	40	49	3.8/4.0	+20	1.75	+28	2.0	2.0	+12	510	IC6
Guaranteed Specifications @ -54° to +100° C Case Temperature												
AWT-8043	2-8	18.5	24.5	5.8	+15	1.75	+23	2.0	2.0	+12	270	IC4
AWT-8044	2-8	26.5	32.5	5.5	+15	2.0	+23	2.0	2.0	+12	340	IC6
AWT-8045	2-8	34	41	5.3	+15	2.25	+23	2.0	2.0	+12	420	IC6
AWT-8063	2-8	18	24	7.5	+20	2.0	+28	2.0	2.0	+12	400	IC4
AWT-8064	2-8	25	32	5.7	+20	2.25	+28	2.0	2.0	+12	470	IC6
AWT-8065	2-8	32.5	41.5	5.5	+20	2.5	+28	2.0	2.0	+12	550	IC6

4.0 to 8.0 GHz

Guaranteed Specifications @ 25° C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Typical Gain (dB)	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Typical Current (mA)	Case Type
AFT-8431	4-8	8.5	9.0 Typ.	4.0/4.5	+10	1.0	+20	2.0	2.0	+15	75 Typ.	AC2
AFT-8432	4-8	17.0	18.0 Typ.	4.0/4.5	+10	1.0	+20	2.0	2.0	+15	125 Typ.	AC2
AFT-8433	4-8	28.0	29.0 Typ.	3.5/4.0	+12	1.0	+22	2.0	2.0	+15	200 Typ.	AC4
AFT-8434	4-8	37.5	39.0 Typ.	3.5/4.0	+12	1.5	+22	2.0	2.0	+15	250 Typ.	AC4
AFT-8461	4-8	6.5	7.0 Typ.	7.5/8.0	+20	0.7	+29	2.0	2.0	+15	125 Typ.	AC2
AFT-8462	4-8	13.0	14.0 Typ.	7.5/8.0	+20	1.0	+29	2.0	2.0	+15	250 Typ.	AC2
AFT-8463	4-8	24.0	25.0 Typ.	5.0/5.5	+20	1.0	+29	2.0	2.0	+15	300 Typ.	AC4
AFT-8464	4-8	32.0	34.0 Typ.	4.0/4.5	+20	1.5	+29	2.0	2.0	+15	350 Typ.	AC4

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
(N) AMT-8071	4-8	10	12	2.1/2.5	+7	0.50	+15	2.0	2.0	+12	50	IC2
(N) AMT-8072	4-8	20	24	2.3/2.7	+7	1.00	+15	2.0	2.0	+12	100	IC2
(N) AMT-8073	4-8	30	35	2.3/2.7	+13	1.50	+21	2.0	2.0	+12	175	IC4
(N) AMT-8074	4-8	39	45	2.3/2.7	+18	2.00	+26	2.0	2.0	+12	275	IC4
AMT-8032	4-8	19	23	3.3/3.7	+15	1.0	+23	2.0	2.0	+12	125	IC2
AMT-8033	4-8	29	34	3.0/3.5	+15	1.0	+23	2.0	2.0	+12	180	IC4
AMT-8034	4-8	38	45	3.0/3.5	+15	1.25	+23	2.0	2.0	+12	220	IC4
AMT-8035	4-8	48	56	3.0/3.5	+15	1.5	+23	2.0	2.0	+12	275	IC6
AMT-8052	4-8	18	22	4.0/5.2	+20	1.0	+28	2.0	2.0	+12	200	IC2
AMT-8053	4-8	27	32	3.2/3.8	+20	1.0	+28	2.0	2.0	+12	250	IC4
AMT-8054	4-8	37	44	3.0/3.5	+20	1.25	+28	2.0	2.0	+12	300	IC4
AMT-8055	4-8	46	54	3.0/3.5	+20	1.5	+28	2.0	2.0	+12	350	IC6

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Typical Current (mA)	Case Type
(N) AMT-8083	4-8	25.0	29	4.2	+15	1.25	+23	2.0	2.0	+12	225	IC4
(N) AMT-8084	4-8	34.0	39.5	3.8	+15	1.50	+23	2.0	2.0	+12	250	IC6
(N) AMT-8085	4-8	43.0	50	3.8	+15	1.75	+23	2.0	2.0	+12	300	IC6
AMT-8043	4-8	24	28	5.0	+15	1.25	+23	2.0	2.0	+12	225	IC4
AMT-8044	4-8	31.5	37	4.5	+15	1.5	+23	2.0	2.0	+12	250	IC6
AMT-8045	4-8	40	47	4.5	+15	1.75	+23	2.0	2.0	+12	300	IC6
AMT-8063	4-8	22	26	7.0	+20	1.5	+28	2.0	2.0	+12	350	IC4
AMT-8064	4-8	29	35	5.2	+20	1.75	+28	2.0	2.0	+12	400	IC6
AMT-8065	4-8	37	44	5.0	+20	2.0	+28	2.0	2.0	+12	450	IC6

CONNECTORED WIDEBAND SMALL SIGNAL AMPLIFIERS, Continued

4.5 to 10.5 GHz

Guaranteed Specifications @ 25° C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
(N) AWT-10571	4.0-11.0	8	11	2.1/2.5	+10	0.75	+18	2.0	2.0	+12	65	IX2
(N) AWT-10572	4.0-11.0	17	21	2.3/2.7	+10	1.00	+18	2.0	2.0	+12	130	IX2
(N) AWT-10573	4.0-11.0	26	31	2.3/2.7	+15	1.25	+23	2.0	2.0	+12	200	IX4
(N) AWT-10574	4.0-11.0	34	41	2.3/2.7	+20	1.50	+28	2.0	2.0	+12	380	IX4
AWT-10532	4.5-10.5	17	21	4.3/4.5	+15	1.0	+23	2.0	2.0	+12	120	IC2
AWT-10533	4.5-10.5	26	31	4.2/4.5	+15	1.0	+23	2.0	2.0	+12	160	IC4
AWT-10534	4.5-10.5	34	41	4.2/4.5	+15	1.25	+23	2.0	2.0	+12	210	IC4
AWT-10535	4.5-10.5	43	51	4.2/4.5	+15	1.5	+23	2.0	2.0	+12	250	IC6
AWT-10552	4.5-10.5	15	20	5.5/6.0	+20	1.0	+28	2.0	2.0	+12	275	IC2
AWT-10553	4.5-10.5	24	30	4.8/5.0	+20	1.25	+28	2.0	2.0	+12	320	IC4
AWT-10554	4.5-10.5	32	40	4.2/4.5	+20	1.5	+28	2.0	2.0	+12	360	IC4
AWT-10555	4.5-10.5	41	50	4.2/4.5	+20	1.75	+28	2.0	2.0	+12	400	IC6

Guaranteed Specifications @ -54° to +100° C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
AWT-10543	4.5-10.5	21	26	6.0	+15	1.75	+23	2.0	2.0	+12	230	IC4
AWT-10544	4.5-10.5	28	34	6.0	+15	2.0	+23	2.0	2.0	+12	250	IC6
AWT-10545	4.5-10.5	35.5	42	6.0	+15	2.25	+23	2.0	2.0	+12	290	IC6
AWT-10563	4.5-10.5	19	24	7.0	+20	1.75	+28	2.0	2.0	+12	375	IC4
AWT-10564	4.5-10.5	27	34	6.5	+20	2.0	+28	2.0	2.0	+12	450	IC6
AWT-10565	4.5-10.5	33	41	6.0	+20	2.25	+28	2.0	2.0	+12	475	IC6

6.0 to 12.0 GHz

Guaranteed Specifications @ 25° C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Typical Gain (dB)	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Typical Current (mA)	Case Type
AFT-12631	6-12	7.5	8.0 Typ.	6.0/6.5	+10	0.7	+20	2.0	2.0	+15	75 Typ.	AX2
AFT-12632	6-12	15.0	16.0 Typ.	5.7/6.0	+10	1.0	+20	2.0	2.0	+15	150 Typ.	AX2
AFT-12633	6-12	22.5	24.0 Typ.	4.2/4.5	+14	1.0	+24	2.0	2.0	+15	175 Typ.	AX4
AFT-12634	6-12	30.5	32.0 Typ.	4.2/4.5	+14	1.5	+24	2.0	2.0	+15	225 Typ.	AX4
AFT-12635	6-12	38.0	40.0 Typ.	4.2/4.5	+14	2.0	+24	2.0	2.0	+15	275 Typ.	AX6
AFT-12661	6-12	5.0	5.5 Typ.	7.5/8.0	+20	0.7	+29	2.0	2.0	+15	175 Typ.	AX2
AFT-12662	6-12	13.0	14.0 Typ.	6.0/6.5	+20	1.0	+29	2.0	2.0	+15	250 Typ.	AX2
AFT-12663	6-12	21.0	22.0 Typ.	5.0/5.5	+20	1.0	+29	2.0	2.0	+15	300 Typ.	AX4
AFT-12664	6-12	28.0	29.0 Typ.	4.5/5.0	+20	1.5	+29	2.0	2.0	+15	350 Typ.	AX4
AFT-12665	6-12	36.5	38.0 Typ.	4.5/5.0	+20	2.0	+29	2.0	2.0	+15	400 Typ.	AX6

Guaranteed Specifications @ -54° to +100° C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Maximum	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum in	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
AMT-12064	6-12	21	29	7.7	+20	1.5	+28	2.0	2.0	+12	520	IX6
AMT-12065	6-12	32	40	5.0	+20	1.5	+28	2.0	2.0	+12	460	IX6
AMT-12066	6-12	37	45	4.5	+20	2.0	+28	2.0	2.0	+12	520	IX8

(N) — New Product Offering - Fall 1987

CONNECTORED WIDEBAND SMALL SIGNAL AMPLIFIERS, Continued

5.0 to 13.0 GHz

Guaranteed Specifications @ 25° C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
(N) AWT-13531	5-13	6	9	2.6/3.2	+10	0.75	+18	2.0	2.0	+12	65	IX2
(N) AWT-13532	5-13	13	17	3.1/3.5	+10	1.0	+18	2.0	2.0	+12	130	IX2
(N) AWT-13533	5-13	20	26	3.1/3.5	+15	1.25	+23	2.0	2.0	+12	185	IX4
(N) AWT-13534	5-13	28	36	3.1/3.5	+15	1.5	+23	2.0	2.0	+12	245	IX4
AWT-13032	5-13	17	21	4.3/4.5	+15	1.0	+23	2.0	2.0	+12	140	IX2
AWT-13033	5-13	25	30	4.3/4.5	+15	1.0	+23	2.0	2.0	+12	200	IX4
AWT-13034	5-13	33	40	4.3/4.5	+15	1.0	+23	2.0	2.0	+12	260	IX4
AWT-13035	5-13	41	49	4.3/4.5	+15	1.5	+23	2.0	2.0	+12	320	IX6
AWT-13036	5-13	49	57	4.3/4.5	+15	1.5	+23	2.0	2.0	+12	380	IX6
Guaranteed Specifications @ -54° to +100° C Case Temperature												
(N) AWT-13083	5-13	20	25	5.2	+13	1.5	+21	2.0	2.0	+12	220	IX4
(N) AWT-13084	5-13	26	32	5.0	+13	1.5	+21	2.0	2.0	+12	280	IX6
(N) AWT-13085	5-13	33	41	5.0	+15	2.0	+23	2.0	2.0	+12	340	IX6
(N) AWT-13086	5-13	40	48	5.0	+15	2.5	+23	2.0	2.0	+12	400	IX8
AWT-13043	5-13	20	25	6.0	+13	1.5	+21	2.0	2.0	+12	220	IX4
AWT-13044	5-13	27	33	6.0	+15	1.5	+23	2.0	2.0	+12	280	IX6
AWT-13045	5-13	34	42	6.0	+15	2.0	+23	2.0	2.0	+12	340	IX6
AWT-13046	5-13	41	49	6.0	+15	2.5	+23	2.0	2.0	+12	400	IX8

7.0 to 12.4 GHz

Guaranteed Specifications @ 25° C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
(N) AMT-12471	7-12.4	7	10	2.2/2.6	+10	0.75	+18	2.0	2.0	+12	65	IX2
(N) AMT-12472	7-12.4	15	19	2.5/2.9	+10	1.00	+18	2.0	2.0	+12	130	IX2
(N) AMT-12473	7-12.4	23	29	2.5/2.9	+15	1.25	+23	2.0	2.0	+12	200	IX4
(N) AMT-12474	7-12.4	29	37	2.5/2.9	+20	1.50	+28	2.0	2.0	+12	380	IX4
AMT-12432	7-12.4	17	21	3.9/4.5	+15	1.0	+23	2.0	2.0	+12	140	IX2
AMT-12433	7-12.4	25	31	3.9/4.5	+15	1.0	+23	2.0	2.0	+12	210	IX4
AMT-12434	7-12.4	31	39	3.7/4.0	+15	1.0	+23	2.0	2.0	+12	230	IX4
AMT-12435	7-12.4	38	45	3.7/4.0	+15	1.5	+23	2.0	2.0	+12	290	IX6
AMT-12436	7-12.4	47	55	3.7/4.0	+15	1.5	+23	2.0	2.0	+12	350	IX6
AMT-12453	7-12.4	23	29	4.5/5.0	+20	1.0	+28	2.0	2.0	+12	330	IX4
AMT-12454	7-12.4	32	40	3.9/4.5	+20	1.0	+28	2.0	2.0	+12	390	IX4
AMT-12455	7-12.4	36	44	3.8/4.0	+20	1.5	+28	2.0	2.0	+12	400	IX6
AMT-12456	7-12.4	45	53	3.8/4.0	+20	1.5	+28	2.0	2.0	+12	450	IX6
Guaranteed Specifications @ -54° to +100° C Case Temperature												
(N) AMT-12483	7-12.4	18	24	4.9	+13	1.0	+21	2.0	2.0	+12	230	IX4
(N) AMT-12484	7-12.4	25	33	5.2	+15	1.5	+23	2.0	2.0	+12	300	IX6
(N) AMT-12485	7-12.4	32	41	4.7	+15	1.5	+23	2.0	2.0	+12	330	IX6
(N) AMT-12486	7-12.4	38	47	4.4	+15	2.0	+23	2.0	2.0	+12	370	IX8
(N) AMT-12487	7-12.4	45	55	4.2	+15	2.5	+23	2.0	2.0	+12	420	IX8
AMT-12443	7-12.4	20	26	5.7	+13	1.0	+21	2.0	2.0	+12	230	IX4
AMT-12444	7-12.4	27	35	6.0	+15	1.5	+23	2.0	2.0	+12	300	IX6
AMT-12445	7-12.4	31	40	5.5	+15	1.5	+23	2.0	2.0	+12	320	IX6
AMT-12446	7-12.4	36	45	5.2	+15	2.0	+23	2.0	2.0	+12	350	IX8
AMT-12447	7-12.4	44	54	5.0	+15	2.5	+23	2.0	2.0	+12	410	IX8
AMT-12464	7-12.4	21	29	7.7	+20	1.5	+28	2.0	2.0	+12	520	IX6
AMT-12465	7-12.4	30	38	6.0	+20	1.5	+28	2.0	2.0	+12	460	IX6
AMT-12466	7-12.4	36	45	5.6	+20	2.0	+28	2.0	2.0	+12	640	IX8

(N) —New Product Offering - Fall 1987

CONNECTORED WIDEBAND SMALL SIGNAL AMPLIFIERS, Continued

1.0 to 20.0 GHz

Guaranteed Specifications @ 25° C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Maximum	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Maximums Voltage (VDC)	Input Power Maximums Current (mA)	Case Type
AFT-18232	2-18	9.0	17	10.0	+10.0	2.0	+18	2.2		+12	225	AX2
AFT-18234	2-18	18.0	28	10.0	+10.0	4.0	+18	2.2		+12	425	AX2

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Maximum	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
(N) **AWT-12133**	1-12.4	14.5	19	8.5	+10	1.5	+18	2.2	2.2	+12	275	IX4
(N) **AWT-12134**	1-12.4	20.0	27	8.5	+10	2.0	+18	2.2	2.2	+12	365	IX4
(N) **AWT-12135**	1-12.4	25.0	34	8.5	+10	2.5	+18	2.2	2.2	+12	455	IX6
(N) **AWT-19133**	1-19	14.5	19	10.5	+10	2.0	+18	2.2	2.2	+12	275	IX4
(N) **AWT-19134**	1-19	20.0	27	10.5	+10	2.5	+18	2.2	2.2	+12	365	IX4
(N) **AWT-19135**	1-19	25.0	34	10.5	+10	3.0	+18	2.2	2.2	+12	455	IX6
(I) **AWT-18233**	2-18	14.5	19	10.0	+10	1.5	+18	2.2	2.2	+12	275	IX4
(I) **AWT-18234**	2-18	20.0	27	10.0	+10	2.0	+18	2.2	2.2	+12	365	IX4
(I) **AWT-18235**	2-18	25.0	34	10.0	+10	2.5	+18	2.2	2.2	+12	455	IX6
(I) **AWT-18236**	2-18	30.0	40	10.0	+10	3.0	+18	2.2	2.2	+12	545	IX6
(N) **AWT-18252**	2-18	10.0	15	10.0	+20	1.0	+28	2.2	2.2	+12	375	IX2
(N) **AWT-18253**	2-18	15.0	22	10.0	+20	1.5	+28	2.2	2.2	+12	550	IX4
(N) **AWT-18254**	2-18	20.0	28	10.0	+20	2.0	+28	2.2	2.2	+12	650	IX4
(N) **AWT-20233**	2-20	14.5	19	11.0	+10	1.5	+18	2.2	2.2	+12	275	IX4
(N) **AWT-20234**	2-20	20.0	27	11.0	+10	2.0	+18	2.2	2.2	+12	365	IX4
(N) **AWT-20235**	2-20	25.0	34	11.0	+10	2.5	+18	2.2	2.2	+12	455	IX6
(N) **AWT-20236**	2-20	30.0	40	11.0	+10	3.0	+18	2.2	2.2	+12	545	IX6

AWT SERIES—TEMPERATURE COMPENSATED

Guaranteed Specifications @ -54° C to +100° C Case Temperature

(N) **AWT-18244**	2-18	18	26	11.0	+9	3.0	+17	2.2	2.2	+12	425	IX4
(N) **AWT-18245**	2-18	22	31	11.0	+9	3.5	+17	2.2	2.2	+12	510	IX6
(N) **AWT-18246**	2-18	26	36	11.0	+9	4.0	+17	2.2	2.2	+12	600	IX6

(I)—Improved Specifications (no change to existing model number)-Fall 1987
(N)—New Product Offering-Fall 1987

CONNECTORED WIDEBAND SMALL SIGNAL AMPLIFIERS, Continued

6.0 to 18.0 GHz

Guaranteed Specifications @ 25° C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Typical Gain (dB)	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Typical Current (mA)	Case Type
AFT-18631	6-18	7.0	7.5 Typ.	6.4/6.7	+10	1.0	+20	2.0	2.0	+15	75 Typ.	AX2
AFT-18632	6-18	13.0	14.0 Typ.	6.5/7.0	+10	1.0	+20	2.0	2.0	+15	125 Typ.	AX2
AFT-18633	6-18	18.5	20.0 Typ.	6.5/7.0	+10	1.0	+20	2.0	2.0	+15	175 Typ.	AX4
AFT-18634	6-18	24.5	26.0 Typ.	6.5/7.0	+10	1.5	+20	2.0	2.0	+15	250 Typ.	AX4
AFT-18635	6-18	30.0	32.0 Typ.	6.5/7.0	+10	2.0	+20	2.0	2.0	+15	300 Typ.	AX6
AFT-18651	6-18	5.0	6.0 Typ.	7.0/7.3	+15	1.0	+25	2.0	2.0	+15	100 Typ.	AX2
AFT-18652	6-18	11.0	12.0 Typ.	7.0/7.3	+15	1.0	+25	2.0	2.0	+15	165 Typ.	AX2
AFT-18653	6-18	18.5	20.0 Typ.	6.6/7.1	+15	1.0	+25	2.0	2.0	+15	225 Typ.	AX4
AFT-18654	6-18	24.5	26.0 Typ.	6.6/7.1	+15	1.5	+25	2.0	2.0	+15	275 Typ.	AX4
AFT-18655	6-18	32.0	34.0 Typ.	6.6/7.1	+15	2.0	+25	2.0	2.0	+15	325 Typ.	AX6
AFT-18662	6-18	9.5	10.5 Typ.	8.7/9.2	+20	1.0	+29	2.0	2.0	+15	325 Typ.	AX2
AFT-18663	6-18	15.0	16.5 Typ.	8.2/8.7	+20	1.0	+29	2.0	2.0	+15	360 Typ.	AX4
AFT-18664	6-18	23.0	24.5 Typ.	6.6/7.1	+20	1.5	+29	2.0	2.0	+15	425 Typ.	AX4
AFT-18665	6-18	30.5	32.5 Typ.	6.6/7.1	+20	2.0	+29	2.0	2.0	+15	475 Typ.	AX6

	Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
(I)	**AWT-18673**	6-18	20	26	3.6/4.0	+10	1.0	+18	2.0	2.0	+12	200	IX4
(I)	**AWT-18674**	6-18	26	32	3.6/4.0	+15	1.0	+23	2.0	2.0	+12	250	IX4
(I)	**AWT-18675**	6-18	32	38	3.6/4.0	+15	1.5	+23	2.0	2.0	+12	310	IX6
(I)	**AWT-18676**	6-18	38	44	3.6/4.0	+18	1.5	+26	2.0	2.0	+12	375	IX6
	AWT-18632	6-18	14	20	5.7/6.5	+13	1.0	+21	2.0	2.0	+12	140	IX2
	AWT-18633	6-18	20	26	5.5/6.5	+13	1.0	+21	2.0	2.0	+12	200	IX4
	AWT-18634	6-18	26	32	5.5/6.5	+15	1.0	+23	2.0	2.0	+12	260	IX4
	AWT-18635	6-18	32	38	5.5/6.5	+15	1.5	+23	2.0	2.0	+12	320	IX6
	AWT-18636	6-18	38	44	5.5/6.5	+15	1.5	+23	2.0	2.0	+12	380	IX6
	AWT-18637	6-18	44	50	5.5/6.5	+15	2.0	+23	2.0	2.0	+12	440	IX8
	AWT-18654	6-18	24	30	6.0/7.0	+20	1.0	+28	2.0	2.0	+12	370	IX4
	AWT-18655	6-18	30	36	6.0/7.0	+20	1.5	+28	2.0	2.0	+12	430	IX6
	AWT-18656	6-18	36	42	6.0/7.0	+20	1.5	+28	2.0	2.0	+12	490	IX6
	AWT-18657	6-18	42	50	6.0/7.0	+20	2.0	+28	2.0	2.0	+12	560	IX8
	Guaranteed Specifications @ -54° to +100° C Case Temperature												
	AWT-18685	6-18	26	32	5.5	+10	2.5	+18	2.0	2.0	+12	350	IX6
	AWT-18686	6-18	30	38	5.0	+10	2.5	+18	2.0	2.0	+12	410	IX8
	AWT-18688	6-18	40	48	5.0	+15	3.0	+23	2.0	2.0	+12	520	IX10
	AWT-18695	6-18	26	32	6.0	+15	2.5	+23	2.0	2.0	+12	350	IX6
	AWT-18696	6-18	30	36	6.0	+18	2.5	+26	2.0	2.0	+12	510	IX8
	AWT-18698	6-18	40	48	5.5	+20	3.0	+28	2.0	2.0	+12	630	IX10
	AWT-18644	6-18	20	25	7.5	+12	2.0	+20	2.0	2.0	+12	290	IX6
	AWT-18645	6-18	25	30	7.5	+15	2.5	+23	2.0	2.0	+12	350	IX6
	AWT-18646	6-18	30	36	7.5	+15	2.5	+23	2.0	2.0	+12	440	IX8
	AWT-18647	6-18	36	44	7.5	+18	3.0	+26	2.0	2.0	+12	510	IX8
	AWT-18648	6-18	42	50	7.5	+18	3.0	+26	2.0	2.0	+12	570	IX10
	AWT-18666	6-18	28	36	8.5	+20	2.5	+28	2.0	2.0	+12	520	IX8
	AWT-18667	6-18	36	44	7.5	+20	3.0	+28	2.0	2.0	+12	600	IX8
(N)	**AWT-18606**	6-18	30	34	5.0	+10	1.5	+18	2.0	2.0	+12	450	IX8
(N)	**AWT-18608**	6-18	40	45	5.0	+15	2.0	+23	2.0	2.0	+12	550	IX8
(N)	**AWT-18616**	6-18	30	34	7.5	+15	1.5	+23	2.0	2.0	+12	475	IX8
(N)	**AWT-18618**	6-18	40	45	7.5	+18	2.0	+26	2.0	2.0	+12	575	IX8
(N)	**AWT-18626**	6-18	28	32	8.5	+20	1.5	+28	2.0	2.0	+12	550	IX8
(N)	**AWT-18627**	6-18	35	40	7.5	+20	2.0	+28	2.0	2.0	+12	640	IX8

(I)—Improved Specifications (no change to existing model number)-Fall 1987

(N)—New Product Offering-Fall 1987

CONNECTORED WIDEBAND SMALL SIGNAL AMPLIFIERS, Continued

8.0 to 18.0 GHz

Guaranteed Specifications @ 25° C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Typical Gain (dB)	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Typical Current (mA)	Case Type
AFT-18831	8-18	7.0	7.5 Typ.	6.4/6.7	+10	1.0	+20	2.0	2.0	+15	75 Typ.	AX2
AFT-18832	8-18	13.0	14.0 Typ.	6.5/7.0	+10	1.0	+20	2.0	2.0	+15	125 Typ.	AX2
AFT-18833	8-18	18.5	20.0 Typ.	6.5/7.0	+10	1.0	+20	2.0	2.0	+15	175 Typ.	AX4
AFT-18834	8-18	24.5	26.0 Typ.	6.5/7.0	+10	1.5	+20	2.0	2.0	+15	250 Typ.	AX4
AFT-18835	8-18	30.0	32.0 Typ.	6.5/7.0	+10	2.0	+20	2.0	2.0	+15	300 Typ.	AX6
AFT-18851	8-18	5.0	5.5 Typ.	7.0/7.3	+15	1.0	+25	2.0	2.0	+15	100 Typ.	AX2
AFT-18852	8-18	11.0	12.0 Typ.	7.0/7.3	+15	1.0	+25	2.0	2.0	+15	165 Typ.	AX2
AFT-18853	8-18	18.5	20.0 Typ.	6.6/7.1	+15	1.0	+25	2.0	2.0	+15	225 Typ.	AX4
AFT-18854	8-18	24.5	26.0 Typ.	6.6/7.1	+15	1.5	+25	2.0	2.0	+15	275 Typ.	AX4
AFT-18855	8-18	32.0	34.0 Typ.	6.6/7.1	+15	2.0	+25	2.0	2.0	+15	325 Typ.	AX6
AFT-18862	8-18	9.5	10.5 Typ.	8.7/9.2	+20	1.0	+29	2.0	2.0	+15	325 Typ.	AX2
AFT-18863	8-18	15.0	16.5 Typ.	8.2/8.7	+20	1.0	+29	2.0	2.0	+15	360 Typ.	AX4
AFT-18864	8-18	23.0	24.5 Typ.	6.6/7.1	+20	1.5	+29	2.0	2.0	+15	425 Typ.	AX4
AFT-18865	8-18	30.5	32.5 Typ.	6.6/7.1	+20	2.0	+29	2.0	2.0	+15	475 Typ.	AX6

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Typ./Max.	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
AWT-18032	8-18	14	20	5.5/6.5[1]	+13	1.0	+21	2.0	2.0	+12	140	IX2
AWT-18033	8-18	20	26	5.5/6.5[1]	+13	1.0	+21	2.0	2.0	+12	190	IX4
AWT-18034	8-18	26	32	5.5/6.5[1]	+15	1.0	+23	2.0	2.0	+12	260	IX4
AWT-18035	8-18	32	38	5.5/6.5[1]	+15	1.5	+23	2.0	2.0	+12	310	IX6
AWT-18036	8-18	38	44	5.5/6.5[1]	+15	1.5	+23	2.0	2.0	+12	370	IX6
AWT-18037	8-18	44	50	5.5/6.5[1]	+15	2.0	+23	2.0	2.0	+12	430	IX8
AWT-18054	8-18	24	30	5.5/7.0	+20	1.0	+28	2.0	2.0	+12	370	IX4
AWT-18055	8-18	30	36	5.5/7.0	+20	1.5	+28	2.0	2.0	+12	420	IX6
AWT-18056	8-18	36	42	5.5/7.0	+20	1.5	+28	2.0	2.0	+12	480	IX6
AWT-18057	8-18	42	50	5.5/7.0	+20	2.0	+28	2.0	2.0	+12	520	IX8

Guaranteed Specifications @ -54° to +100° C Case Temperature

AWT-18044	8-18	20	25	7.5	+12	2.0	+20	2.0	2.0	+12	290	IX6
AWT-18045	8-18	25	30	7.5	+15	2.5	+23	2.0	2.0	+12	350	IX6
AWT-18046	8-18	30	36	7.5	+15	2.5	+23	2.0	2.0	+12	430	IX8
AWT-18047	8-18	36	44	7.5	+18	3.0	+26	2.0	2.0	+12	500	IX8
AWT-18048	8-18	42	50	7.5	+18	3.0	+26	2.0	2.0	+12	575	IX10
AWT-18066	8-18	28	36	8.5	+20	2.5	+28	2.0	2.0	+12	520	IX8
AWT-18067	8-18	36	44	7.5	+20	3.0	+28	2.0	2.0	+12	600	IX8

Note 1: 4.0 dB Noise Figure versions are available on Special Request.

8 to 20 GHz

Guaranteed Specifications @ 25° C Case Temperature

(N) AWT-20832	8-20	10	14	8.0	+16.0	1.0	+24	2.0	2.0	+12	175	IX2
(N) AWT-20833	8-20	15	20	8.0	+16.0	1.0	+24	2.0	2.0	+12	250	IX4
(N) AWT-20834	8-20	21	27	8.0	+16.0	1.5	+24	2.0	2.0	+12	325	IX4
(N) AWT-20835	8-20	26	33	8.0	+16.0	1.5	+24	2.0	2.0	+12	400	IX6
(N) AWT-20836	8-20	32	40	8.0	+16.0	2.0	+24	2.0	2.0	+12	475	IX6

Note 1: 4.0 dB Noise Figure versions are available on Special Request.

CONNECTORED WIDEBAND SMALL SIGNAL AMPLIFIERS, Continued

12.0 to 18.0 GHz

Guaranteed Specifications @ 25° C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Maximum	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
AMT-18032	12-18	14	20	5.5/6.5[1]	+13[2]	1.0	+21	2.0	2.0	+12	140	IX2
AMT-18033	12-18	20	26	5.0/6.5[1]	+13[2]	1.0	+21	2.0	2.0	+12	190	IX4
AMT-18034	12-18	26	32	5.0/6.5[1]	+15[2]	1.0	+23	2.0	2.0	+12	260	IX4
AMT-18035	12-18	32	38	5.0/6.5[1]	+15[2]	1.5	+23	2.0	2.0	+12	310	IX6
AMT-18036	12-18	38	44	5.0/6.5[1]	+15[2]	1.5	+23	2.0	2.0	+12	360	IX6
AMT-18037	12-18	44	50	5.0/6.5[1]	+15[2]	2.0	+23	2.0	2.0	+12	410	IX8
Guaranteed Specifications @ -54° to +100° C Case Temperature												
AMT-18044	12-18	20	25	7.5	+12	2.0	+20	2.0	2.0	+12	290	IX6
AMT-18045	12-18	25	30	7.5	+15	2.5	+23	2.0	2.0	+12	350	IX6
AMT-18046	12-18	30	36	7.5	+15	2.5	+23	2.0	2.0	+12	440	IX8
AMT-18047	12-18	36	44	7.5	+18	3.0	+26	2.0	2.0	+12	410	IX8
AMT-18048	12-18	42	50	7.5	+18	3.0	+26	2.0	2.0	+12	570	IX10

12.0 to 20.0 GHz

Guaranteed Specifications @ 25° C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Maximum	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
AMT-20032	12-20	10	14	7.0	+17	1.0	+25	2.0	2.0	+12	175	IX2
AMT-20033	12-20	15	20	7.0	+17	1.0	+25	2.0	2.0	+12	250	IX4
AMT-20034	12-20	21	27	7.0	+17	1.5	+25	2.0	2.0	+12	325	IX4
AMT-20035	12-20	26	33	7.0	+17	1.5	+25	2.0	2.0	+12	400	IX6
AMT-20036	12-20	32	40	7.0	+17	2.0	+25	2.0	2.0	+12	475	IX6

18.0 to 26.5 GHz

Guaranteed Specifications @ 25° C Case Temperature

	Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Maximum	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
(I)	**AMT-26132**	18-26.5	11	16	7.0	+12	1.0	+19	2.2	2.2	+12	160	IK2
(I)	**AMT-26133**	18-26.5	17	22	6.0	+12	1.25	+19	2.2	2.2	+12	200	IK4
(I)	**AMT-26134**	18-26.5	23	28	6.0	+12	1.5	+22	2.2	2.2	+12	280	IK4
(I)	**AMT-26135**	18-26.5	25	31	7.0	+21	2.5	+28	2.2	2.2	+12	1050	IK4
(I)	**AMT-26136**	18-26.5	30	36	7.0	+21	2.5	+28	2.2	2.2	+12	1100	IK6
(I)	**AMT-26137**	18-26.5	37	45	7.0	+21	3.0	+28	2.2	2.2	+12	1150	IK6
	Guaranteed Specifications @ -54° to +71° C Case Temperature												
	AMT-26145	18-26.5	20	27	9.5	+12	2.5	+19	2.2	2.2	+12	400	IK6
	AMT-26146	18-26.5	26	34	9.0	+12	3.0	+19	2.2	2.2	+12	440	IK6
	AMT-26147	18-26.5	31	39	9.0	+12	3.0	+19	2.2	2.2	+12	480	IK8
	AMT-26148	18-26.5	38	46	9.0	+12	3.0	+19	2.2	2.2	+12	520	IK8

Note: Maximum safe input power = +15 dBm.

18.0 to 40.0 GHz

Guaranteed Specifications @ 25° C Case Temperature

	Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Maximum	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
(I)	**AWT-40032**	18-40	8	14	10.0	+6	1.0	+16	3.0	3.0	+12	110	IK2
(I)	**AWT-40034**	18-40	15	21	10.0	+6	2.0	+16	3.0	3.0	+12	200	IK4
(I)	**AWT-40035**	18-40	21	28	9.0	+10	2.0	+16	3.0	3.0	+12	250	IK4
(I)	**AWT-40036**	18-40	24	32	9.0	+10	2.0	+16	3.0	3.0	+12	300	IK6
(I)	**AWT-40038**	18-40	33.5	42.5	9.0	+10	3.0	+16	3.0	3.0	+12	400	IK8
(I)	**AWT-40039**	18-40	39.5	49.5	9.0	+10	4.0	+16	3.0	3.0	+12	450	IK8

Notes 1: 4.0 dB Noise Figure versions are available on Special Request
2: +20 dBm at 1 dB Compression versions are available on Special Request
(N)-New Product Offering-Fall 1987 (I)—Improved Specifications (no change to existing model number)-Fall 1987

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CONNECTORED WIDEBAND SMALL SIGNAL AMPLIFIERS, Continued

18.0 to 40.0 GHz

Guaranteed Specifications @ -25° to +71°C Case Temperature

	Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Maximum	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
(I)	AWT-40046	18-40	17	25	12.0	+6	3.75	+11	3.0	3.0	+12	375	IK6
(I)	AWT-40048	18-40	24.5	34.5	10.0	+6	4.25	+11	3.0	3.0	+12	475	IK8
(I)	AWT-40410	18-40	32.5	43.5	10.0	+6	4.75	+11	3.0	3.0	+12	575	IK10

26.5 to 40.0 GHz

Guaranteed Specifications @ 25°C Case Temperature

	Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Maximum	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
(I)	AMT-40032	26.5-40	10	15	10.0	+6	1.0	+13	2.5	2.5	+12	100	IK2
(I)	AMT-40033	26.5-40	13	18	10.0	+6	1.25	+13	2.5	2.5	+12	130	IK4
(I)	AMT-40034	26.5-40	20	26	9.0	+10	1.5	+13	2.5	2.5	+12	170	IK4
(I)	AMT-40035	26.5-40	27	33	9.0	+10	2.0	+13	2.5	2.5	+12	210	IK4
(I)	AMT-40036	26.5-40	31	38	9.0	+10	2.5	+13	2.5	2.5	+12	250	IK6
(I)	AMT-40037	26.5-40	38	46	9.0	+10	3.0	+13	2.5	2.5	+12	300	IK6

Guaranteed Specifications @ -25° to +71°C Case Temperature

	Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Maximum	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
(I)	AMT-40046	26.5-40	24	32	11.0	+6	3.0	+13	2.5	2.5	+12	325	IK6
(I)	AMT-40047	26.5-40	27	35	10.0	+6	3.5	+13	2.5	2.5	+12	375	IK8
(I)	AMT-40048	26.5-40	34	43	10.0	+6	4.0	+13	2.5	2.5	+12	425	IK8

Note: Maximum safe input power = +15 dBm.
(I)-Improved Specifications (no change to existing model number)-Fall 1987

CONNECTORED NARROW BAND, LOW NOISE SMALL SIGNAL AMPLIFIERS

34.5 to 35.5 GHz

PC3

Guaranteed Specifications @ 25°C Case Temperature

	Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Maximum	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
	AMT-36032	34.5-35.5	12	16	4.5	+6	1.0	+13	2.0	2.0	+12	110	IK2[1]
(I)	AMT-36033	34.5-35.5	15	20	4.5	+10	1.0	+17	2.0	2.0	+12	150	IK4[1]
(I)	AMT-36034	34.5-35.5	23	29	4.5	+10	1.0	+17	2.0	2.0	+12	200	IK4[1]
(I)	AMT-36035	34.5-35.5	31	37	4.5	+10	2.0	+17	2.0	2.0	+12	250	IK4[1]
(I)	AMT-36036	34.5-35.5	36	42	4.5	+10	2.0	+17	2.0	2.0	+12	300	IK6[1]

Guaranteed Specifications @ -25° to +71°C Case Temperature

	Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Maximum	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
(I)	AMT-36044	34.5-35.5	18	25	5.5	+6	1.0	+13	2.0	2.0	+12	275	IK4[1]
(I)	AMT-36046	34.5-35.5	30	38	5.5	+10	2.0	+17	2.0	2.0	+12	350	IK6[1]
(I)	AMT-36047	34.5-35.5	35	43	5.5	+10	2.0	+17	2.0	2.0	+12	400	IK8[1]

Note 1: Waveguide input only with external isolator.
Maximum safe input power = +15 dBm.

43.5 to 45.5 GHz

Guaranteed Specifications @ 25°C Case Temperature

	Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Maximum	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
	AMT-46035	43.5-45.5	22	30	8.0	+6	2.0	+13	2.5	2.5	+12	300	IK4
	AMT-46037	43.5-45.5	30	38	8.0	+6	2.0	+13	2.5	2.5	+12	400	IK6
	AMT-46055	43.5-45.5	22	30	8.0	+15	2.0	+22	2.5	2.5	+12	350	IK4
(I)	AMT-46057	43.5-45.5	30	38	8.0	+15	2.0	+22	2.5	2.5	+12	450	IK6
(I)	AMT-46075	43.5-45.5	22	30	6.0	+6	2.0	+13	1.5	2.5	+12	300	IK4[1]

Note 1: Waveguide input only with external isolator.
Maximum safe input power = +15 dBm.
(I)—Improved Specifications (no change to existing model number)-Fall 1987

NARROW BAND POWER MILLIMETER AMPLIFIERS

20 to 45 GHz

PC3

Preliminary Specifications @ 25°C Case Temperature

Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Saturated Output Power (dBm) Minimum	VSWR Maximum In	VSWR Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
(N) AMT-24155	20-24	28	25	2.2	2.2	+12	382	IK4
(N) AMT-28155	27-28	27	22	2.2	2.2	+12	361	IK4
(N) AMT-36054	34.5-35.5	23	19	2.0	2.0	+12	300	IK6
(N) AMT-36056	34.5-35.5	36	19	2.0	2.0	+12	400	IK6
(N) AMT-36155	35-36	28	23	2.2	2.2	+12	239	IK4
(N) AMT-46157	43-45	22	20	2.5	2.5	+12	650	IK6

Note: Maximum safe input power = +15 dBm

ACTIVE FREQUENCY DOUBLERS AND QUADRUPLER

18.0 to 45.5 GHz

PC3

Guaranteed Specifications @ 25°C Case Temperature

Model	Input Frequency (GHz) Minimum	Output Frequency (GHz) Minimum	Power Input (dBm) Maximum	Power Output (dBm) Minimum	Signal Purity[2] (dBc) Maximum	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
AMT-260X2	9.0-13.25	18.0-26.5	+10	+15	-20	12	350	IK4
(N) AMT-261X2	9.0-13.25	18.0-26.5	+10	+21	-20	12	750	IK4
AMT-400X2	13.25-20.0	26.5-40.0	+10	+11	-20	12	200	IK4
(N) AMT-401X2	13.25-20.0	26.5-40.0	+10	+15	-20	12	350	IK6
AMT-460X4	10.87-11.37	43.5-45.5	+10	+10	-30	12	300	IK6[1]
(N) AMT-461X4	10.87-11.37	43.5-45.5	+10	+15	-30	12	450	IK6[1]

Notes 1: Input coax isolator.
2: Maximum safe input power = +20 dBm.
(N)-New Product Offering-Fall 1987

WIDEBAND GAIN CONTROL AMPLIFIERS

Guaranteed Specifications @ 25°C Case Temperature — PC3

Model	Frequency Response Minimum (GHz)	Small Signal Gain Minimum with No Gain Control (dB)	Max Gain Control Range[1] (dB)	Noise Figure Maximum with No Gain Control (dB)	Noise Figure Maximum @ Max Gain Control (dB)	Power Output for 1 dB Gain Compression Minimum with No Gain Control (dBm)	Power Output for 1 dB Gain Compression Minimum @ Max Gain Control (dBm)	Gain Flatness Maximum (±dB)	Typical Third-Order Intercept Point Above 1 dB Compression (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage[2] (VDC)	Input Power Typical Current (mA)	Case Type[3]
2 to 8 GHz														
AGT-8233	2-8	25	10	5.5	7.0	+15	+12	2.0	8.0	2.0	2.0	+12	300	IC4
AGT-8235	2-8	45	20	5.5	7.0	+15	+12	3.0	8.0	2.0	2.0	+12	500	IC6
6 to 18 GHz														
AGT-18634	6-18	25	10	6.0	7.0	+15	+10	2.0	8.0	2.0	2.0	+12	300	IX4
AGT-18637	6-18	45	20	6.0	8.0	+15	+12	3.5	8.0	2.0	2.0	+12	500	IX8

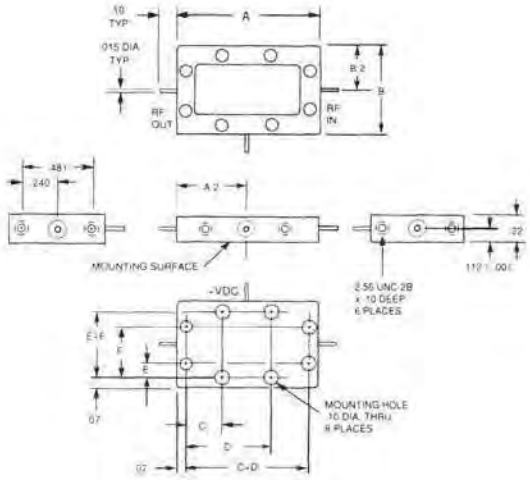
Notes 1. Gain Control Voltage: 0 to +10 VDC MAX — No Gain Control for 0 VDC. Increasing Gain Control voltage decreases amplifier gain. Maximum Gain control (minimum gain) at +10 VDC Maximum

Gain Control Current: 10 dB control range <5 mA typical
20 dB control range <10 mA typical

2. Contains integral voltage regulator permitting operation from unregulated +12 to +15 VDC power supply. Specified current is typical at +12 VDC.
3. Case is the standard type indicated except for the addition of the AGC control via a Sealectro Nanohex connector. See page 39.

CASE DRAWINGS

ACT/AFT SERIES



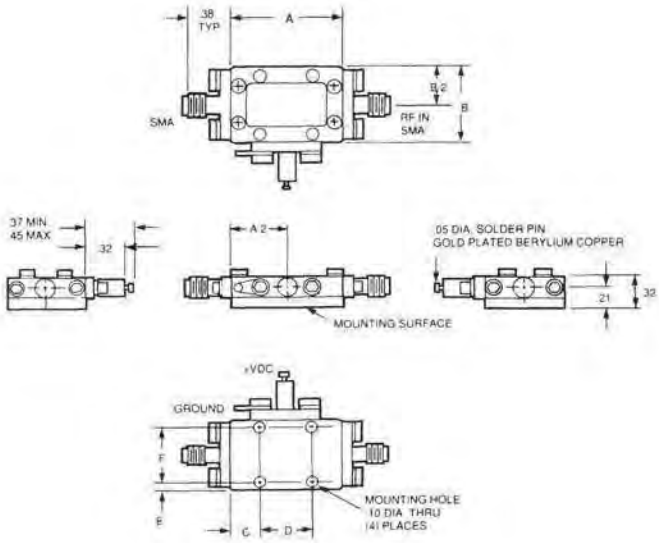
CASE	DIMENSIONS A	B	C	D	E	F	WEIGHT TYP gms.
AX2	1.364	.664	.237	.987	.137	.387	26
AC2	1.500	.764	.267	1.093	.187	.437	26
AS2	1.500	.862	.267	1.093	.236	.486	31
AX4	1.850	.664	.237	1.473	.137	.387	36
AC4	2.170	.764	.602	1.428	.187	.437	46
AS4	2.170	.862	.602	1.428	.236	.486	48
AX6	2.336	.664	.237	1.959	.137	.387	44

NOTES: (Unless Otherwise Specified)

DIMENSIONS IN INCHES

TOLERANCES: XX± .01
XXX± .005

MATERIAL
BODY AND RF CONNECTORS – 30 STAINLESS STEEL
MOUNTING SPACER – ALUMINUM ALLOY
FILTER BODY – NICKEL PLATED BRASS



CASE	DIMENSIONS A	B	C	D	E	F	WEIGHT gms.
AX2	1.364	.664	.31	.750	.07	.524	35
AC2	1.500	.764	.34	.826	.07	.624	35
AS2	1.500	.862	.34	.826	.07	.722	40
AX4	1.850	.664	.31	1.236	.07	.524	45
AC4	2.170	.764	.672	.826	.07	.624	55
AS4	2.170	.862	.672	.826	.07	.722	57
AX6	2.336	.664	.307	1.722	.07	.524	53

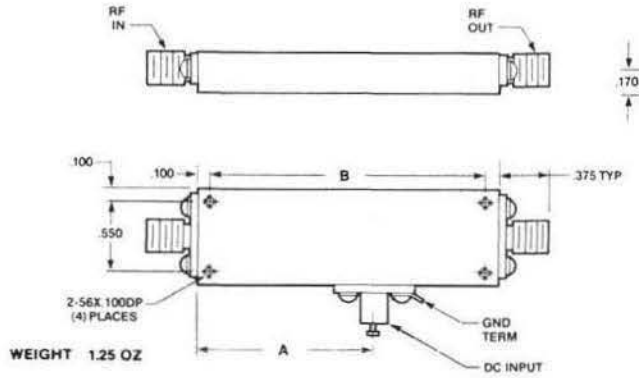
NOTES: (Unless Otherwise Specified)

DIMENSIONS IN INCHES

TOLERANCES: XX± .02
XXX± .010

CASE DRAWINGS (cont.)

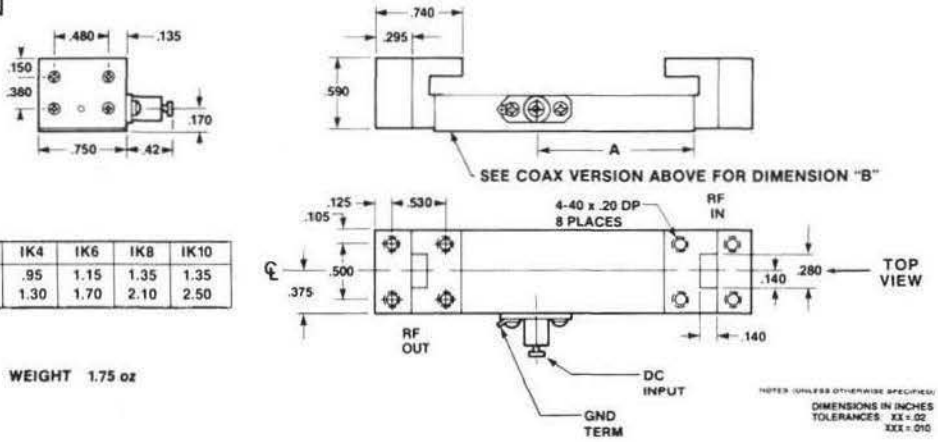
IK_
COAX VERSION



MODEL	CONN TYPE	INTERFACES WITH
AMT-40048-2mm	2 mm	SSMA
AMT-40048-3mm	3 mm	SMA

NOTES: UNLESS OTHERWISE SPECIFIED:
DIMENSIONS IN INCHES
TOLERANCES XX ± .02
XXX ± .010

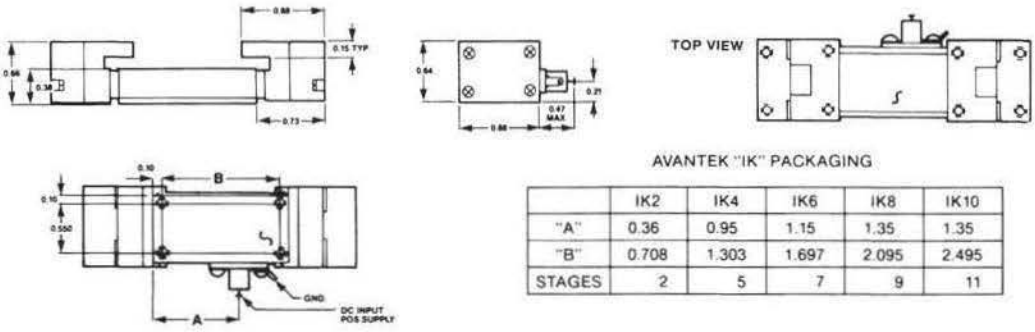
IK_/WG
WAVEGUIDE VERSION



DIM	IK2	IK4	IK6	IK8	IK10
A	.36	.95	1.15	1.35	1.35
B	.71	1.30	1.70	2.10	2.50

WEIGHT 1.75 oz

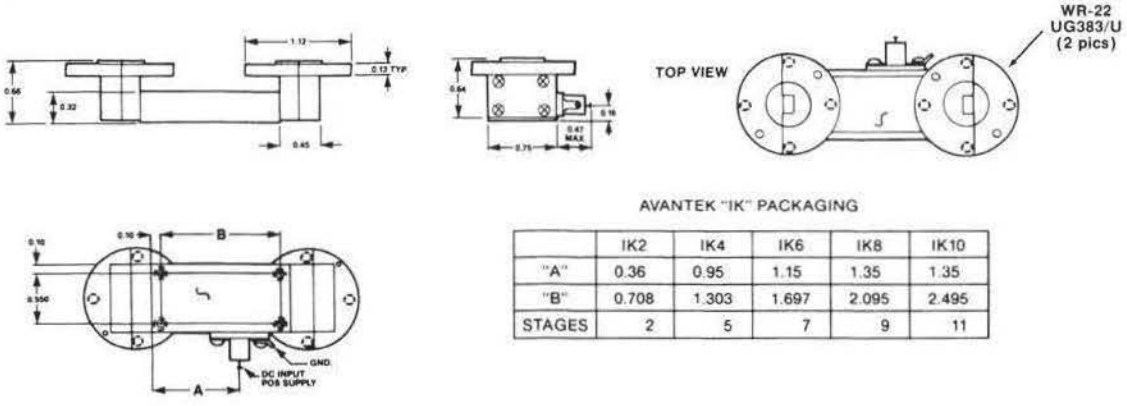
IK-WR-42



AVANTEK "IK" PACKAGING

	IK2	IK4	IK6	IK8	IK10
"A"	0.36	0.95	1.15	1.35	1.35
"B"	0.708	1.303	1.697	2.095	2.495
STAGES	2	5	7	9	11

IK-WR-22

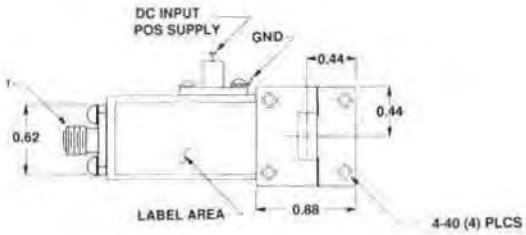


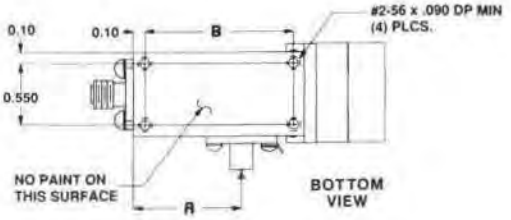
AVANTEK "IK" PACKAGING

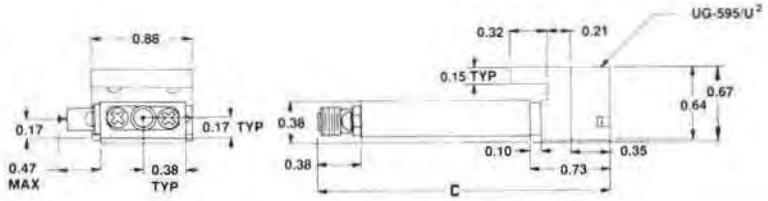
	IK2	IK4	IK6	IK8	IK10
"A"	0.36	0.95	1.15	1.35	1.35
"B"	0.708	1.303	1.697	2.095	2.495
STAGES	2	5	7	9	11

CASE DRAWINGS (cont.)

IK-COAX/WR-42



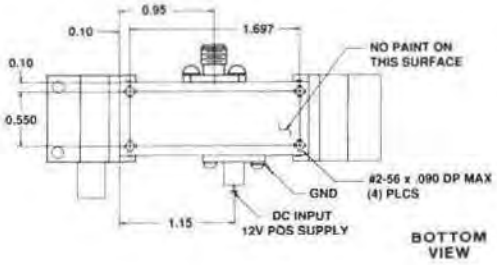


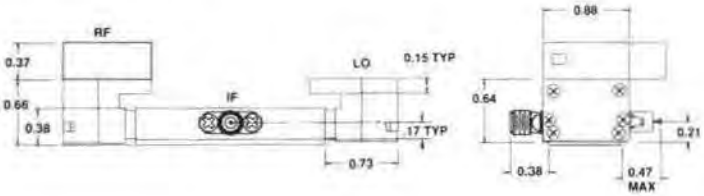


CASE	DIMENSION			STAGES
	A	B	C	
IK4	0.95	1.303	2.52	5
IK6	1.15	1.697	3.02	7

NOTES: (Unless Otherwise Specified)
1. RF Input Connector; 3mm SMA Compatible
2. RF Output Connector; WR-42, UG 595/U

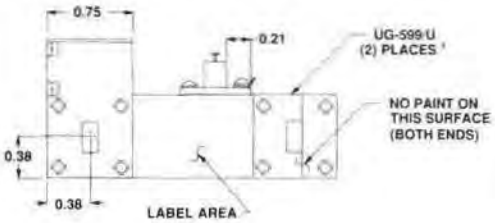
IK-WR-42 I/P ISOLATOR

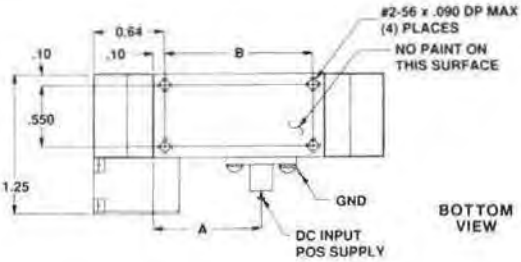


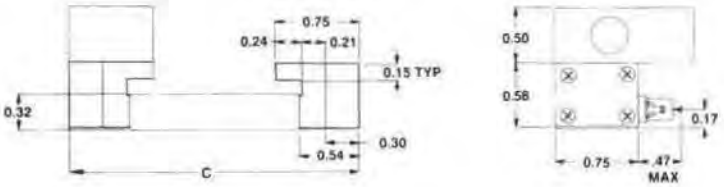


NOTES: (Unless Otherwise Specified)
1. RF Input/Lo Input Connector: WR-42, UG 595/U
2. IF Output Connector: SMA

IK-WR-28, INPUT ISOLATOR







CASE	DIMENSIONS			STAGES
	A	B	C	
IK2	0.38	0.708	1.98	2
IK4	0.95	1.303	2.58	5
IK6	1.15	1.697	3.34	7
IK8	1.35	2.095	3.74	9

NOTES: (Unless Otherwise Specified)
1. RF Input/Output Connector; WR-28, UG 599/U

The Millimeter Wave Product Series are available with the following connector options that need to be specified at time of order:

TABLE I
CONNECTOR OPTIONS AVAILABLE

PRODUCT SERIES	INPUT			OUTPUT		
	2mm	3mm	WR-42	2mm	3mm	WR-42
18-26.5 GHz AMPS	2mm	3mm	WR-28	2mm	3mm	WR-28
26.5-40 GHz AMPS	2mm	3mm	—	2mm	3mm	—
18-40 GHz AMPS	2mm	3mm	WR-28	2mm	3mm	WR-28
34.5-35.5 GHz AMPS*	—	3mm	WR-22	—	3mm	WR-22
43.5-45.5 GHz AMPS*	—	SMA	—	2mm	3mm	WR-42
18-26.5 GHz DOUBLER	—	SMA	—	2mm	3mm	WR-28
26.5-40 GHz DOUBLER	—	SMA**	—	—	—	WR-22
43.5-45.5 GHz QUADRUPLER						

*Low noise versions (36030, 36040 and 46070 Series) available *only* with waveguide input, with integral isolator.
**Includes input isolator.

Connector options may be specified differently for input and output

TABLE II
CONNECTOR OPTION MODEL NUMBER SUFFIX

		INPUT		
		WG*	**2mm**	**3mm**
OUTPUT	**WG***	-11	-21	-31
	2mm	-12	-22	-32
	3mm	-13	-23	-33

*WG appropriate to Freq. Band—See Table I.

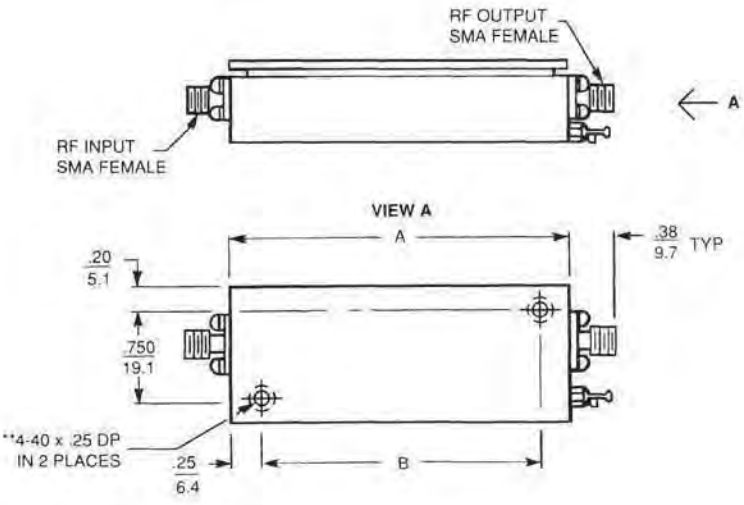
Example: AMT-26135 with WR-28 input, 3mm coaxial output.

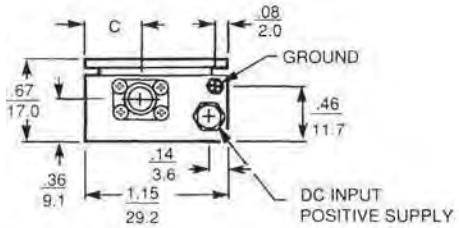
Model # is: AMT-26135-13

WG Input — 3mm Output

CASE DRAWING

AMT/AWT SERIES





**AVAILABLE WITH METRIC
THREAD M3 ON REQUEST
NO THREADS FIRST .062"

TOLERANCES (inches): .XX±.02
.XXX±.010

DIMENSIONS IN INCHES / MILLIMETERS

CASE	DIMENSIONS						WEIGHT	
	A		B		C			
	in.	mm.	in.	mm.	in.	mm.	oz.	gms
IS2	1.417	35.9	.917	23.2	.375	9.5	2	47
IS4	2.083	52.9	1.583	40.2	.375	9.5	3	68
IS6	2.750	69.8	2.250	57.1	.375	9.5	4	90
IC2	1.417	35.9	.917	23.2	.465	11.8	2	47
IC4	2.083	52.9	1.583	40.2	.465	11.8	3	68
IC6	2.750	69.8	2.250	57.1	.465	11.8	4	90
IX2	1.250	31.8	.750	19.1	.510	12.9	2	47
IX4	1.750	44.4	1.250	31.7	.510	12.9	2	58
IX6	2.250	57.1	1.750	44.4	.510	12.9	3	78
IX8	2.750	69.8	2.250	57.1	.510	12.9	4	92
IX10	3.250	82.5	2.750	69.8	.510	12.9	4	108

WIDEBAND, MEDIUM POWER TEMPERATURE COMPENSATED THIN-FILM AMPLIFIERS

Features:

- GaAs FET and MIC Reliability For Military Applications
- Compact Designs Replace Bulky TWTs
- 2 Watts Of Power To 8 GHz
- 1 Watt Of Power To 18 GHz
- Octave And Straddle Band Frequency Ranges
- Welded Aluminum Hermetic Cases

Typical Applications Include:

- Driver Amplifiers In ECM Transmitters, and Expendables
- Output Amplifiers In Decoy Transmitters
- Driver Amplifiers In RF Distribution Networks
- Augmentor Amplifiers In Target Drones
- Output Amplifiers In Test Equipment (ATE & AGE)

Description

The Avantek APT Series of GaAs FET amplifiers provides linear power output levels (at 1 dB gain compression) of up to 2 WATTS in a wide range of microwave frequency bands.

The compact and rugged thin-film MIC construction makes these amplifiers particularly well suited for the most demanding environments.

Avantek's own GaAs FETs and MMICs are used to provide the high performance and reliability demanded by Military applications.

Stable operation regardless of source or load conditions is the result of balanced module design used throughout the amplifier.

Thorough characterization of cascadable amplifier modules makes custom gain and power needs readily achieveable.

All APT amplifiers feature internal temperature compensation, voltage regulation, and protection for both reverse and dual bias.

APT SERIES

Guaranteed Specifications @ 0° to +50° C Case Temperature

PC4

Model	Frequency Response (GHz) Min.	Gain (dB) Min.	Gain (dB) Max.	Noise Figure (dB) Max.	Power Output for 1 dB Gain Comp. (dBm) Min.	Power Output (Watts) Min.	Gain Flatness (±dB) Max.	Typical Intercept Point for Third Order Intermod Products (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC ±3%)	Input Power Typical Current (mA)	Case Type
APT-4063	2-4	28.0	38.0	5.5	+30	1.0	1.5	+37	2.0	2.0	+15[1]	1000	IS6P[2]
APT-4064	2-4	39.0	49.0	5.5	+30	1.0	1.5	+37	2.0	2.0	+15[1]	1050	IS6P[2]
APT-4074	2-4	33.0	43.0	6.0	+33	2.0	1.5	+40	2.0	2.0	+15[1]	1700	IS6P[2]
APT-6065	2-6	35.0	45.0	6.0	+30	1.0	1.5	+37	2.0	2.0	+15[1]	1200	IC6[2]
APT-6077	2-6	40.0	50.0	6.0	+33	2.0	1.5	+40	2.0	2.0	+15[1]	2300	IC8[2]
APT-8255	2-8	30.0	40.0	6.0	+27	0.5	2.0	+34	2.0	2.0	+15[1]	800	IC6[2]
APT-8266	2-8	35.0	45.0	7.0	+30	1.0	2.0	+37	2.0	2.0	+15[1]	1300	IC8[2]
APT-8056	4-8	35.0	45.0	7.0	+29	0.8	1.5	+36	2.0	2.0	+15[1]	1300	IC8[2]
APT-8066	4-8	35.0	45.0	7.0	+30	1.0	1.5	+37	2.0	2.0	+15[1]	1300	IC8[2]
APT-8076	4-8	30.0	40.0	10.0	+33	2.0	1.5	+40	2.0	2.0	+15[1]	2500	IC7P[2]
APT-10555	4.5-10.5	34.0	44.0	6.0	+26	0.4	1.5	+33	2.0	2.0	+12[1]	700	IC6[2]
(P) APT-10566	4.5-10.5	29.0	40.0	8.0	+30	1.0	2.0	+38	2.0	2.0	+15[1,3]	2200	ICD8[2]
											-15	250	
APT-12057	6-12	35.0	45.0	7.0	+26	0.4	1.5	+33	2.0	2.0	+12[1]	1300	IX8[2]
APT-12066	6-12	28.0	39.0	8.0	+30	1.0	1.5	+37	2.0	2.0	+15	2500	IK7P[2]
APT-18646	6-18	20.0	30.0	10.0	+23	0.2	2.0	+30	2.0	2.0	+12[1]	1200	IX8[2]
APT-18649	6-18	35.0	45.0	10.0	+23	0.2	2.0	+30	2.0	2.0	+12[1]	1350	IX10[2]
APT-18656	6-18	18.0	28.0	12.0	+27	0.4	2.0	+33	2.0	2.0	+12[1]	2300	IK7P[2]
APT-18659	6-18	36.0	46.0	12.0	+27	0.4	2.0	+33	2.0	2.0	+12[1]	2500	IK11P[2]
(N) APT-18667	6-18	26.0	34.0	13.0	+30[5]	1.0	3.0	+36	2.0	2.0	+15[1,4]	2200	IKD12P[2]
											+12	2500	
(N) APT-18668	6-18	34.0	42.0	10.0	+30[5]	1.0	3.0	+36	2.0	2.0	+15[1,4]	2200	IKD12P[2]
											+12	2600	
(N) APT-18660	6-18	42.0	50.0	9.0	+30[5]	1.0	3.0	+36	2.0	2.0	+15[1,4]	2200	IKD14P[2]
											+12	2700	

CASE DRAWINGS—See page 39 for IC6, IC8, IX8 and IX10.

(N) New Product Offering - Fall 1987

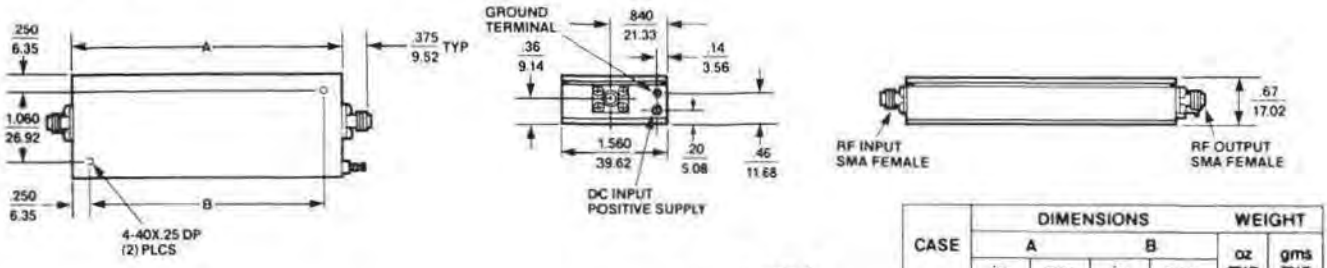
(P) Preliminary

Notes 1: Integral Voltage Regulator
2: SMA Connector Only
3: Contains Internal Gate/Drain Bias Sequencing
4: Single +15v Supply Can Be Used Instead of +15v And +12v Dual Supply
5: Power Output Saturated (dBm)

Avantek, Inc. • 3175 Bowers Ave., Santa Clara, Ca 95054 • Phone: (408) 727-0700 • FAX: (408) 727-0539 • TWX: 310-371-8717 or 310-371-8478 • TELEX: 34-6337

CASE DRAWINGS

IK-P SERIES

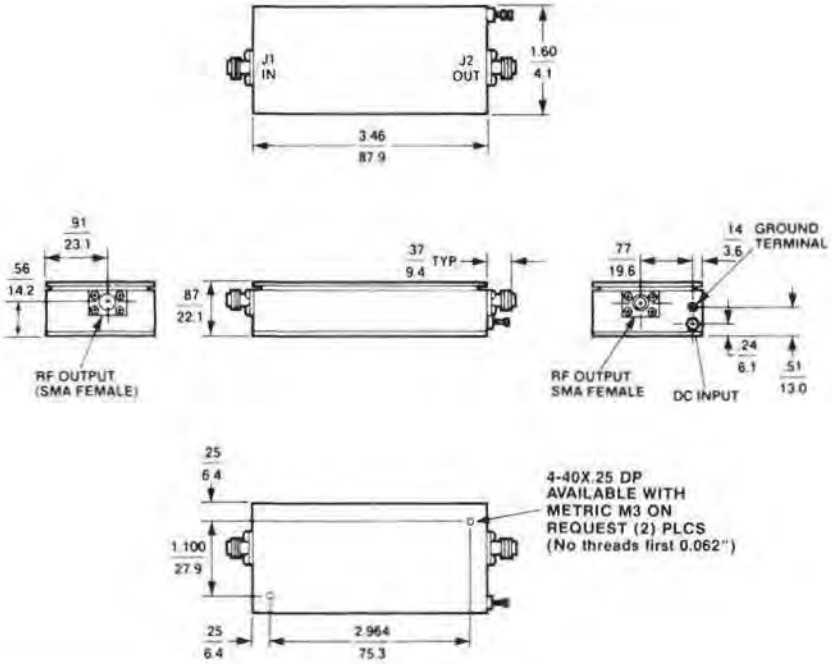


DIMENSIONS: INCHES / MM

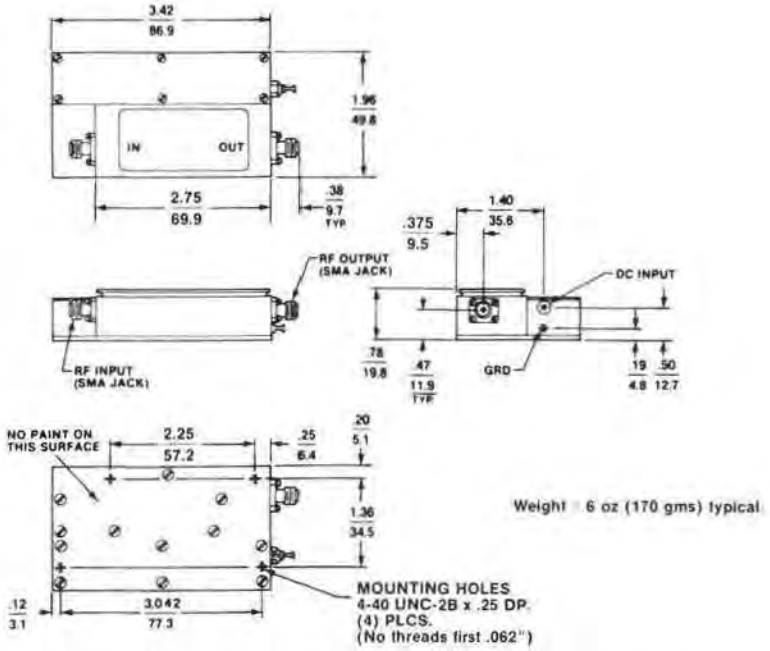
TOLERANCE: XX ±0.02 / ±.5, XXX ±0.010 / ±.25

CASE	DIMENSIONS A in.	DIMENSIONS A mm.	DIMENSIONS B in.	DIMENSIONS B mm.	WEIGHT oz TYP	WEIGHT gms TYP
IK7P	2.908	73.86	2.408	61.16	6	170
IK11P	3.908	99.26	3.408	86.56	7	199

IC-7P



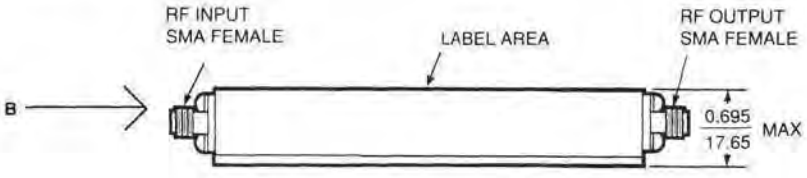
IS6P

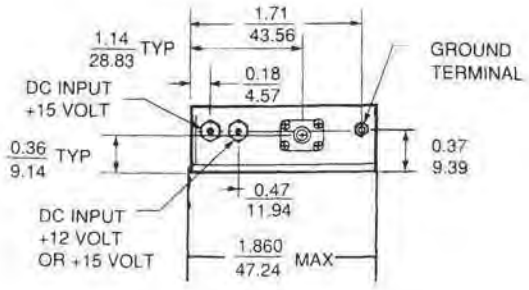


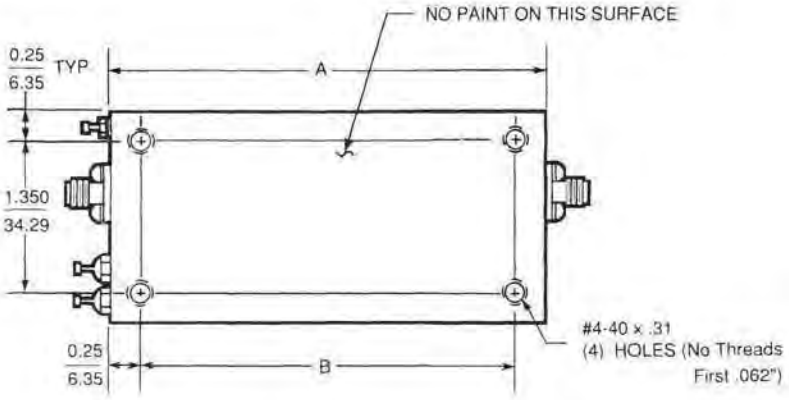
Weight: 6 oz (170 gms) typical

CASE DRAWINGS

IKD_P SERIES





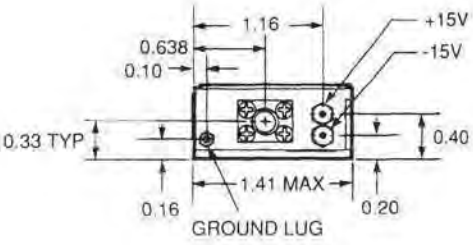


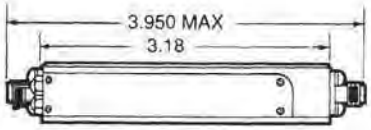
CASE	DIMENSIONS			
	A		B	
	Inches	MM	Inches	MM
IKD12P	3.920 Max.	99.57 Max.	3.408	86.56
IKD14P	4.420 Max.	112.27 Max.	3.908	99.26

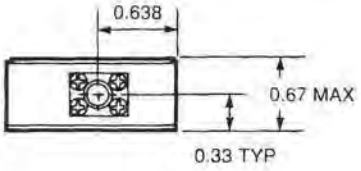
DIMENSIONS IN INCHES / MM

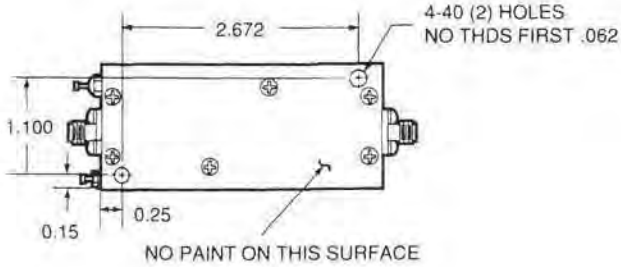
TOLERANCES (Inches): XX ± .02, XXX ± .010

ICD8









DIMENSIONS IN INCHES

TOLERANCES (Inches): XX ± .02, XXX ± .010

WIDE FREQUENCY RANGE MEDIUM POWER AMPLIFIERS

APG Series discrete component amplifiers offer medium power output, wide dynamic range, low noise figure and high gain making them excellent choices for use as intermediate power amplifiers to drive TWTAs in jammers and other electronic defense systems, as laboratory test equipment drivers or other applications requiring moderate power output.

APM — Connectorized Amplifier Series

Guaranteed Specifications @ 25° C Case Temperature

PC4

Model	Frequency Response (GHz) Min.	Gain (dB) Min.	Gain (dB) Max.	Noise Figure (dB) Max.	Power Output for 1 dB Gain Comp. (dB) Min.	Power Output (Watts) Min.	Gain Flatness (±dB) Max.	Typical Intercept Point for Third Order Intermod Products (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC ±3%)	Input Power Typical Current (mA)	Case Type
APM-1013	0.01-1	30.0	36.0	7.0	+24	0.25	Note 4	+31	2.0	2.0	+12	315	GC5
APM-1014	0.01-1	36.0	46.0	7.0	+24	0.25	Note 4	+31	2.0	2.0	+12	360	GC5
APM-1023	0.01-1	30.0	36.0	7.0	+27	0.5	Note 4	+34	2.0	2.0	+12	500	GC5
APM-1024	0.01-1	36.0	46.0	7.0	+27	0.5	Note 4	+34	2.0	2.0	+12	535	GC5
APM-1033	0.01-1	30.0	36.0	7.0	+30[1]	1.0	Note 4	+37	2.0	2.0	+12	710	GC5
APM-1034	0.01-1	36.0	46.0	7.0	+30[1]	1.0	Note 4	+37	2.0	2.0	+12	750	GC5

APG — Connectorized Amplifier Series

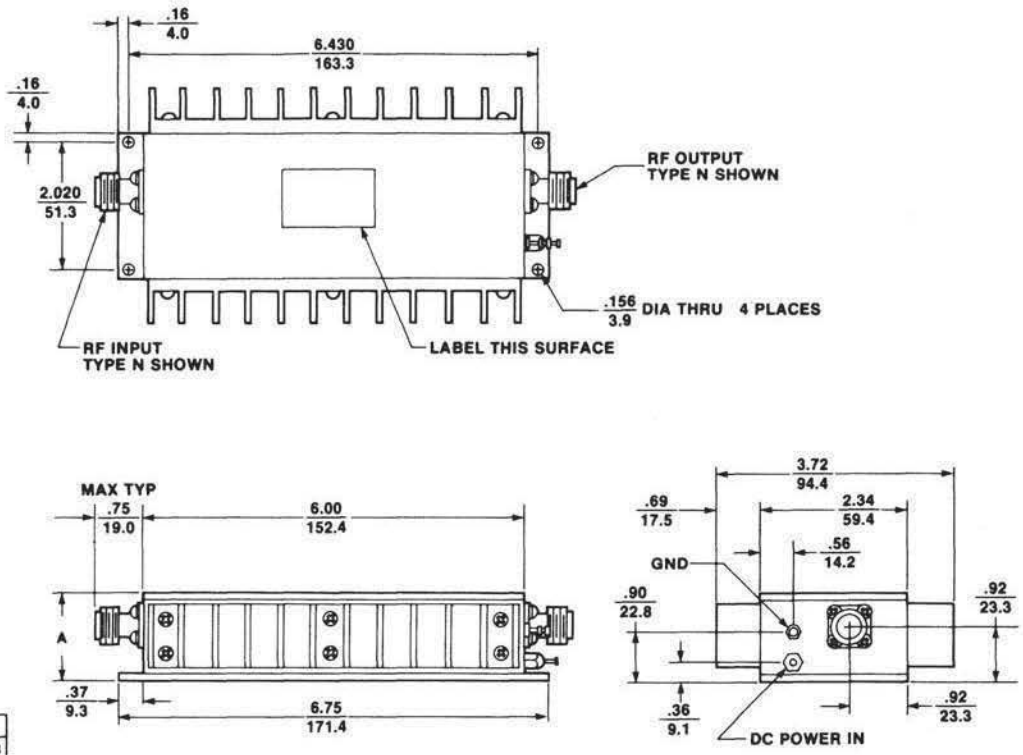
Guaranteed Specifications @ 0° C to +50° C Case Temperature

APG-1001	0.01-1	25.0	34.0	9.0	+30[1]	1.0	1.0	+39	2.0	2.5	+24	775	FM[2,3]
APG-1002	0.01-1	34.0	44.0	8.0	+30[1]	1.0	1.0	+39	2.0	2.5	+24	775	FM[2,3]
APG-1003	0.01-1	45.0	55.0	6.5	+30[1]	1.0	1.0	+39	2.0	2.5	+24	810	FM[2,3]
APG-1011	0.5-1	14.0	24.0	3.5	+30	1.0	0.75	+40	2.0	2.0	+15	1000	FS[2,5]
APG-1012	0.5-1	24.0	33.0	5.0	+30	1.0	0.75	+40	2.0	2.0	+15	1100	FS[2,5]
APG-1013	0.5-1	33.0	43.0	6.0	+30	1.0	1.0	+40	2.0	2.0	+15	1125	FS[2,5]
APG-1021	0.5-1	14.0	24.0	3.5	+33	2.0	0.75	+43	2.0	2.0	+15	1150	FS[2,5]
APG-1022	0.5-1	24.0	33.0	5.0	+33	2.0	0.75	+43	2.0	2.0	+15	1250	FS[2,5]
APG-1023	0.5-1	33.0	43.0	6.0	+33	2.0	1.0	+43	2.0	2.0	+15	1275	FS[2,5]
APG-2050	0.05-2	18.0	28.0	6.0	+23	0.2	1.0	+33	2.0	2.0	+15	275	FM[2,3]
APG-2052	0.05-2	28.0	38.0	6.0	+27[1]	0.5	1.0	+37	2.0	2.0	+15	525	FM[2,3]
APG-2053	0.5-2	30.0	40.0	6.0	+30	1.0	1.0	+40	2.0	2.0	+15	1200	FN[2,5]
APG-2001	1-2	10.0	20.0	5.0	+30	1.0	0.5	+40	2.0	2.0	+15	875	FN[2,5]
APG-2002	1-2	20.0	30.0	4.5	+30	1.0	0.75	+40	2.0	2.0	+15	950	FN[2,5]
APG-2003	1-2	30.0	40.0	4.5	+30	1.0	1.0	+40	2.0	2.0	+15	975	FN[2,5]
APG-2021	1-2	10.0	20.0	5.0	+30	2.0	0.5	+43	2.0	2.0	+15	975	FN[2,5]
APG-2022	1-2	20.0	30.0	6.0	+33	2.0	0.75	+43	2.0	2.0	+15	1150	FN[2,5]
APG-2023	1-2	30.0	40.0	4.5	+33	2.0	1.0	+43	2.0	2.0	+15	1200	FN[2,5]
APG-4002	2-4	15.0	24.0	6.5	+30	1.0	1.0	+40	2.0	2.0	+15	1100	FO[2,6]
APG-4003	2-4	24.0	32.0	4.0	+30	1.0	1.0	+40	2.0	2.0	+15	1150	FO[2,6]
APG-4004	2-4	32.0	42.0	3.0	+30	1.0	1.0	+40	2.0	2.0	+15	1200	FO[2,6]

Notes 1: Minimum Power Output for 2dB Gain Compression
2: Including Cooling Fins
3: SMA, N, TNC, or BNC Connectors
4: ±0.5 dB per 200 MHz
5: SMA, N, or TNC Connectors
6: SMA or N Connectors

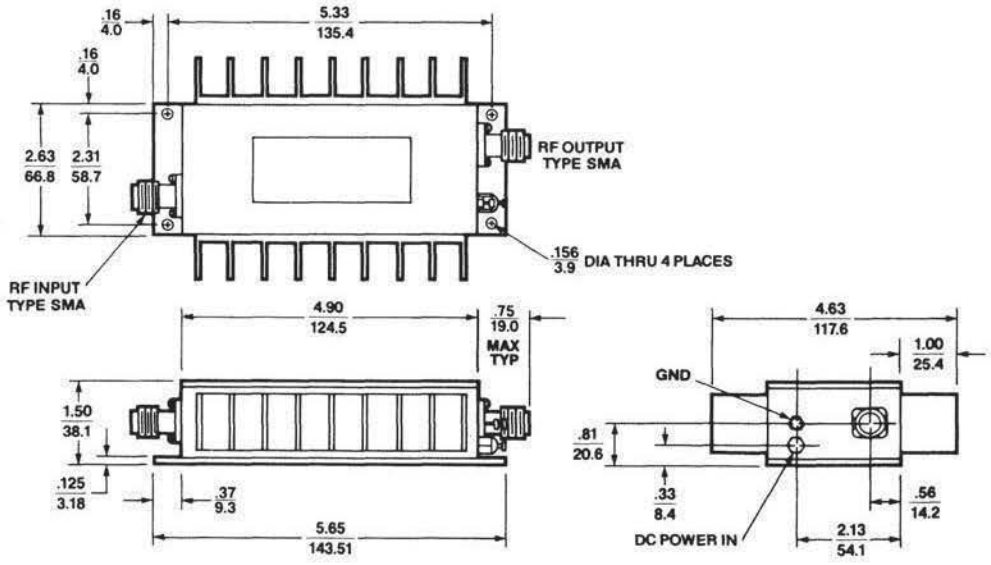
CASE DRAWINGS, continued

FM/FO



CASE	DIM A
FM	1.45/36.8
FO	1.38/35.0

FN

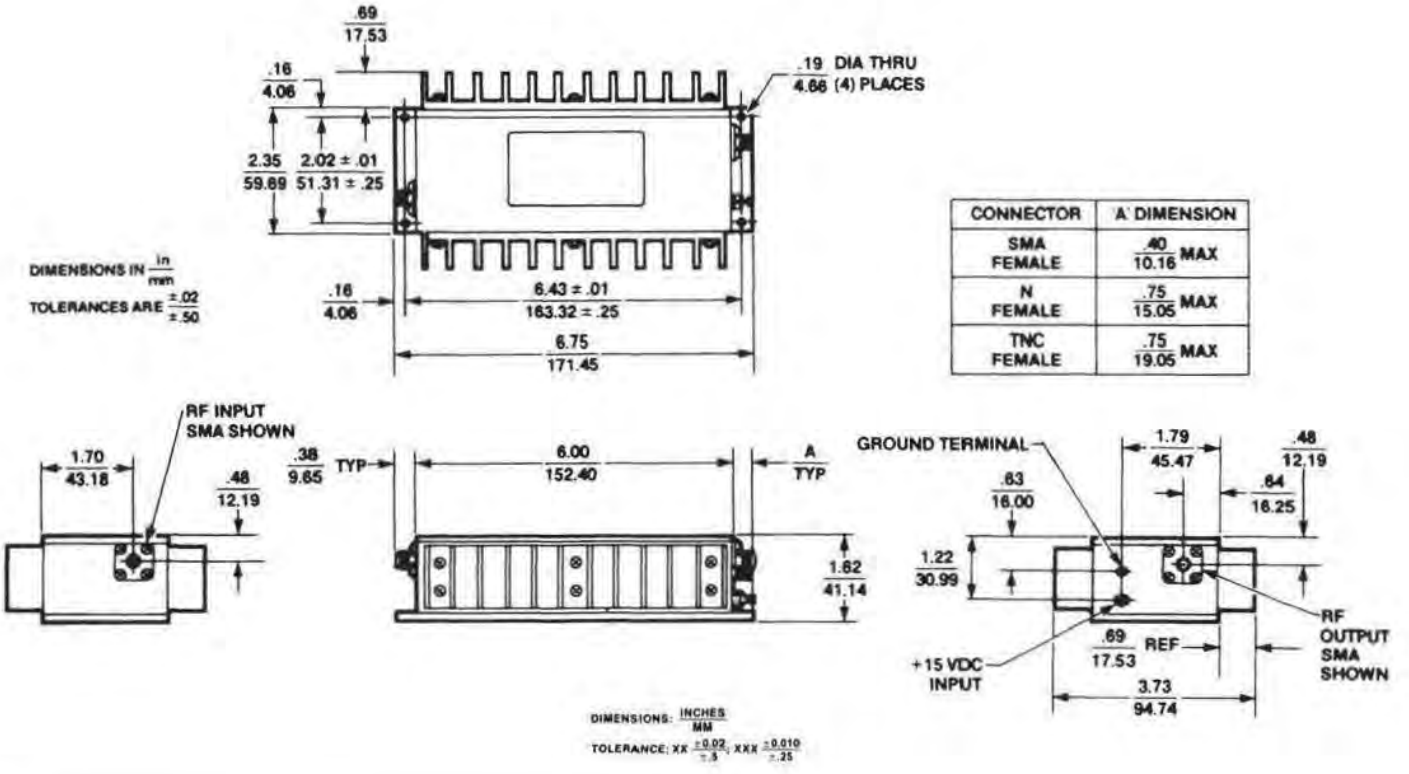


DIMENSIONS: INCHES / MM

TOLERANCE: XX ±.02 / ±.5; XXX ±.010 / ±.25

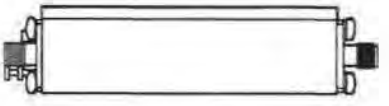
CASE DRAWING

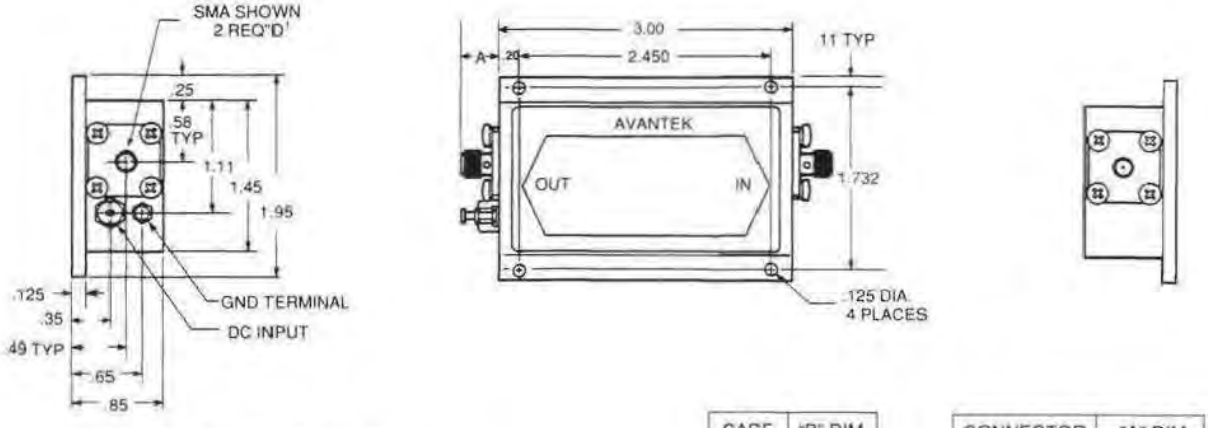
FS



CONNECTOR	'A' DIMENSION
SMA FEMALE	.40 / 10.16 MAX
N FEMALE	.75 / 15.05 MAX
TNC FEMALE	.75 / 19.05 MAX

GC5





CASE	"B" DIM
GC4	2.85
GC5	3.00

CONNECTOR	"A" DIM
SMA	.40 MAX.
TNC	.75 MAX.
N	.75 MAX.
BNC	.75 MAX.

NOTES (Unless Otherwise Specified):

1. CONNECTOR OPTIONS: SMA, N, TNC, BNC

CASE MATERIAL: ALODINED ALUMINUM

DIMENSIONS IN INCHES

TOLERANCES: XXX ± .010
XX ± .02

GaAs FET THIN-FILM LIMITING AMPLIFIERS

The Avantek LMT/LWT series Limiting Wideband Amplifiers combine the proven circuit design and thin-film gold construction of the Avantek AMT/AWT series of Low Noise Amplifiers with a GaAs FET output limiting stage. Available in the 0.5-2.0 through 6-18 GHz frequency bands, LMT/LWT series amplifiers offer nominal 35 dB and 70 dB of small signal gain combined with saturated power outputs that remain within a very narrow window for an extremely wide range of input signal levels. Other important features include excellent full-band saturated power flatness, low small signal noise figure, VSWR and harmonics, and an integral voltage regulator for reliable operation from a +12 to +15 VDC unregulated power source.

To complement its performance features, the LMT/LWT series amplifier is packaged in a compact, hermetically welded aluminum case. This makes the LMT/LWT series amplifier the ideal choice for incorporation into the latest generation of compact, lightweight ECM/EW systems.

"30" Series; 35 dB Small Signal Gain

Guaranteed Specifications @ 25° C Case Temperature

PC4

	Model	Frequency Response (GHz) Minimum	Small Signal Gain (dB) Minimum	Small Signal Gain (dB) Maximum	Gain Flatness (±dB) Maximum	Saturated Output Power (dBm) Min.	Saturated Output Power (dBm) Max.	Noise Figure (dB) Maximum	VSWR Maximum In	VSWR Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
(I)	LWT-2034	0.5-2	35	40	1.5	+3	+7	3.5	2.0	2.0	+12	250	IS4
(U)	LMT-4035	2-4	35	40	1.5	+7	+11	3.0	2.0	2.0	+12	300	IS6
(I)	LWT-6034	2-6	35	40	1.5	+14	+18	4.0	2.0	2.0	+12	300	IC4
(U)	LWT-8035	2-8	35	40	1.5	+16	+20	4.0	2.0	2.0	+12	450	IC6
(U)	LMT-8033	4-8	35	40	1.5	+14	+17	4.5	2.0	2.0	+12	300	IC4
(U)	LMT-12436	7-12.4	35	40	1.5	+14	+19	5.5	2.0	2.0	+12	400	IX6
(U)	LMT-18036	12-18	35	40	1.5	+14	+19	6.0	2.0	2.0	+12	400	IX6
(U)	LWT-18036	8-18	35	40	1.5	+14	+19	6.0	2.0	2.0	+12	400	IX6
(N)	LWT-18636	6-18	35	40	1.5	+14	+19	6.0	2.0	2.0	+12	400	IX6

"40" Series; Nominal 70 dB Small Signal Gain

Guaranteed Specifications -54° C to +100° C Case Temperature

	Model	Frequency Response (GHz) Maximum	Input Signal Range (dBm) Maximum	Saturated Output Power Range (dBm) Min.	Saturated Output Power Range (dBm) Max.	VSWR Maximum In	VSWR Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
(U)	LWT-2046	0.5-2	-61 to +20	+3	+7	2.0	2.0	+12	600	LS12
(I)	LMT-4046	2-4	-57 to +20	+7	+11	2.0	2.0	+12	700	LS12
(U)	LWT-6045	2-6	-50 to +20	+14	+18	2.0	2.0	+12	600	IC6
(U)	LWT-8046	2-8	-55 to +20	+16	+20	2.0	2.0	+12	900	LC12
(U)	LMT-8045	4-8	-50 to +20	+14	+17	2.0	2.0	+12	625	IC6
(U)	LMT-12448	7-12.4	-50 to +20	+14	+19	2.0	2.0	+12	900	LX16
(U)	LWT-18048	12-18	-50 to +20	+14	+19	2.0	2.0	+12	900	LX16
(U)	LWT-18048	8-18	-50 to +20	+14	+19	2.0	2.0	+12	900	LX16
(N)	LWT-18648	6-18	-50 to +20	+14	+19	2.0	2.0	+12	900	LX16

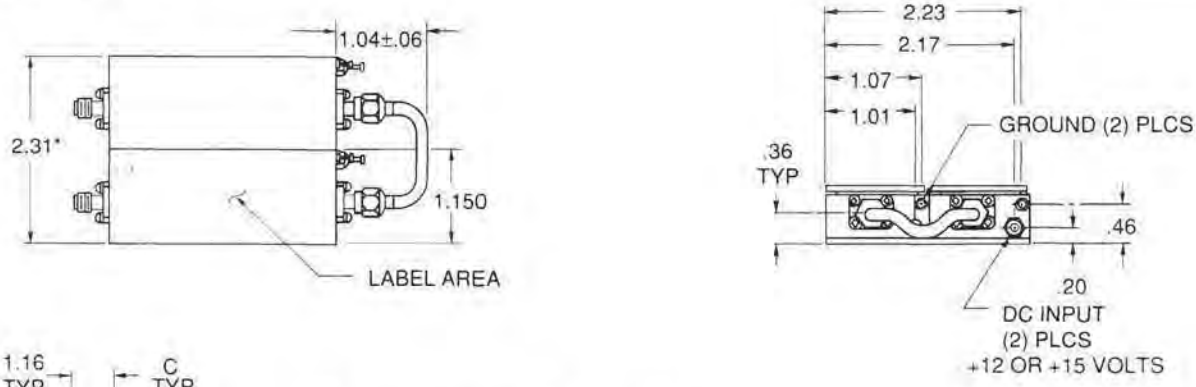
(I)—Improved Specifications (no change to existing model number)-Fall 1987
(N)—New Product Offering-Fall 1987
(U)—Updated Model Number With Improved Specifications-Fall 1987

Other Specifications—Both "30" and "40" Series

1. Power output for 1 dB gain compression is a maximum of 4 dB below Saturated Power Output at any frequency.
2. Saturated Power Flatness is 2.0 dB p-p, maximum.
3. Saturated Power variation over temperature is 1.5 dB p-p, maximum.
4. Maximum Input Power without damage: +20 dBm (CW).
5. Harmonics: -9 dBc maximum (-6 dBc 2nd Harmonic, -8 dBc 3rd Harmonic—LWT-2034, LWT-2046)
6. Pulse Response: Overshoot, 0.25 dB maximum. Settling time, 25 ns maximum. Recovery time, 100 ns maximum.
7. Small Signal Suppression: 3 dB minimum.
8. AM/PM Conversion: 5°/dB maximum.
9. Output Noise Power will be less than P_{SAT}(Min) -6 dB for the "40" series.
10. "30" and "40" series amplifiers contain an integral voltage regulator. The input voltage can be +12 to +15 VDC with 3% maximum ripple. All units also contain overvoltage and reverse polarity protection to ±25 VDC. Contact your Avantek representative for operation outside these parameters.

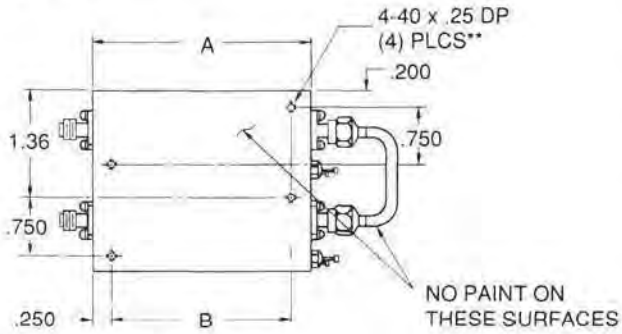
CASE DRAWINGS

LC12, LS12, and LX16



DIMENSIONS IN INCHES

TOLERANCES: .xx ± 0.02
.xxx ± .010

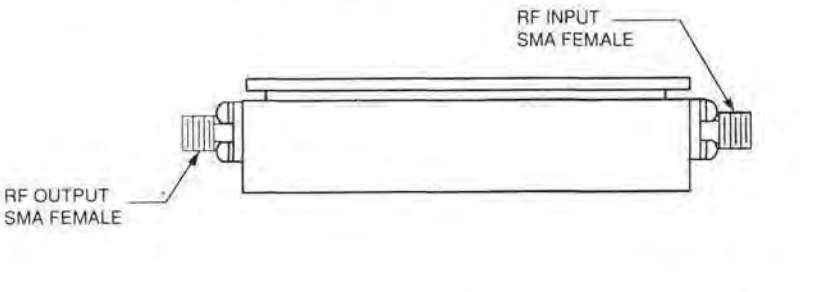


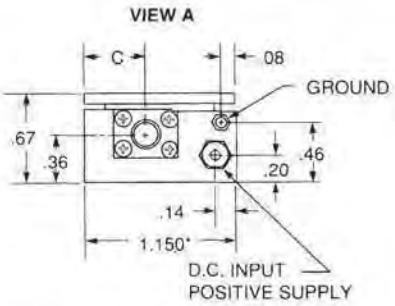
BAND	CASE	DIMENSION			WEIGHT GRAMS (approx)
		A	B	C	
S	LS12	2.75	2.250	.38	220
C	LC12	2.75	2.250	.47	220
X/KU	LX16	2.75	2.250	.51	260

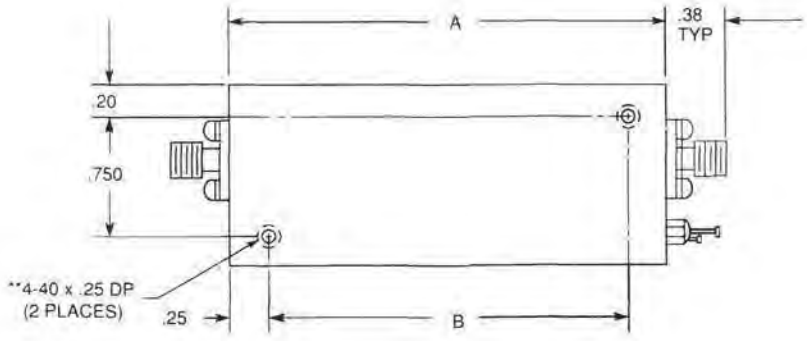
*Width Dimension Does Not Include Any Customer Required Labels
**No Threads First .062"

CASE DRAWINGS

IS4, IS6, IC4, IC6, and IX6







CASE	DIMENSIONS			WEIGHT GRAMS (approx)
	A	B	C	
IS4	2.083	1.583	.375	68
IS6	2.750	2.250	.375	90
IC4	2.083	1.583	.465	68
IC6	2.750	2.250	.465	90
IX6	2.250	1.750	.510	78

*Width Dimension Does Not Include Any Customer Required Labels
**No Threads First .062"

DIMENSIONS IN INCHES

TOLERANCES: .xx ± 0.20
.xxx ± .005

APPLICATIONS SPECIALIZED NARROW BAND CONNECTORED AMPLIFIERS

AMT SERIES

Guaranteed Specifications @ 25° C Case Temperature

PC4

	Model	Frequency Response (GHz) Minimum	Gain (dB) Minimum	Gain (dB) Maximum	Noise Figure (dB) Maximum	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (±dB) Maximum	Typical Third Order Intercept Point (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC)	Input Power Current (mA) Maximum	Case Type
(N)	AMT-9544	8.5-9.5	28	32	2.0	12	0.5	20	1.50	1.50	12	275	IX8
(N)	AMT-9545[1]	8.5-9.5	33	40	2.3	15	0.5	23	1.25	1.50	12	325	—[2]
(I)	AMT-9632	8.5-9.6	16	19	4.0	10	0.5	18	1.50	1.50	12	55	IX4
(I)	AMT-9633	8.5-9.6	24	28	4.0	10	0.5	18	1.50	1.50	12	85	IX4
(I)	AMT-9634	8.5-9.6	32	37	4.0	10	0.8	18	1.50	1.50	12	115	IX4
(N)	AMT-10044	9.0-10.0	27	31	2.0	12	0.5	20	1.50	1.50	12	275	IX8
(N)	AMT-10045[1]	9.0-10.0	33	40	2.3	15	0.5	23	1.25	1.50	12	325	—[2]
(I)	AMT-10544	9.5-10.5	26	30	2.0	12	0.5	20	1.50	1.50	12	275	IX8
(I)	AMT-10545[1]	9.5-10.5	33	40	2.3	15	0.5	23	1.25	1.50	12	325	—[2]
	AMT-14545	13.5-14.5	29	33	3.0	15	0.5	23	1.50	1.50	12	290	IX6
(I)	AMT-21044	20.2-21.2	30	36	3.5	10	1.0	19	1.50	1.50	12	220	IX6

AMT SERIES — Temperature Compensated

Guaranteed Specifications @ -54° to +100° C Case Temperature

(N)	AMT-9544	8.5-9.5	28	32	2.8	10	1.5	18	1.50	1.50	12	275	IX8
(N)	AMT-9545[1]	8.5-9.5	33	40	3.1	12	1.5	20	1.25	1.50	12	325	—[2]
(N)	AMT-10044	9.0-10.0	27	31	2.8	10	1.5	18	1.50	1.50	12	275	IX8
(N)	AMT-10045[1]	9.0-10.0	33	40	3.1	12	1.5	20	1.25	1.50	12	325	—[2]
(N)	AMT-10544	9.5-10.5	26	30	2.8	10	1.5	18	1.50	1.50	12	275	IX8
(N)	AMT-10545[1]	9.5-10.5	33	40	3.1	12	1.5	20	1.25	1.50	12	325	—[2]
	AMT-14545	13.5-14.5	29	33	3.8	10	1.5	18	1.50	1.50	12	290	IX6
	AMT-21044	20.2-21.2	30	36	4.3	8	1.5	17	1.50	1.50	12	220	IX6

(I) — Improved Specifications (no change to existing model number) - Fall 1987
(N) — New Product Offering - Fall 1987

Notes: The nominal Noise Figure change over temperature is 0.01 dB/° C

1: Other Specifications:

Gain Control (dB)

	Min.	Max.
Small Signal Gain (dB)	0.0	40.0
Supply Voltage (Vdc)	0.0	10.0
Supply Current (mA)	0.0	1.5

Noise BIT @ center frequency, 25° C

	Min.	Max.
Noise Bit (dB)	13.75	14.25
Supply Voltage (Vdc)	0	-15
Supply Current (mA)	0	4

2. IX10 case with Waveguide

SPECIAL APPLICATIONS

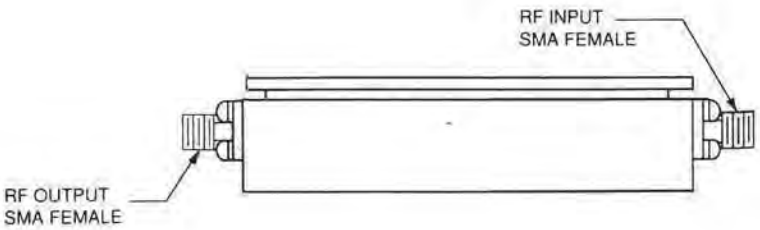
Guaranteed Specifications @ 25° C Case Temperature

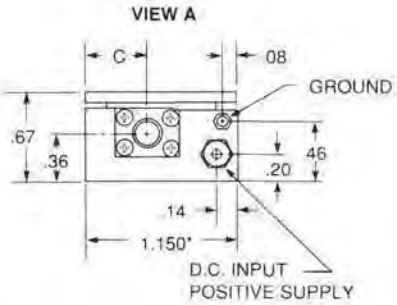
Model	Frequency Response (GHz) Min.	Gain (dB) Min.	Gain (dB) Max.	Noise Figure (dB) Max.	Power Output (Watts) Min.	Power Output for 2 dB Gain Comp. (dBm) Min.	Gain Flatness (±dB) Max.	Typical Intercept Point for Third Order Intermod Products (dBm)	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC±3%)	Input Power Typical Current (mA)	Case Type
APG-3214	2.8-3.2	30.0	40.0	5.0	5.0	37	0.75	+46	1.5	1.5	+15	3200	NC[1]
APG-3215	2.8-3.2	40.0	50.0	4.5	5.0	37	0.75	+46	1.5	1.5	+15	3250	NC[1]
APG-3216	2.8-3.2	50.0	60.0	4.0	5.0	37	0.75	+46	1.5	1.5	+15	3280	NC[1]
APG-3514	3.1-3.5	30.0	40.0	5.0	5.0	37	0.75	+46	1.5	1.5	+15	3200	NC[1]
APG-3515	3.1-3.5	40.0	50.0	4.5	5.0	37	0.75	+46	1.5	1.5	+15	3250	NC[1]
APG-3516	3.1-3.5	50.0	60.0	4.0	5.0	37	0.75	+46	1.5	1.5	+15	3280	NC[1]
APT-8465[7]	7.9-8.4	30.0	40.0	7.0	1.0	30[2]	1.0	+37	2.0	2.0	+15[3]	1200	IC6[4,5]
AMP-10504	9.5-10.5	20.0	30.0	8.0	1.0	30	1.0	+36	1.5	1.5	+15	1350	LM[4,6]
AMP-10505	9.5-10.5	30.0	40.0	8.0	1.0	30	1.0	+36	1.5	1.5	+15	1400	LM[4,6]
AMP-10506	9.5-10.5	40.0	50.0	8.0	1.0	30	1.0	+36	1.5	1.5	+15	1450	LM[4,6]

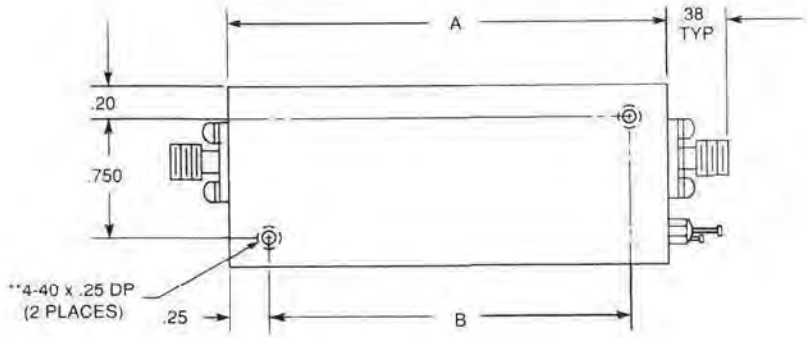
Notes 1: SMA, N or TNC Connectors
2: Minimum Power Output for 1 dB Gain Compression
3: Integral Voltage Regulator
4: SMA Connector Only
5: Thin Film Construction
6: Optional Integral Power Detector Available
7: Temperature Compensated: Specifications Guaranteed @ 0° to 50° C Case Temperature

CASE DRAWINGS

IX4, 6, 8, IC6







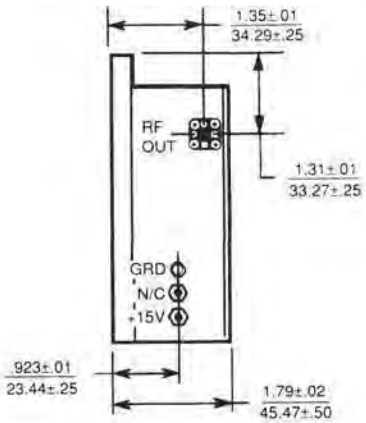
*Width Dimension Does Not Include
Any Customer Required Labels
**No Threads First .062"

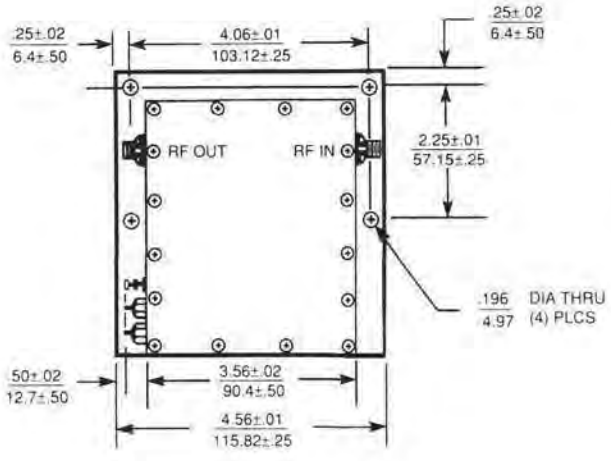
CASE	DIMENSIONS			WEIGHT GRAMS (approx)
	A	B	C	
IS4	2.083	1.583	.375	68
IS6	2.750	2.250	.375	90
IC4	2.083	1.583	.465	68
IC6	2.750	2.250	.465	90
IX6	2.250	1.750	.510	78

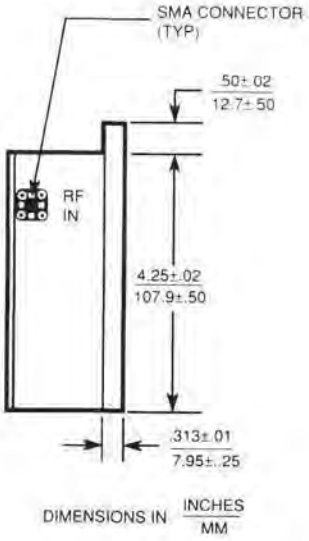
DIMENSIONS IN INCHES

TOLERANCES: .xx ± 0.20
.xxx ± .005

LM



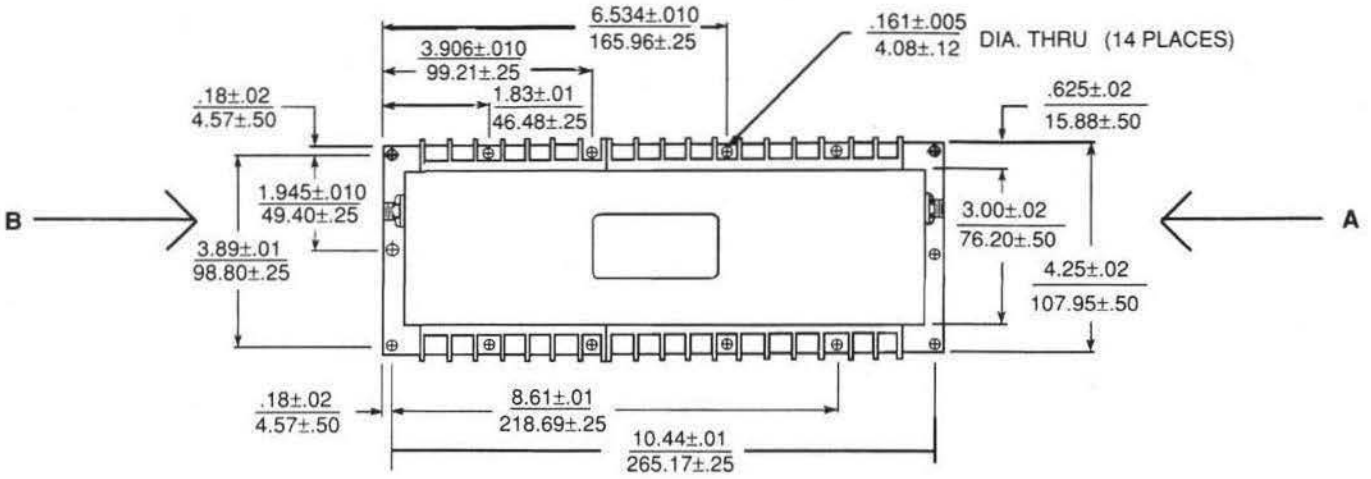


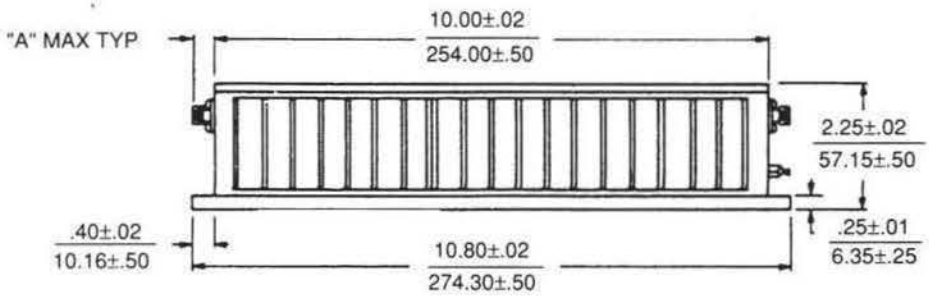


DIMENSIONS IN INCHES / MM

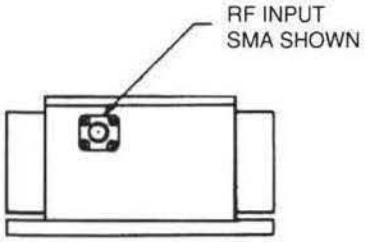
CASE DRAWINGS

NC



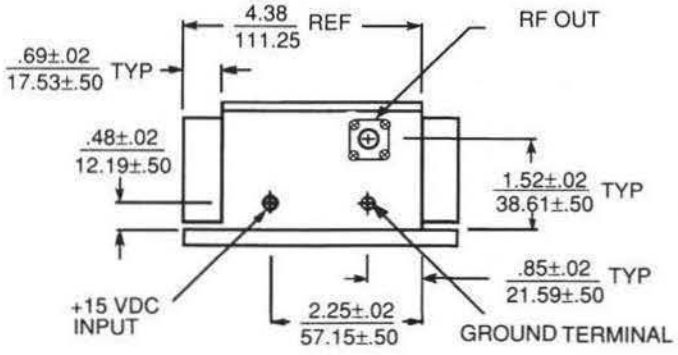


VIEW B



CONNECTOR	"A" DIMENSION
SMA FEMALE	.400 / 10.16
N FEMALE	.750 / 19.05
TNC FEMALE	.750 / 19.05
SMA MALE	.500 / 12.70

VIEW A



Notes:
Connector Options: SMA (female or male), Type N (female only), Type TNC (female only)

Weight: Approximately 5 lb, 2.52 kg

DIMENSIONS IN INCHES / MM

LOW NOISE, COMMERCIAL, COMMUNICATIONS BAND AMPLIFIERS

Guaranteed Specifications @ 25° C Case Temperature

Model	Frequency Range (GHz) Minimum	Noise Figure (dB) Maximum	Gain (dB) Minimum	Gain Flatness (±dB) Maximum	Power Output at 1 dB Gain Gain (dBm) Minimum	Typical Intercept Point for Third Order Intermod Products (dBm) Minimum	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power[2] Voltage (VDC)	Input Power[2] Current (mA) Typical	Case[3] Type
3.7 to 4.2 GHz	**Point-to-Point Communications and TV Satellite Downlink LNA**										PC5
AM-42812	3.7-4.2	1.5	20	0.5	+12	+22	1.25	1.5	+15	70	AN
AM-42813	3.7-4.2	1.5	30	0.5	+15	+25	1.25	1.5	+15	90	AN
AM-42814	3.7-4.2	1.5	40	0.5	+15	+25	1.25	1.5	+15	120	AN
AM-42815	3.7-4.2	1.5	50	0.5	+15	+25	1.25	1.5	+15	150	AN

Notes 1: Contains integral filter specifically tailored for any 10 MHz bandwidth. Applications include INMARSAT and GPS.
2: Nominal. Contains integral voltage regulator for operation from +15 to +28 VDC.
3: Type SMA connector only.

Model	Frequency Range (GHz) Minimum	Noise Figure (dB) Maximum	Gain (dB) Minimum	Gain Flatness (±dB) Maximum	Power Output at 1 dB Gain Gain (dBm) Minimum	Typical Intercept Point for Third Order Intermod Products (dBm) Minimum	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power[1, 2] Voltage (VDC)	Input Power[1, 2] Current (mA) Typical	Case Type
11.7 to 12.2 GHz	**Communications Satellite Downlink LNA**										PC5
AM-12212	11.7-12.2	2.5	18	0.5	+7	+17	1.25	1.25	+15	60	AMK
AM-12213	11.7-12.2	2.5	27	0.5	+7	+17	1.25	1.25	+15	80	AMK
AM-12214	11.7-12.2	2.5	36	0.5	+7	+17	1.25	1.25	+15	100	AMK
AM-12215	11.7-12.2	2.5	45	0.5	+7	+17	1.25	1.25	+15	120	AMK
11.7 to 12.2 GHz	**Communications Satellite Downlink LNA**										PC5
AW-12212	11.7-12.2	2.5	18	0.5	+7	+17	1.25	1.25	+15	60	AWK
AW-12213	11.7-12.2	2.5	27	0.5	+7	+17	1.25	1.25	+15	80	AWK
AW-12214	11.7-12.2	2.5	36	0.5	+7	+17	1.25	1.25	+15	100	AWK
AW-12215	11.7-12.2	2.5	45	0.5	+7	+17	1.25	1.25	+15	120	AWK
11.7 to 12.2 GHz	**Communications Satellite Downlink LNA**										PC5
AWC-12212	11.7-12.2	2.5	18	0.5	+7	+17	1.25	1.25	+15	60	AWM
AWC-12213	11.7-12.2	2.5	27	0.5	+7	+17	1.25	1.25	+15	80	AWM
AWC-12214	11.7-12.2	2.5	35	0.5	+7	+17	1.25	1.25	+15	100	AWM
AWC-12215	11.7-12.2	2.5	45	0.5	+7	+17	1.25	1.25	+15	120	AWM

Notes 1: Nominal. Contains integeral voltage regulator powered from center conductor of BF cable
2: Also available for AC operation from 115 VAC. Overall height increases (see case drawing).

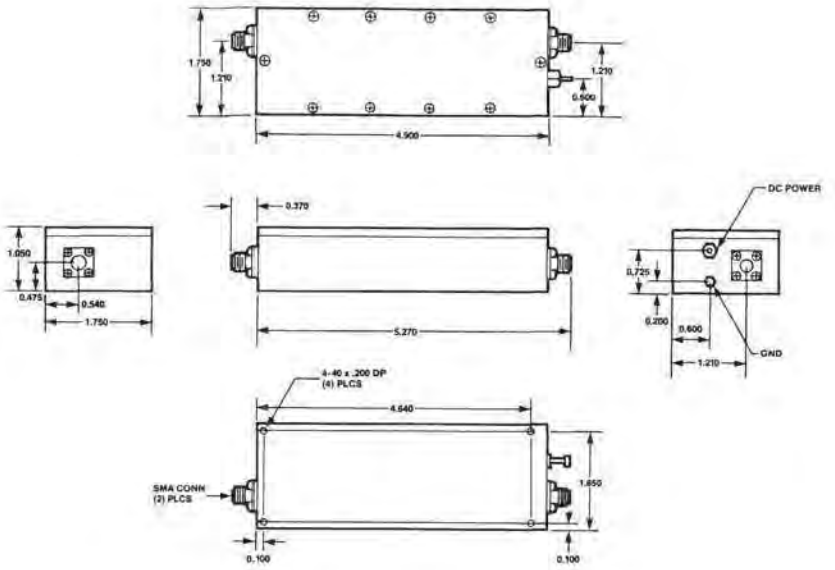
12.7 to 13.25 GHz	**CARS Band Receiver Preamplifier**										PC5
AW-13251	12.7-13.25	4.0	15	0.5	+10	+20	1.25	1.25	+15	50	AWJ
12.7 to 13.25 GHz	**CARS Band Power Amplifier**										PC5
AWP-132400	12.7-13.25	10	15	1.0	+35(4W)	+40	1.25	1.25	+15	4500	Note 1

Note 1: For case drawings, contact Avantek, Inc., 180 Blue Ravine Road, Folsom, CA 95630 - Phone (916) 985-1201.

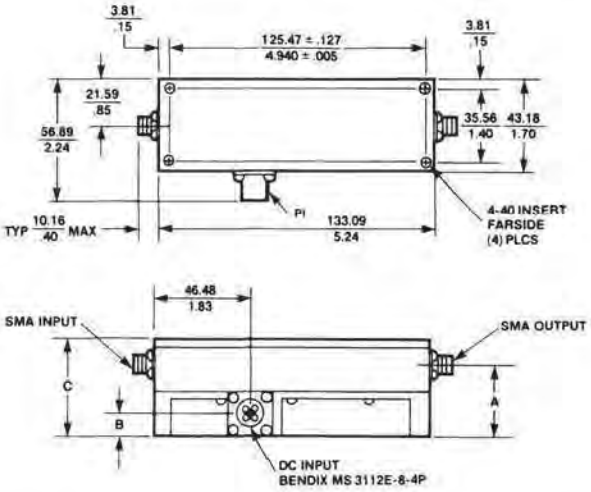
14.0 to 14.5 GHz	**Communication Satellite Uplink Driver**										PC5
AM-14512	14.0-14.5	3.0	16	0.5	+7	+17	1.25	1.25	+15	60	AMK
AM-14513	14.0-14.5	3.0	24	0.5	+7	+17	1.25	1.25	+15	80	AMK
AM-14514	14.0-14.5	3.0	32	0.5	+7	+17	1.25	1.25	+15	100	AMK
AM-14515	14.0-14.5	3.0	40	0.5	+7	+17	1.25	1.25	+15	120	AMK

CASE DRAWINGS

AN



AMK



-001 IS DC
-002 IS AC

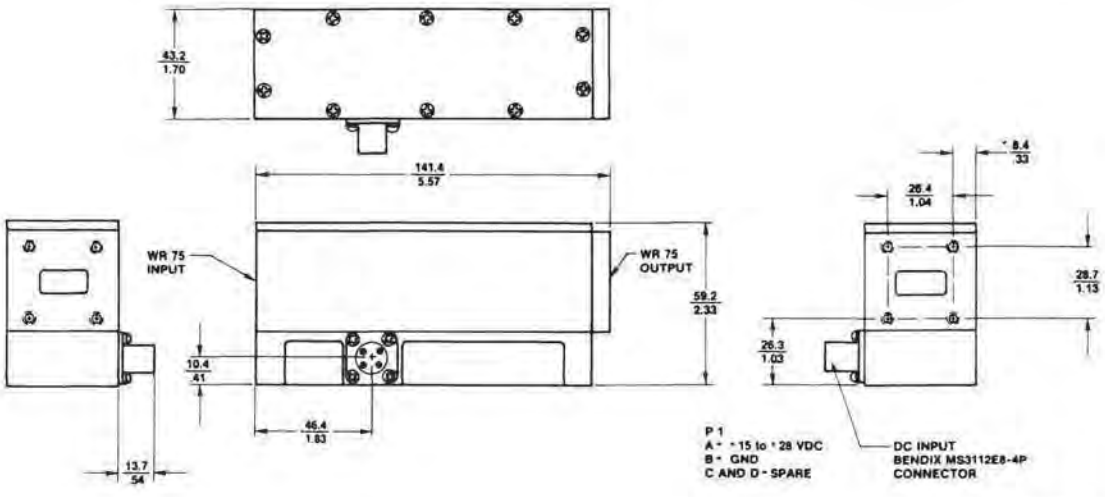
CODE	PWR SUPPLY	INCHES	MILLI-METER
A	AC	2.08	73.15
	DC	1.81	45.97
B	AC	1.05	26.67
	DC	.41	10.41
C	AC	2.48	62.99
	DC	1.41	35.81

WEIGHT: 16 OZ.

NOTE: DIMENSIONS IN MILLIMETER / INCH

TOLERANCE: ±.5 / ±.02

AWJ

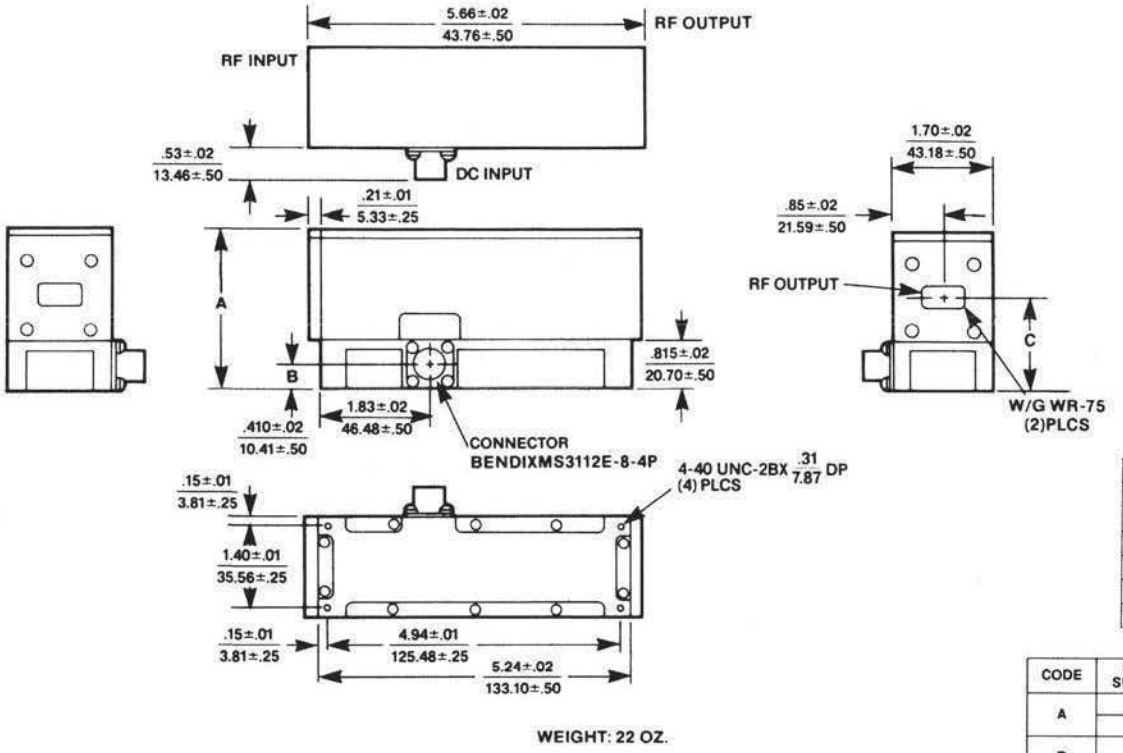


TOLERANCE: ±.5 / ±.02

NOTE: DIMENSIONS IN MILLIMETER / INCH

CASE DRAWINGS, continued

AWK

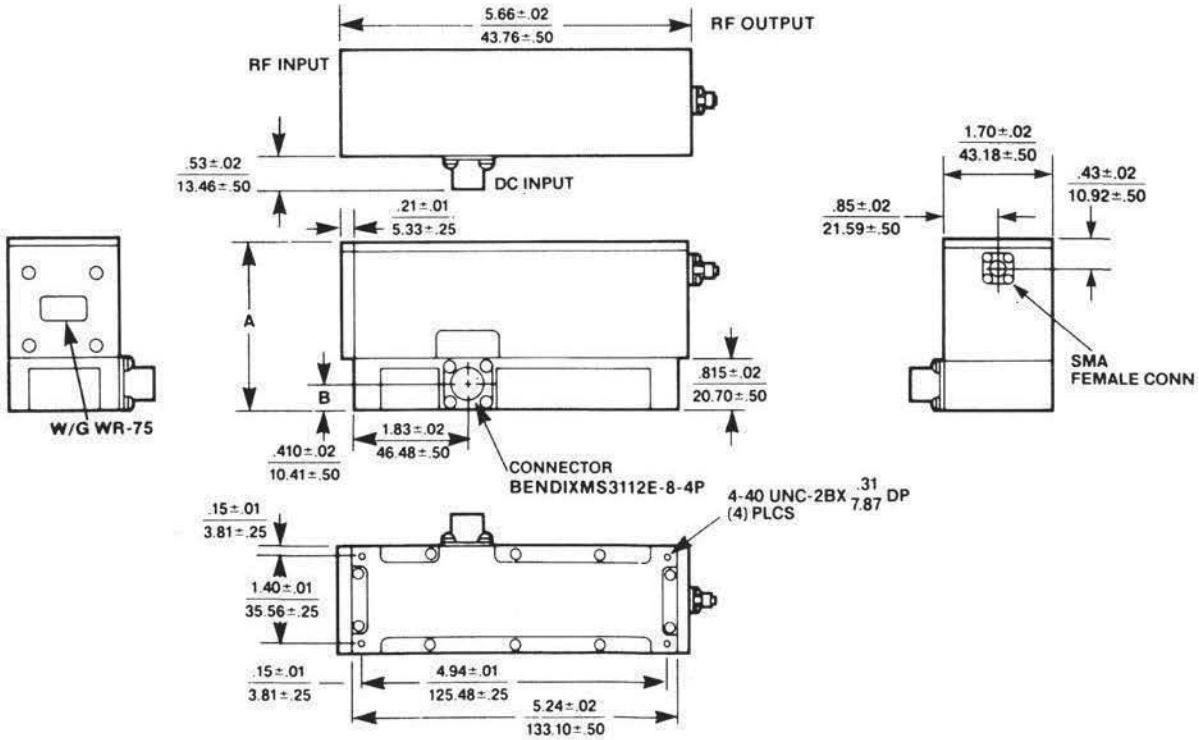


WEIGHT: 22 OZ.

CONNECTOR TABLE		
	POWER SUPPLY	
PI	AC	DC
A	115 VAC	+ 15 TO + 28 VDC
B	GND	GND
C	115 VAC	SPARE
D	SPARE	SPARE

CODE	PWR SUPPLY	INCHES	MILLI-METERS
A	AC	3.77	95.76
	DC	2.65	67.31
B	AC	1.05	26.67
	DC	.41	10.41
C	AC	2.68	68.07
	DC	1.60	40.64

AWM



DIMENSIONS: INCHES / MM

TOLERANCE: XX ±0.02 / ±.5; XXX ±0.010 / ±.25

LOW NOISE, MICROWAVE RADIO PREAMPLIFIERS

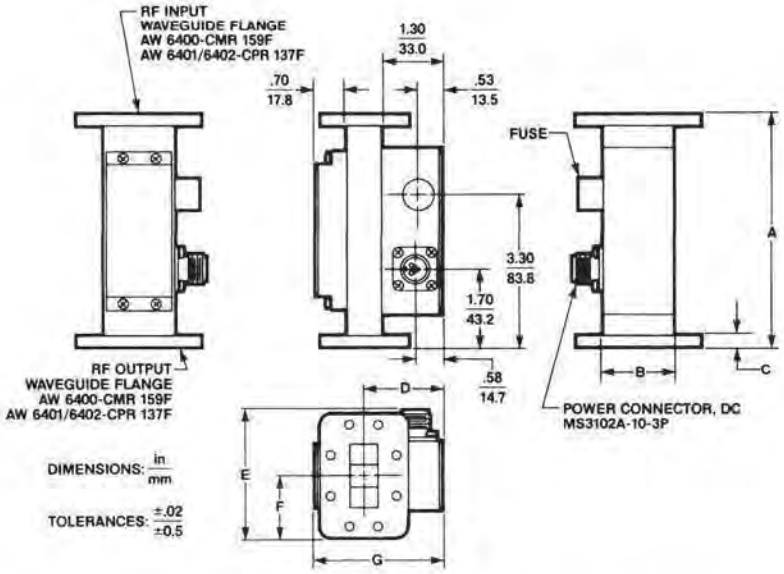
Guaranteed Specifications @ 25° C Case Temperature

Model	Frequency Range (GHz) Minimum	Noise Figure (dB) Maximum	Gain (dB) Minimum	Gain Flatness (±dB) Maximum	Power Output at 1 dB Gain Comp. (dBm) Minimum	Typical Intercept Point for Third Order Intermod Products (dBm) Min.	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Volts DC	Input Power Current (mA) Typical	Case Type	Waveguide Type
5.9 to 6.4 GHz												PC5
AW-6400	5.9-6.4	3.0	8.0	1.0	+10	+22	1.25	1.25	-24	50	1B	CMR159
AW-6401	5.9-6.4	3.0	8.0	1.0	+10	+22	1.25	1.25	-24	50	1C	CMR137
AW-6402	5.9-6.4	3.0	8.0	1.0	+10	+22	1.25	1.25	+24	50	1C	CMR137

Model	Frequency Range (GHz) Minimum	Noise Figure (dB) Max.	Noise Figure (dB) Typ.	Gain (dB) Min.	Gain (dB) Typ.	Gain Flatness (±dB) Maximum Overall	Gain Flatness (±dB) Maximum per 40 MHz	Group Delay Variation (±ns) Maximum Overall	Group Delay Variation (±ns) Maximum per 40 MHz	Output Power for 1 dB Gain Compression (dBm) Minimum	Intercept Point for 3rd Order Intermod. Products Min.,(dBm)	VSWR Input & Output Max.	Input Power (±1% regulation) Volts DC	Input Power (±1% regulation) Current (mA), Max.	Case Type	Waveguide Typ.
10.7 to 11.7 GHz																PC5
AW-11700	10.7-11.7	4.0	3.5	14	18	1.0	0.1	1.0	0.1	+7	+20	1.25	-20 to -24	100	1G	CMR90

CASE DRAWINGS

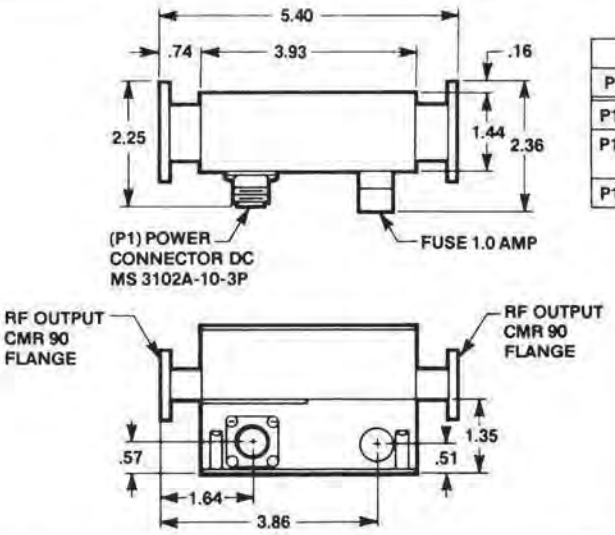
1B/1C



DIM	1B AW 6400	1C AW 6401 AW 6402
A	4.97 / 126.2	5.00 / 127.0
B	1.72 / 43.7	1.50 / 38.1
C	.20/.25 / 5.1/6.4 TYP	.25 / 6.4 TYP
D	1.76 / 44.7	1.67 / 42.4
E	2.63 / 66.8	2.73 / 69.3
F	1.25 / 31.8	1.34 / 34.0
G	2.64 / 67.1	2.75 / 69.9

DIMENSIONS: INCHES / MM
TOLERANCE: XX ±.02 / ±.5, XXX ±.010 / ±.25

1G



POWER CABLE COLOR CODE	
PIN COLOR	DESCRIPTION
P1-A RED	-20 TO -24 VDC
P1-B GRAY	ALARM-N.O. RELAY CONTACTS WITH -20 VDC APPLIED
P1-C BLACK	GROUND

MEDIUM POWER, COMMERCIAL COMMUNICATIONS BAND AMPLIFIERS

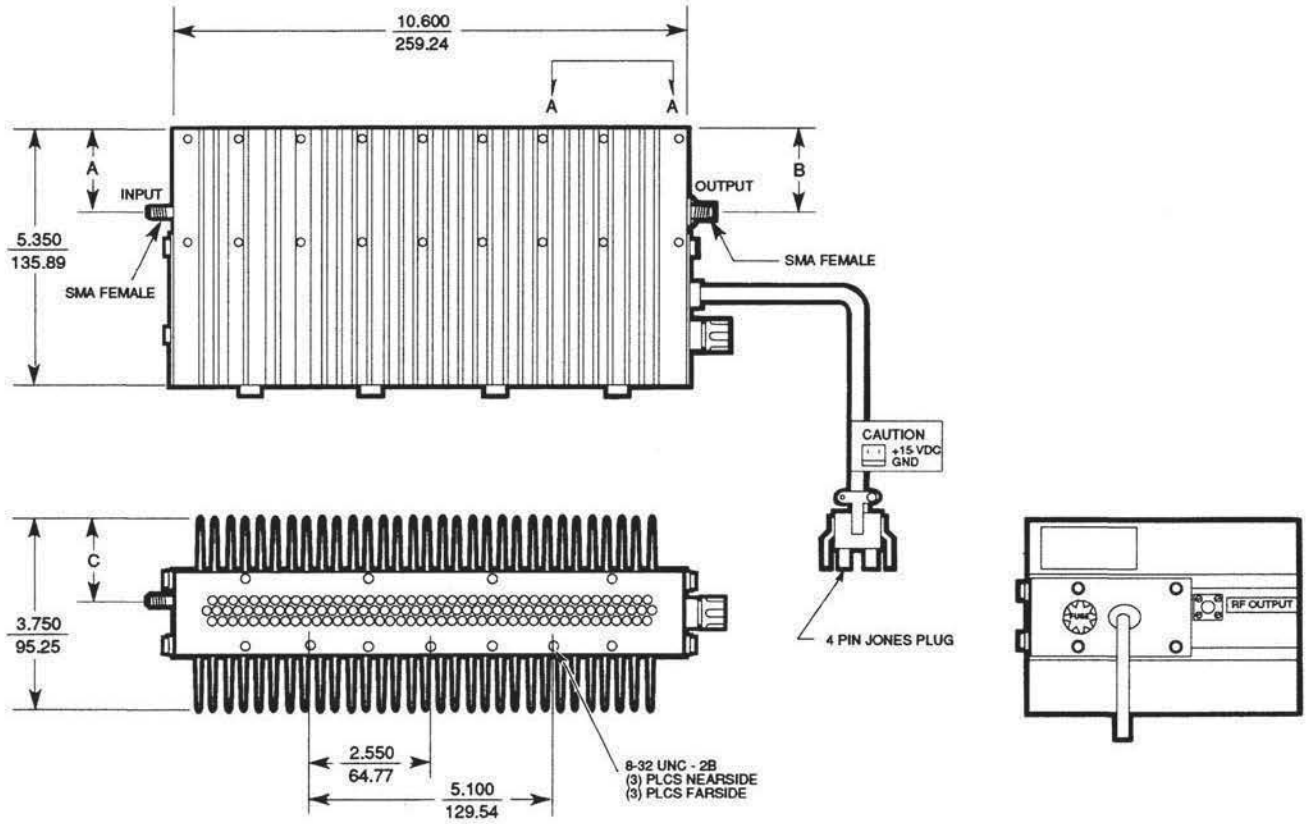
Avantek's line of 4, 6, 7, 8 and 11 GHz amplifiers are cost effective TWTA replacements with more than 10,000 now in use throughout the world. The AMT series uses substantially less input power than a TWT, has more gain thus reducing AM/PM problems due to the lower output needed from the upconverter and does not lose output power over its calculated lifetime (MTBF) of 30 years. In digital systems, at lowered gain levels, AWP amplifiers offer less than 0.25 dB compression with AM/PM of less than 0.25°/dB over the entire band.

Guaranteed Specifications @ 25° C Case Temperature PC5

Model	Frequency Response (MHz) Minimum	Power Output for 1 dB Gain Compression (dBm/Watts) Minimum	Gain (dB) Minimum	Gain Flatness (±dB) Maximum	Typical Intercept Point for IM Products (dBm)	Noise Figure (dB) Maximum	VSWR (50 ohms) Maximum In	VSWR (50 ohms) Maximum Out	Input Power Voltage (VDC ±3%)	Input Power Current (mA) Typical
3700 to 4200 MHz	**Point-to-Point Communications Amplifiers**									
AWP-42107	3700-4200	+25/.3	26	2	+35	10	1.2	1.2	+15	500
AWP-42108	3700-4200	+32/1.5	33	2	+40	10	1.2	1.2	+15	1200
AWP-42109	3700-4200	+40/10	41	2	+47	10	1.2	1.2	+15	6000
5925 to 6425 MHz	**Point-to-Point Communications or Satellite Uplink Amplifiers**									
AWP-64107	5925-6425	+25/.3	26	2	+34	10	1.2	1.2	+15	500
AWP-64108	5925-6425	+32/1.5	33	2	+40	10	1.2	1.2	+15	1200
AWP-64109	5925-6425	+40/10	41	2	+46	10	1.2	1.2	+15	6000
6425 to 7125 MHz	**Point-to-Point Communications Amplifiers**									
AWP-71107	6425-7125	+25/.3	26	2	+34	10	1.2	1.2	+15	500
AWP-71108	6425-7125	+32/1.5	33	2	+40	10	1.2	1.2	+15	1200
AWP-71109	6425-7125	+40/10	41	2	+46	10	1.2	1.2	+15	6000
7125 to 7725 MHz	**Point-to-Point Communications Amplifiers**									
AWP-77107	7125-7725	+25/.3	26	2	+34	10	1.2	1.2	+15	500
AWP-77108	7125-7725	+32/1.5	33	2	+40	10	1.2	1.2	+15	1200
AWP-77109	7125-7725	+40/10	41	2	+46	10	1.2	1.2	+15	6000
7725 to 8500 MHz	**Point-to-Point Communications Amplifiers**									
AWP-85107	7725-8500	+25/.3	26	2	+34	10	1.2	1.2	+15	500
AWP-85108	7725-8500	+32/1.5	33	2	+40	10	1.2	1.2	+15	1200
AWP-85109	7725-8500	+40/10	41	2	+47	10	1.2	1.2	+15	6000
7725 to 8275 MHz	**Point-to-Point Communications Amplifiers**									
AWP-83107	7725-8275	+25/.3	26	2	+34	10	1.2	1.2	+15	500
AWP-83108	7725-8275	+32/1.5	33	2	+40	10	1.2	1.2	+15	1200
AWP-83109	7725-8275	+40/10	41	2	+47	10	1.2	1.2	+15	6000
10.7 to 11.7 GHz	**Point-to-Point Communications Amplifiers**									
AWP-117107	10.7-11.7	+25/.3	26	2	+32	10	1.2	1.2	+15	500
AWP-117108	10.7-11.7	+32/1.5	33	2	+39	10	1.2	1.2	+15	1200
AWP-117109	10.7-11.7	+40/10	41	2	+47	10	1.2	1.2	+15	6000
14.0 to 14.5 GHz	**Communications Satellite Uplink Drivers**									
AWP-145001	14.0-14.5	+24/.25	20	.25/40 MHz	+30	10	1.2	1.2	+15	400
AWP-145001	14.0-14.5	+27/.5	20	.25/40 MHz	+33	10	1.2	1.2	+15	900
AWP-145101	14.0-14.5	+30/1.0	30	.25/40 MHz	+36	10	1.2	1.2	+15	1000
AWP-145102	14.0-14.5	+33/2	30	.25/40 MHz	+39	10	1.2	1.2	+15	4500
AWP-145103	14.0-14.5	+34/3	30	.25/40 MHz	+40	10	1.2	1.2	+15	4500
AWP-145503	14.0-14.5	+34/3	40	.25/40 MHz	+40	10	1.2	1.2	+15	4500
AWP-145504	14.0-14.5	+36/4	40	.25/40 MHz	+41	10	1.2	1.2	+15	6000
AWP-145505	14.0-14.5	+37/5	40	.25/40 MHz	+42	10	1.2	1.2	+15	6000

Note 1: Units are available with or without top and/or bottom heatsinks.

CASE DRAWINGS



Part Number	A	B	C
AWP-4210X	1.400	.665	1.907
AWP-6410X	1.580	.674	1.891
AWP-7110X	1.525	.975	1.891
AWP-7710X	1.525	.975	1.891
AWP-8310X	1.525	.975	1.891
AWP-8510X	1.525	.975	1.891
AWP-117107, 8	1.750	1.645	1.650
AWP-117109	1.475	1.065	1.650

DIMENSIONS: INCHES / MM

TOLERANCE; XX $\frac{\pm 0.02}{\pm 0.5}$; XXX $\frac{\pm 0.010}{\pm 0.25}$

CELLULAR RADIO, PAGING AND MULTIPLE ADDRESS SYSTEM BASE STATION AMPLIFIERS

Avantek manufactures Cellular Radio Cellsite Power Amplifiers in the 860 to 900 MHz range with output power of 45 watts ±1 dB. The output power is continuously variable down to 7 watts. In addition to the Cellular Frequency Range, amplifiers can be furnished for 928-929 MHz paging use and the 952-960 MHz multiple Address System Range.

The units operate with an input power range of .75-1.6 watts. A companion Low Noise Receiving Amplifier is available for operation in the Cellsite Receiving Band of 821-851 MHz. The unit has a typical noise figure of 2.5 dB and a nominal gain of 44 dB.

Guaranteed Specifications 0° to 50° C Case Temperature[7] PC5

Model	Frequency Range[1]	RF Input Power (Watts)	RF Output Power (Watts)[2,6]	DC Current	Second Harmonic Output	Third Harmonic Output	VSWR (50 ohms) In	VSWR (50 ohms) Out	ON-OFF Control	Carrier Leakage	Spurious Signals and Noise
AWP-900	860-900 928-929 952-960	.75-1.6	45±dB @ +26 VDC 25 Min. @ +22 VDC 12 Min. @ +19 VDC	6A @ +26 VDC	>30 dBc	>60 dBc	1.5	1.5	Note 3	Note 4	Note 5

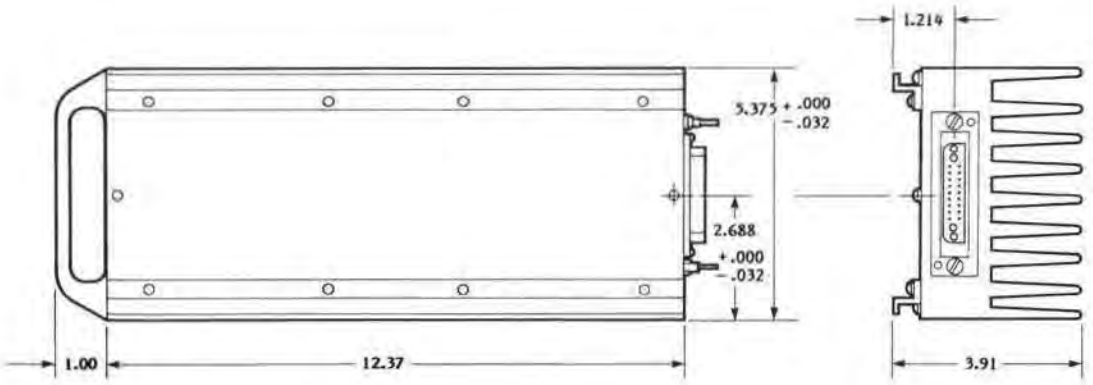
Notes 1: Specify when ordering.
2: Adjustable to 7 watts output at input DC voltage shown.
3: TTL compatible logic: Logic 1, unit ON
Logic 0, unit OFF
4: ≤+5 dBm with Logic 0 applied.
5: At 860-990 MHz >200 KHz from carrier ≤-15 dBm (30 KHz bandwidth).
6: RF Output power applies to all frequency ranges.
7: Forced air cooling with 150 cfm required.

PC5

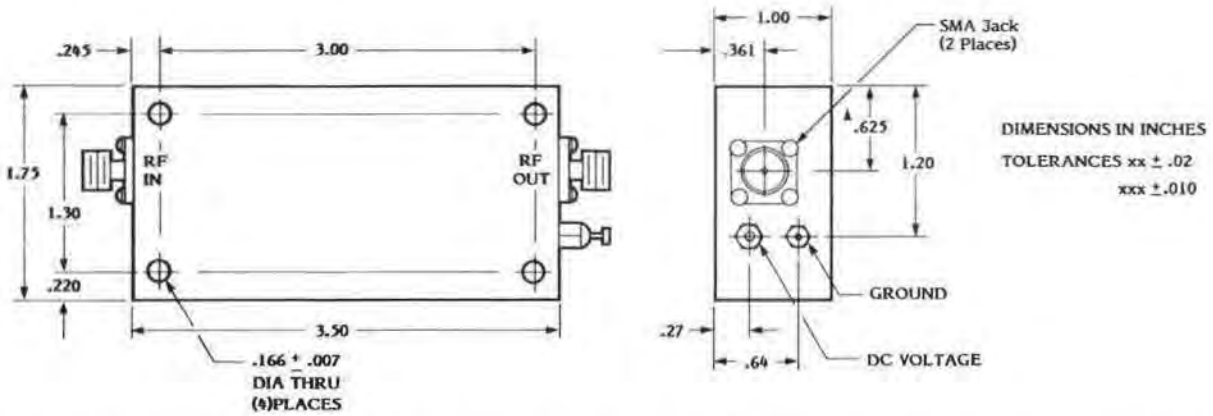
Model	Frequency Range	Output Power at 1 dB Gain Compression	Gain	Noise Figure	VSWR (50 ohms) In	VSWR (50 ohms) Out	3rd Order Intercept	DC Current	DC Voltage Range (VDC)
AM-900	821-851 MHz	+19 dBm	44 dB	3.0 dB	2.0	2.0	+30 dBm (min)	250 MA	+13.5 to +16.5

CASE DRAWINGS

AWP-900



AM-900



MILITARIZED, LOW-NOISE TWT REPLACEMENT AMPLIFIERS

ATR Series Thin-Film GaAs FET Amplifiers with Integral DC Power Supplies

Avantek ATR Series amplifiers consist of state-of-the-art, thin-film GaAs FET amplifier circuits packaged as form, fit and functional replacements for the most common low-noise TWT amplifiers found in present airborne radar and ECM receiving systems. They will fit within the same volume and use the same mounting hardware and cabling as the tube amplifiers and are powered directly from available 115 or 230 VAC power sources.

Top Access ATR "7 Series" U.S. Navy Qualified Units[1]

Guaranteed Specifications @ -25 to +65° C Case Temperature

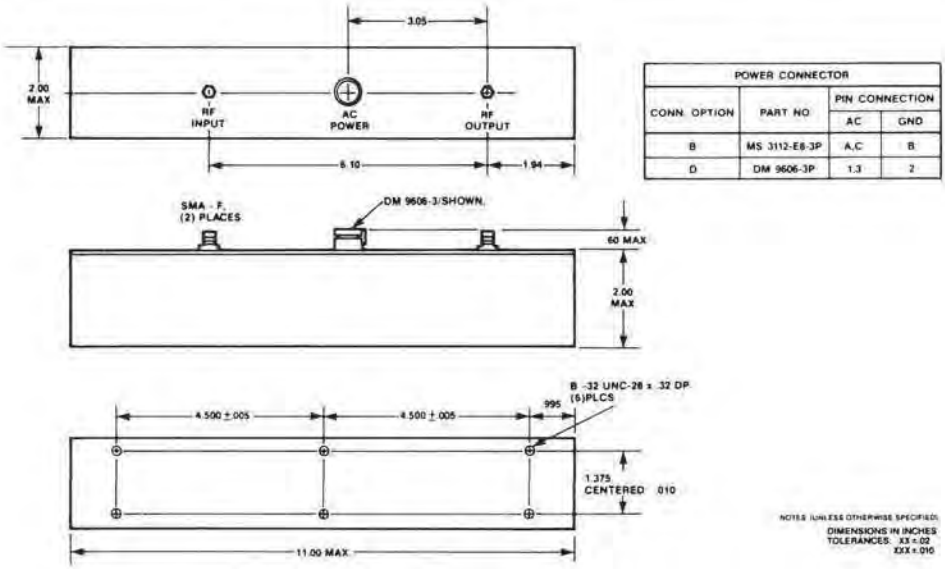
PC3

Model Number[1]	Frequency Response (GHz) Minimum	Noise Figure (dB) Maximum	Small Signal Gain (dB) Minimum	Small Signal Gain (dB) Maximum	Gain Flatness (±dB) Maximum	Power Output for 1 dB Gain Compression (dBm) Minimum	Intercept Point for IM Products (dBm) Typical	VSWR Maximum In	VSWR Maximum Out	Input Power (Watts) Maximum	Case Type
ATR-8071	4-8	8	36	41	1.5	+10	+20	2.3	2.3	20	ATR-7
ATR-12071	7-12	9	37	41	1.5	+7	+20	2.3	2.3	20	ATR-7
ATR-18071	10.75-18	10.5	37	43.5	3.0	+7	+17	2.3	2.3	20	ATR-7
ATR-26071[2]	18-26.5	9	40	48	3.0	+12	+20	2.3	2.3	20	ATR-7/WG
ATR-40071[2]	26.5-40	12	35	43	4.0	+6	+15	3.0	3.0	15	ATR-7/WG

Notes 1: These are U.S Navy Qualified Units and may be ordered under the following National Stock Numbers:
ATR-8071: NSN 4G 5865-01-067-3156
ATR-12071: NSN 4G 5865-01-062-8494
ATR-18071: NSN 4G 5865-LL-HHA-5002
ATR-26071: NSN 7H 2040-LL-HHB-3719
ATR-40071: NSN 7H 2040-01-162-2997
2: 0° to 50° C.

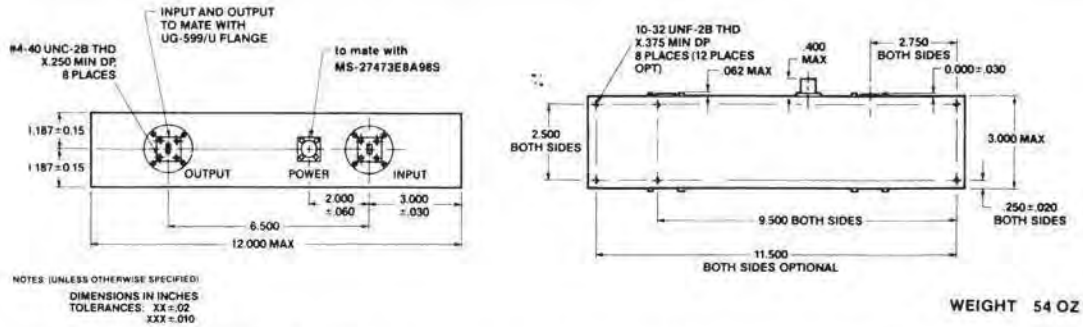
CASE DRAWINGS

ATR 7



POWER CONNECTOR			
CONN. OPTION	PART NO	PIN CONNECTION AC	PIN CONNECTION GND
B	MS 3112-E8-3P	A,C	B
D	DM 9606-3P	1,3	2

ATR 7/WG



WEIGHT 54 OZ