

DDS Function Generator

B6

NEW



CE

SFG-2104/2107/2110 (4/7/10MHz)

NEW



CE

SFG-2004/2007/2010 (4/7/10MHz)

FEATURES

- * DDS Technology and FPGA Chip Design
- * Frequency Range:0.1Hz~4MHz/7MHz/10MHz
- * High Frequency Accuracy : ± 20 ppm
- * High Frequency Stability : ± 20 ppm
- * Frequency Resolution :100mHz
- * Low Distortion Sine Wave : -55dBc, 0.1Hz~200KHz

- * Built-in 6 Digits, 150MHz/High Resolution Counter (SFG-2100 Series Only)
- * INT/EXT AM/FM Modulation (SFG-2100 Series Only)
- * LIN/LOG Sweep Mode (SFG-2100 Series Only)
- * Front Panel Setting Save/Recall with 10 Groups of Setting Memories

SPECIFICATIONS

			SFG-2000 Series			SFG-2100 Series		
			SFG-2004	SFG-2007	SFG-2010	SFG-2104	SFG-2107	SFG-2110
MAIN	Frequency	Range(For Sine, Square)	0.1Hz~4MHz	0.1Hz~7MHz	0.1Hz~10MHz	0.1Hz~4MHz	0.1Hz~7MHz	0.1Hz~10MHz
	Range(For Triangle)	Resolution	0.1Hz~1MHz	0.1Hz	0.1Hz~10MHz	0.1Hz~1MHz	0.1Hz	0.1Hz~10MHz
	Stability	Accuracy	± 20 ppm	± 20 ppm	± 5 ppm / year	± 20 ppm	± 20 ppm	± 5 ppm / year
	Aging	Output Function	Sine, Square, Triangle	Sine, Square, Triangle	Sine, Square, Triangle	Sine, Square, Triangle	Sine, Square, Triangle	Sine, Square, Triangle
	Amplitude	Range	10Vpp(into 50 Ω load)	10Vpp(into 50 Ω load)	10Vpp(into 50 Ω load)	10Vpp(into 50 Ω load)	10Vpp(into 50 Ω load)	10Vpp(into 50 Ω load)
	Flatness(Sinewave relative to 1kHz)	Impedance	$< \pm 0.3$ dB, 0.1Hz~1MHz; $< \pm 0.5$ dB, 1MHz~4MHz; $< \pm 2$ dB, 4MHz~10MHz	$< \pm 0.3$ dB, 0.1Hz~1MHz; $< \pm 0.5$ dB, 1MHz~4MHz; $< \pm 2$ dB, 4MHz~10MHz	$< \pm 0.3$ dB, 0.1Hz~1MHz; $< \pm 0.5$ dB, 1MHz~4MHz; $< \pm 2$ dB, 4MHz~10MHz	$< \pm 0.3$ dB, 0.1Hz~1MHz; $< \pm 0.5$ dB, 1MHz~4MHz; $< \pm 2$ dB, 4MHz~10MHz	$< \pm 0.3$ dB, 0.1Hz~1MHz; $< \pm 0.5$ dB, 1MHz~4MHz; $< \pm 2$ dB, 4MHz~10MHz	$< \pm 0.3$ dB, 0.1Hz~1MHz; $< \pm 0.5$ dB, 1MHz~4MHz; $< \pm 2$ dB, 4MHz~10MHz
	Attenuator	DC Offset	50 $\Omega \pm 10\%$	50 $\Omega \pm 10\%$	50 $\Omega \pm 10\%$	50 $\Omega \pm 10\%$	50 $\Omega \pm 10\%$	50 $\Omega \pm 10\%$
	Duty Control	Range	-20dB ± 1 dBx2	-20dB ± 1 dBx2	-20dB ± 1 dBx2	-20dB ± 1 dBx2	-20dB ± 1 dBx2	-20dB ± 1 dBx2
	Resolution	Resolution	$< -5V \sim > +5V$ (into 50 Ω load)	$< -5V \sim > +5V$ (into 50 Ω load)	$< -5V \sim > +5V$ (into 50 Ω load)	$< -5V \sim > +5V$ (into 50 Ω load)	$< -5V \sim > +5V$ (into 50 Ω load)	$< -5V \sim > +5V$ (into 50 Ω load)
	Display	Resolution	20% to 80% below 1MHz (Square wave only)	20% to 80% below 1MHz (Square wave only)	20% to 80% below 1MHz (Square wave only)	20% to 80% below 1MHz (Square wave only)	20% to 80% below 1MHz (Square wave only)	20% to 80% below 1MHz (Square wave only)
	Display	Resolution	1%	1%	1%	1%	1%	1%
	Display	Resolution	9 digits LED display	9 digits LED display	9 digits LED display	9 digits LED display	9 digits LED display	9 digits LED display
SINE WAVE	Harmonics Distortion		-55dBc, 0.1Hz~200kHz; -40dBc, 0.2MHz~4MHz; -30dBc, 4MHz~10MHz (Specification applied from MAX. to 1/10 level)	-55dBc, 0.1Hz~200kHz; -40dBc, 0.2MHz~4MHz; -30dBc, 4MHz~10MHz (Specification applied from MAX. to 1/10 level)	-55dBc, 0.1Hz~200kHz; -40dBc, 0.2MHz~4MHz; -30dBc, 4MHz~10MHz (Specification applied from MAX. to 1/10 level)	-55dBc, 0.1Hz~200kHz; -40dBc, 0.2MHz~4MHz; -30dBc, 4MHz~10MHz (Specification applied from MAX. to 1/10 level)	-55dBc, 0.1Hz~200kHz; -40dBc, 0.2MHz~4MHz; -30dBc, 4MHz~10MHz (Specification applied from MAX. to 1/10 level)	-55dBc, 0.1Hz~200kHz; -40dBc, 0.2MHz~4MHz; -30dBc, 4MHz~10MHz (Specification applied from MAX. to 1/10 level)
TRIANGLE WAVE	Linear		$\geq 98\%$, 0.1Hz~100kHz; $\geq 95\%$, 100kHz~1MHz	$\geq 98\%$, 0.1Hz~100kHz; $\geq 95\%$, 100kHz~1MHz	$\geq 98\%$, 0.1Hz~100kHz; $\geq 95\%$, 100kHz~1MHz	$\geq 98\%$, 0.1Hz~100kHz; $\geq 95\%$, 100kHz~1MHz	$\geq 98\%$, 0.1Hz~100kHz; $\geq 95\%$, 100kHz~1MHz	$\geq 98\%$, 0.1Hz~100kHz; $\geq 95\%$, 100kHz~1MHz
SQUARE WAVE	Symmetry		$\pm 1\%$ of period +4ns to 0.1Hz~100kHz; Rise or Fall Time ≤ 25 ns at maximum output.(into 50 Ω load)	$\pm 1\%$ of period +4ns to 0.1Hz~100kHz; Rise or Fall Time ≤ 25 ns at maximum output.(into 50 Ω load)	$\pm 1\%$ of period +4ns to 0.1Hz~100kHz; Rise or Fall Time ≤ 25 ns at maximum output.(into 50 Ω load)	$\pm 1\%$ of period +4ns to 0.1Hz~100kHz; Rise or Fall Time ≤ 25 ns at maximum output.(into 50 Ω load)	$\pm 1\%$ of period +4ns to 0.1Hz~100kHz; Rise or Fall Time ≤ 25 ns at maximum output.(into 50 Ω load)	$\pm 1\%$ of period +4ns to 0.1Hz~100kHz; Rise or Fall Time ≤ 25 ns at maximum output.(into 50 Ω load)
CMOS OUTPUT	Level		4Vpp ± 1 Vpp~14.5Vpp ± 0.5 Vpp adjustable; Rise or Fall Time; ≤ 120 ns	4Vpp ± 1 Vpp~14.5Vpp ± 0.5 Vpp adjustable; Rise or Fall Time; ≤ 120 ns	4Vpp ± 1 Vpp~14.5Vpp ± 0.5 Vpp adjustable; Rise or Fall Time; ≤ 120 ns	4Vpp ± 1 Vpp~14.5Vpp ± 0.5 Vpp adjustable; Rise or Fall Time; ≤ 120 ns	4Vpp ± 1 Vpp~14.5Vpp ± 0.5 Vpp adjustable; Rise or Fall Time; ≤ 120 ns	4Vpp ± 1 Vpp~14.5Vpp ± 0.5 Vpp adjustable; Rise or Fall Time; ≤ 120 ns
TTL OUTPUT	Level		≥ 3 Vpp; Fan Out; 20 TTL load; Rise or Fall Time; ≤ 25 ns	≥ 3 Vpp; Fan Out; 20 TTL load; Rise or Fall Time; ≤ 25 ns	≥ 3 Vpp; Fan Out; 20 TTL load; Rise or Fall Time; ≤ 25 ns	≥ 3 Vpp; Fan Out; 20 TTL load; Rise or Fall Time; ≤ 25 ns	≥ 3 Vpp; Fan Out; 20 TTL load; Rise or Fall Time; ≤ 25 ns	≥ 3 Vpp; Fan Out; 20 TTL load; Rise or Fall Time; ≤ 25 ns
SWEEP OPERATION	Sweep/Rate		—			100:1 ratio max. and adjustable		
	Sweep/Time		—			0.5Sec~30Sec adjustable		
	Sweep/Mode		—			Lin./Log. switch selector		
AMPLITUDE MODULATION	Depth & MOD. Frequency		—			0~100% ; 400Hz(INT),DC~1MHz(EXT)		
	Carrier BW		—			100Hz~5MHz(-3dB)		
	EXT Sensitivity		—			≤ 10 Vpp for 100% modulation		
FREQUENCY MODULATION	Deviation & MOD. Frequency		—			0~ $\pm 5\%$; 400Hz(INT),1kHz(EXT)		
	EXT Sensitivity		—			≤ 10 Vpp for 10% modulation		
FREQUENCY COUNTER	Range		—			5Hz~150MHz		
	Accuracy		—			Time base accuracy ± 1 count		
	Time base		—			± 20 ppm(23 $^{\circ}$ C $\pm 5^{\circ}$ C) after; 30 minutes warm up		
	Resolution		—			The maximum resolution is 10nHz for 1Hz and 0.1Hz for 100MHz		
	Input Impedance		—			1M Ω /150pf		
	Sensitivity		—			≤ 35 mVrms(5Hz~100MHz)		
			—			≤ 45 mVrms(100MHz~150MHz)		
STORE/RECALL FUNCTION			10 groups of Setting memories					
POWER SOURCE			AC115V, 230V $\pm 15\%$, 50/60Hz					
ACCESSORIES			Instruction manualx1,Power Cord x 1,GTL-101x1			Instruction manualx1,Power Cord x 1,GTL-101x2		
DIMENSION & WEIGHT			107(W)x266(H)x293(D) m/m;Approx. 3.1kg			107(W)x266(H)x293(D) m/m;Approx. 3.2kg		

ORDERING INFORMATION

SFG-2004	4MHz DDS Function Generator	SFG-2104	4MHz DDS Function Generator with Counter, Sweep & AM, FM Modulation
SFG-2007	7MHz DDS Function Generator	SFG-2107	7MHz DDS Function Generator with Counter, Sweep & AM, FM Modulation
SFG-2010	10MHz DDS Function Generator	SFG-2110	10MHz DDS Function Generator with Counter, Sweep & AM, FM Modulation