



GFG-8200A Series

FEATURES

GFG-8215A



- Frequency Range: 0.3Hz ~ 3MHz
- Waveforms: Sine, Triangle, Square, Ramp, TTL and CMOS Output
- External Voltage Controlled Frequency (VCF) Function
- Duty Cycle Control with Signal Inversion Capability
- Variable DC Offset Control
- Two-Step (-20dBx2) and Variable attenuator

GFG-8216A



- Frequency Range: 0.3Hz ~ 3MHz
- Waveforms: Sine, Triangle, Square, Ramp, TTL and CMOS Output
- External Voltage Controlled Frequency (VCF) Function
- Duty Cycle Control with Signal Inversion Capability
- Variable DC Offset Control
- Two-Step (-20dBx2) and Variable attenuator
- Built-in 6 Digit Counter with INT/EXT Function up to 150MHz

GFG-8217A



- Frequency Range: 0.3Hz ~ 3MHz
- Waveforms: Sine, Triangle, Square, Ramp, TTL and CMOS Output
- External Voltage Controlled Frequency (VCF) Function
- Duty Cycle Control with Signal Inversion Capability
- Variable DC Offset Control
- Two-Step (-20dBx2) and Variable attenuator
- Built-in 6 Digit Counter with INT/EXT Function up to 150MHz
- LIN/LOG Sweep Mode

GFG-8219A



- Frequency Range: 0.3Hz ~ 3MHz
- Waveforms: Sine, Triangle, Square, Ramp, TTL and CMOS Output
- External Voltage Controlled Frequency (VCF) Function
- Duty Cycle Control with Signal Inversion Capability
- Variable DC Offset Control
- Two-Step (-20dBx2) and Variable attenuator
- Built-in 6 Digit Counter with INT/EXT Function up to 150MHz
- INT/EXT AM/FM Modulation
- LIN/LOG Sweep Mode
- GCV Output for Synchronization

GFG-8250A



- Frequency Range: 0.5Hz ~ 5MHz
- Waveforms: Sine, Triangle, Square, Ramp, TTL and CMOS Output
- External Voltage Controlled Frequency (VCF) Function
- Duty Cycle Control with Signal Inversion Capability
- Variable DC Offset Control
- Two-Step (-20dBx2) and Variable attenuator
- Built-in 6 Digit Counter with INT/EXT Function up to 150MHz

GFG-8255A



- Frequency Range: 0.5Hz ~ 5MHz
- Waveforms: Sine, Triangle, Square, Ramp, TTL and CMOS Output
- External Voltage Controlled Frequency (VCF) Function
- Duty Cycle Control with Signal Inversion Capability
- Variable DC Offset Control
- Two-Step (-20dBx2) and Variable attenuator
- Built-in 6 Digit Counter with INT/EXT Function up to 150MHz
- INT/EXT AM/FM Modulation
- LIN/LOG Sweep Mode
- GCV Output for Synchronization

## SPECIFICATIONS

MODEL		GFG-8215A/8216A/8217A/8219A	GFG-8250A / 8255A
<b>MAIN</b>	<b>Frequency Range</b> <b>Amplitude</b> <b>Impedance</b> <b>Attenuator</b> <b>DC Offset</b> <b>Duty Control</b> <b>Display</b>  <b>Range Accuracy</b>	0.3Hz ~ 3MHz (7 Range) > 10Vpp (into 50 load) 50 $\pm$ 10% -20dB $\pm$ 1dBx2 <-5V ~ >5V (into 50 load) 80% : 20% : 80% to 1MHz Continue variable 6 digit LED display *GFG-8215A does not have display. $\pm$ 5%+1Hz (at 3 position) *only for GFG-8215A	0.5Hz ~ 5MHz (7 Range) > 10Vpp (into 50 load) 50 $\pm$ 10% -20dB $\pm$ 1dBx2 <-5V ~ >5V (into 50 load) 80% : 20% : 80% to 1MHz Continue variable 6 digit LED display
<b>SINE WAVE</b>	<b>Distortion</b>  <b>Flatness</b>	$\leq$ 1%, 0.3Hz ~ 200kHz THD $\leq$ 35dB below fundamental in all range (Specification applied from MAX. to 1/10 level) < 0.3dB, 0.3Hz ~ 300kHz < 0.5dB, 300kHz ~ 3MHz	$\leq$ 1%, 0.5Hz ~ 100kHz THD $\leq$ 30dB below fundamental in all range (Specification applied from MAX. to 1/10 level) $\leq$ 0.3dB, below 500kHz $\leq$ 1dB, below 5MHz
<b>TRIANGLE WAVE</b>	<b>Linear</b>	$\geq$ 98%, 0.3Hz ~ 100kHz $\geq$ 95%, 100kHz ~ 3MHz	$\geq$ 98%, 0.5Hz ~ 100kHz $\geq$ 95%, 100kHz ~ 5MHz
<b>SQUARE WAVE</b>	<b>Symmetry</b> <b>Rise or Fall Time</b>	$\pm$ 2%, 0.3Hz ~ 100kHz $\leq$ 100nS at maximum output (into 50 load)	$\pm$ 2%, 1Hz ~ 100kHz $\leq$ 50nS at maximum output (into 50 load)
<b>CMOS OUTPUT</b>	<b>Level</b> <b>Rise or Fall Time</b>	4Vpp $\pm$ 1Vpp ~ 14.5Vpp $\pm$ 0.5Vpp adjustable $\leq$ 120nS	4Vpp $\pm$ 1Vpp ~ 14.5Vpp $\pm$ 0.5Vpp adjustable $\leq$ 120nS
<b>TTL OUTPUT</b>	<b>Level</b> <b>Fan Out</b> <b>Rise or Fall Time</b>	$\geq$ 3Vpp 20 TTL load $\leq$ 25nS	$\geq$ 3Vpp 20 TTL load $\leq$ 25nS
<b>VCF</b>	<b>Input Voltage</b> <b>Input Impedance</b>	0V ~ 10V $\pm$ 1V (100 : 1) 10k $\pm$ 10%	0V ~ 10V $\pm$ 1V (100 : 1) 10k $\pm$ 10%
<b>GCV</b> (for GFG-8219A/8255A only)	<b>Output Voltage</b>	To set the voltage between 0V ~ 2V as per different frequency	To set the voltage between 0V ~ 2V as per different frequency
<b>SWEEP OPERATION</b> (for GFG-8217A/8219A/8255A only)	<b>Sweep/Manual</b> <b>Sweep/Rate</b> <b>Sweep/Time</b> <b>Sweep/Mode</b>	Switch selector 100 : 1 ratio max. and adjustable 0.5sec. ~ 30sec. adjustable Lin./Log. switch selector	Switch selector 100 : 1 ratio max. and adjustable 0.5sec. ~ 30sec. adjustable Lin./Log. switch selector
<b>AMPLITUDE MODULATION</b> (for GFG-8219A/8255A only)	<b>Depth</b> <b>MOD. Frequency</b> <b>Carrier BW</b> <b>EXT Sensitivity</b>	0 ~ 100% 400Hz (INT), DC ~ 1MHz (EXT.) 100Hz ~ 3MHz (-3dB) $\leq$ 10Vpp for 100% modulation	0 ~ 100% 400Hz (INT), DC ~ 1MHz (EXT.) 100Hz ~ 5MHz (-3dB) $\leq$ 10Vpp for 100% modulation
<b>FREQUENCY MODULATION</b> (for GFG-8219A/8255A only)	<b>Deviation</b> <b>MOD. Frequency</b> <b>EXT. Sensitivity</b>	0 ~ $\pm$ 5% 400Hz (INT), DC ~ 20kHz (EXT.) $\leq$ 10Vpp for 10% modulation	0 ~ $\pm$ 5% 400Hz (INT), DC ~ 20kHz (EXT.) $\leq$ 10Vpp for 10% modulation
<b>FREQUENCY COUNTER</b> (except GFG-8215A)	<b>Int./Ext. Range</b> <b>Accuracy</b> <b>Time Base</b>  <b>Resolution</b>  <b>Input Impedance</b> <b>Sensitivity</b>	Switch selector 0.3Hz ~ 3MHz (5Hz ~ 150MHz EXT.) Time base accuracy $\pm$ 1 count $\pm$ 10ppm (23 $^{\circ}$ C $\pm$ 5 $^{\circ}$ C) after 30 minutes warm up The maximum resolution is 100nHz for 1Hz and 1Hz for 100MHz 1M // 150pF $\leq$ 35mVrms (5Hz ~ 100MHz) $\leq$ 45mVrms (100MHz ~ 150MHz)	Switch selector 0.5Hz ~ 5MHz (5Hz ~ 150MHz EXT.) Time base accuracy $\pm$ 1 count $\pm$ 10ppm (23 $^{\circ}$ C $\pm$ 5 $^{\circ}$ C) after 30 minutes warm up The maximum resolution is 100nHz for 1Hz and 1Hz for 100MHz 1M // 150pF $\leq$ 35mVrms (5Hz ~ 100MHz) $\leq$ 45mVrms (100MHz ~ 150MHz)
<b>GENERAL INFORMATION</b>	<b>Power Source</b> <b>Accessories</b>  <b>Dimension</b> <b>Weight</b>	AC115V, 230V $\pm$ 15%, 50 / 60Hz GTL-101 x 2 (GTL-101 x 1 for GFG-8215A) User manual x 1 251 (W) x 91 (H) x 291 (D) Approx. 2.0 kgs(GFG-8215A)    Approx. 2.15kgs(GFG-8217A) Approx. 2.1 kgs(GFG-8216A)    Approx. 2.2 kgs(GFG-8219A)	AC115V, 230V $\pm$ 15%, 50 / 60Hz GTL-101 x 2 User manual x 1 251 (W) x 91 (H) x 291 (D) Approx. 2.3 kgs (GFG-8250A) Approx. 2.4 kgs (GFG-8255A)

Specifications subject to change without notice. FG-820AGD0DH

### Ordering Information

GFG-8215A	3MHz Function Generator	GFG-8219A	3MHz Function Generator With Counter, Sweep Mode & AM/FM Modulation
GFG-8216A	3MHz Function Generator With Counter	GFG-8250A	5MHz Function Generator With Counter
GFG-8217A	3MHz Function Generator With Counter x Sweep Mode	GFG-8255A	5MHz Function Generator With Counter, Sweep Mode & AM/FM Modulation

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