

Avantek Products

Microwave Wideband GaAs FET Gain Control Amplifiers

Selection Guide

Features

- 2 to 18 GHz Frequency Coverage
- 10 and 20 dB of Gain Control
- Small Signal Gain of 25 and 45 dB
- 0-10 Volts @ <10 mA typical

Applications

- Automatic Gain Control
- Microwave Transceivers
- Commercial and Military

Description

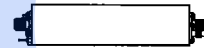
Both the AGT 823x series and the AGT 1863x series provide a continuously variable gain control over two key wideband frequency ranges, providing the system designer with increased dynamic range and the ability to set signal levels.

The AGT series uses dual-gate GaAs FET variable gain modules that respond rapidly (less than 10 ms) to 0 to +10 VDC control voltage inputs. Control current drain is low (typically less than 10 mA) simplifying control driver requirements. The variable gain control modules are combined with HP's high performance GaAs FET fixed-gain modules to provide both low noise figure and medium power output over the entire multi-octave frequency bands.

AGT Series

Case Types

IC_, IX_

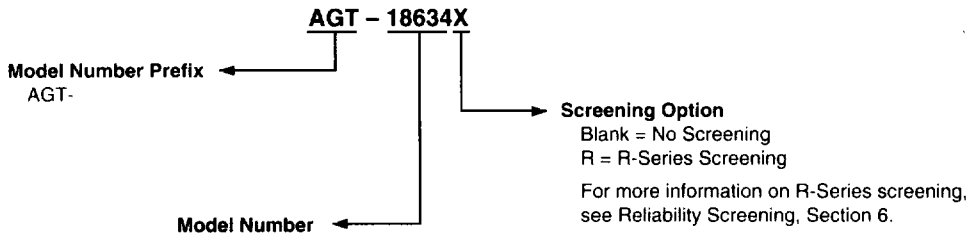


(See Section 5 for detailed case drawings.)

Temperature Compensation using the Gain Control

The gain control provided in both AGT series may be used to provide temperature compensation for gain variation within the amplifier. The user can determine the actual gain change over temperature exhibited by the amplifier and/or other system elements. The amplifier should then be set up to provide a zero gain reduction at the high temperature, and the gain control voltage then linearly increased to provide the appropriate gain.

Product Options



Contact your nearest HP sales office and/or distributor for assistance in ordering these products.

AGT Series

Guaranteed Specifications @ 25°C Case Temperature

Model	Frequency Response Minimum (GHz)	Small Signal Gain Minimum with NO Gain Control (dB)	MAX Gain Control Range ¹ (dB)	Noise Figure Maximum		Power Output for 1dB Gain Compression Minimum		Gain Flatness Maximum (±dB)	Typical Third-Order Intercept Point ABOVE 1 dB Compression (dBm)	VSWR (50 ohms)		Input Power ² Typical Current (mA)	Case Type
				@ NO Gain Control (dB)	@ MAX Gain Control (dB)	with NO Gain Control (dBm)	@MAX Gain Control (dBm)			Maximum In	Out		
AGT-8233	2-8	25	10	5.5	7.0	+15	+12	2.0	8.0	2.0	2.0	300	IC4G
AGT-8235	2-8	45	20	5.5	7.0	+15	+12	3.0	8.0	2.0	2.0	500	IC6G
AGT-18634	6-18	25	10	6.0	7.0	+15	+10	2.0	8.0	2.0	2.0	300	IX4G
AGT-18637	6-18	45	20	6.0	8.0	+15	+12	3.5	8.0	2.0	2.0	500	IX8G

Notes:

- Gain control voltage:**
0 to +10 VDC maximum. 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.
- Contains integral voltage regulator permitting operation from unregulated +12 to +15 VDC power supply. Specified current is typical at +12 VDC.
- For description of all available product options, refer to Product Options at beginning of this subsection.

Performance Curves

Typical Performance @ 25°C Case Temperature

