

## Avantek Products

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# IF/RF Cascadable Amplifiers

## Selection Guide

### Description

HP's ACT Series are multi-stage, high performance amplifiers packaged in a hermetic stainless steel Avanpak package with removable connectors for SMA connections or drop-in assembly. The 5 to 2000 MHz part of the line uses some of HP's most popular UTO devices cascaded in substrate form. This permits the cascades to be factory-tuned to provide a wide selection of low

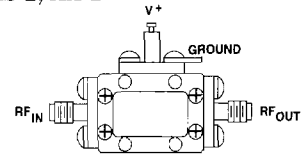
NF, high gain, flat frequency response and moderate output power products. Other parts in the line are a 0.1 to 4000 MHz extremely broadband unit, and several narrowband ultra-low-NF amplifiers. The ACT line is recommended for use as instrumentation amplifiers, LNAs, Fiber optic system amplifiers or any other application where performance plays a major role.

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## ACT Series

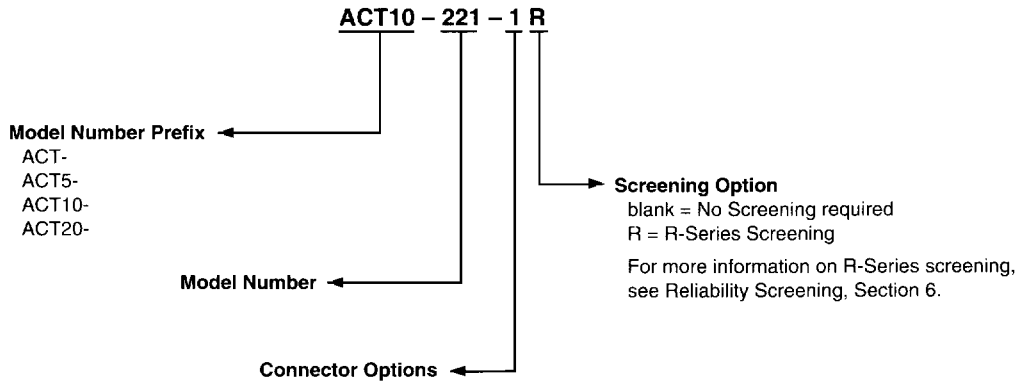
### Case Types

AS-2, AX-2



(See Section 5 for detailed case drawings.)

## Product Options



Connector Option Table		
Dash No.	RF <sub>IN</sub>	RF <sub>OUT</sub>
-1	Female	Female
-2	PIN	PIN
-3	Male	Male
-4	Male	Female
-5	Female	Male

## ACT Series Cascaded Amplifiers

(Guaranteed Specifications at 0 to 50°C Case Temperature, V = +15 VDC)

Model	Frequency Range (MHz)	Gain (dB) Typ./Min.	Noise Figure (dB) Maximum	Power Output for 1 dB Gain Compression (dBm) Minimum	Gain Flatness (dB) Maximum	Intercept Point for IM Products (dBm) Typical	VSWR 50 Ohms In/Out Maximum	Input Bias Current (mA) Typical
<b>10 to 500 MHz</b>								
ACT5-200-X	10-500	26.5/25	2.7	+6	±1.5	+22	2.0:1	35
ACT5-201-X	10-500	37/35	2.7	+7	±1.5	+20	2.0:1	33
ACT5-202-X	10-500	51.5/49	2.7	+6	±1.5	+18	2.0:1	60
ACT5-203-X	10-500	64.5/62	2.7	+6	±2.0	+18	2.0:1	70
ACT5-210-X	10-500	27.5/26	3.0	+14	±1.5	+30	2.0:1	78
ACT5-211-X	10-500	38/36	3.5	-14	±1.5	+30	2.0:1	76
ACT5-212-X	10-500	47/45	2.7	+14	±1.5	+27	2.0:1	80
ACT5-213-X	10-500	54/52	2.7	+14	±2.0	+27	2.0:1	92
ACT5-214-X	10-500	67/65	2.7	+14	±2.0	+27	2.0:1	103
ACT5-220-X	10-500	24.5/23	3.5	+23	±1.5	+35	2.0:1	165
ACT5-221-X	10-500	35/33	3.0	+23	±2.0	+35	2.0:1	190
ACT5-222-X	10-500	46/44	3.0	+23	±2.0	+35	2.0:1	193
ACT5-223-X	10-500	60.5/58	3.0	+23	±2.0	+35	2.0:1	210
<b>10 to 1000 MHz</b>								
ACT10-210-X	10-1000	21.5/20	4.5	+11	±2.0	-28	2.0:1	60
ACT10-211-X	10-1000	31/29	3.7	+9	±1.5	+20	2.0:1	37
ACT10-212-X	10-1000	41/39	3.7	+9	±2.0	+20	2.0:1	62
ACT10-213-X	10-1000	52/50	3.7	+12	±1.5	+27	2.0:1	101
ACT10-220-X	20-1000	22.5/21	5.0	+20	±2.0	+35	2.0:1	125
ACT10-221-X	10-1000	33/31	4.5	-20	±2.0	+35	2.0:1	150
ACT10-222-X	10-1000	42/40	3.7	+20	±2.0	+35	2.0:1	155
ACT10-223-X	10-1000	49/47	3.7	+20	±2.0	+35	2.0:1	163
<b>10 to 2000 MHz</b>								
ACT20-210-X	10-2000	19.5/18	5.0	+7	±1.5	+17	2.2:1	41
ACT20-211-X	10-2000	28/26	5.0	+14	±2.0	+29	2.2:1	91
ACT20-212-X	10-2000	34/32	6.0	+14	±2.0	+29	2.2:1	104
ACT20-213-X	10-2000	40/38	6.0	-12	±2.0	+29	2.2:1	126

## Avanpak Cascaded Amplifier

(Guaranteed Specifications @ 0° to 50°C Case Temperature)

Model	Frequency Range (MHz)	Gain (dB) Typ./Min.	Noise Figure (dB) Maximum 0.1 to 2000 >2000 to 4000 (MHz)	Power Output @ 1.0 dB Comp. (dBm), Min. 0.1 to 2000 >2000 to 4000 (MHz)	Gain Flatness (dB) Max.	Third-Order Intercept Point (dBm) Typ. 0.1 to 2000 >2000 to 4000 (MHz)	Input Power Voltage (VDC)	Current (mA) Typ.	Page Number
ACT-4032-X	0.1-4000	19/18	7.5 9.0	7.5 2.0	±1.0	19.0 10.0	+15	105	1-333

## ACT Series Ultra Low Noise, Narrowband Amplifiers

(Guaranteed Specifications at 0° to 50°C Case Temperature, V = +12 VDC)

Model	Frequency Range (MHz) Min.	Gain (dB) Min.	Noise Figure (dB) Max.	Power Output @ 1 dB Gain Compression (dBm) Min.	Gain Flatness (dB) Max.	Third-Order Intercept Point (dBm) Typ.	Input Power Voltage (VDC)	Current (mA) Typ.	Page Number
ACT-120923-X	950-1250	35.5	1.5	+14	±0.5	26	+12-15	95	1-336
ACT-141223-X	1200-1400	35	1.5	+13	±0.5	25	+12-15	95	1-339
ACT-161223-X	1200-1600	34	1.5	+15	±0.7	24	+12-15	90	1-342