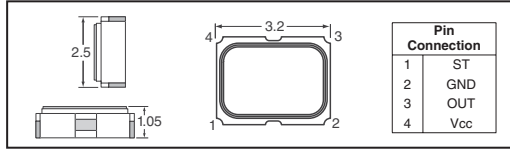


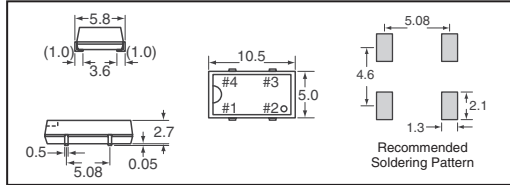
EPSON TOYOCOM SG-310 Series SMD Oscillators



Specifications: • Supply Voltage: 3.3V typ. • Storage Temperature: -40°C ~ 125°C • Operating Temperature: -40°C ~ 85°C • Stand-by Current: 2.0µA Maximum • Duty Cycle: 45% ~ 55% • Start-up Time: 10ms Maximum • Output Voltage: VOH: 90% Vcc Minimum; VOL: 10% Vcc Maximum • Output Load Condition: 15pF Maximum • Rise and Fall Time: 4ns Maximum

Frequency (MHz)	Frequency Stability	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Tape and Reel Pricing 250	Epson Part No.
			1	10	50			
25.0000	±50ppm	SER3652CT-ND	5.34	4.58	3.36	SER3652TR-ND	762.76	SG-310SCF 25.0000MB3
48.0000	±100ppm	SER3653CT-ND	4.75	4.08	2.99	SER3653TR-ND	678.68	SG-310SCF 48.0000MC3

SG-3030JC 32.768kHz Crystal Oscillators



Specifications: • Voltage: 1.5V ~ 5.5V • Interface Power Supply Voltage: 1.5V ~ 5.5V • Storage Temperature: -55°C ~ 125°C • Operating Temperature: -40°C ~ 85°C • Frequency Tolerance: +5/-23ppm • Supply Current: 2µA Maximum • Duty Cycle: 45% ~ 55% • Start-up Time: 1s • Output Load CMOS: 15pF Maximum • Rise Time CMOS: 200ns Maximum • Fall Time CMOS: 200ns Maximum

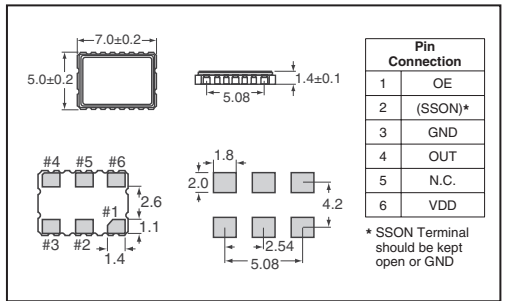
Frequency (kHz)	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Tape and Reel Pricing 250	Epson Part No.
		1	10	50			
32.768	SE3618CT-ND	3.74	3.21	2.36	SE3618TR-ND	534.53	SG-3030JC 32.7680KB3
32.768	SER3618CT-ND	3.74	3.21	2.36	SER3618TR-ND	534.53	SG-3030JC 32.7680KB3:ROHS

◆ RoHS Compliant

SG-9001CA Series Oscillators with Spread Spectrum



Spread Spectrum Specifications				
Center Spread	Code	C10P	C15P	C20P
%	%	±1.0%	±1.5%	±2.0%
Down Spread	Code	D15P	—	—
%	%	-1.5%	—	—



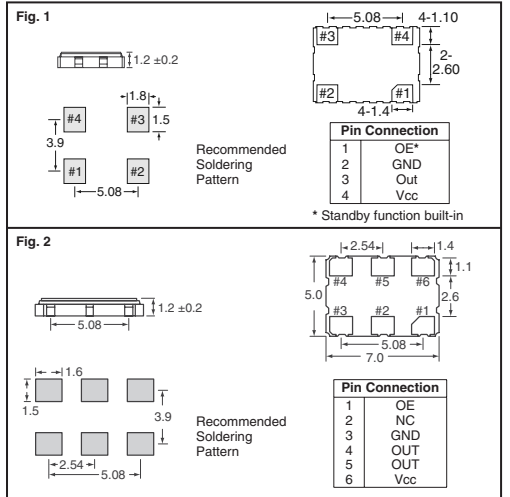
Specifications: • Supply Voltage: 3.3V ±0.3V • Operating Temperature: -20°C ~ 70°C • Storage Temperature: -40°C ~ 125°C • Supply Current: 30mA • Duty Cycle: 45% ~ 55% • Start-up Time: 10ms • Output Voltage: -0.4V (VOH); 4V (VOL) • Load Capacitance: 15.0pF • Rise Time CMOS: 2.7ns • Fall Time CMOS: 2.7ns

Frequency (MHz)	Digi-Key Part No.	Price Each			Epson Part No.
		1	10	50	
16.6667	SE1915-ND	8.03	6.89	5.05	SG-9001CA C10P 16.6667MC
25.0000	SE1916-ND	8.03	6.89	5.05	SG-9001CA C10P 25.0000MC
25.0000	SE1917-ND	8.03	6.89	5.05	SG-9001CA C20P 25.0000MC
33.3333	SE1918-ND	8.03	6.89	5.05	SG-9001CA C15P 33.3333MC
33.3333	SE1919-ND	8.03	6.89	5.05	SG-9001CA D15P 33.3333MC
40.0000	SE1920-ND	8.03	6.89	5.05	SG-9001CA C20P 40.0000MC
50.0000	SE1921-ND	8.03	6.89	5.05	SG-9001CA D15P 50.0000MC
50.0000	SE1922-ND	8.03	6.89	5.05	SG-9001CA C20P 50.0000MC
66.6667	SE1923-ND	8.03	6.89	5.05	SG-9001CA C20P 66.6667MC
66.6667	SE1924-ND	8.03	6.89	5.05	SG-9001CA D15P 66.6667MC

EG Series Low Jitter High Frequency SAW Oscillators



Specifications	Series			
	EG-2001CA	EG-2021CA	EG-2101CA	EG-2121CA
Supply Voltage:	3.3V ±0.3V	2.5V ±0.125V	3.3V ±0.15	3.3V ±0.3V
Oper. Temp.:	0°C ~ 70°C			
Storage Temp.:	-40°C ~ 100°C			
Supply Current (Max.):	50mA	25mA	60mA	100mA
Duty Cycle:	45% ~ 55%	—	—	45% ~ 55%
Start-up Time:	10ms Max.			
Output Voltage:	VOH: Vcc: 0.4V Min. Vcc: 0.35V Min. 2.35V Typ.	LVPECL: 1.55V Typ.		
	VOL: 0.4V Max. 0.35V Max. 1.60V Typ.	LVPECL: 0.8V Typ.		
Output Load Conditions:	15pF Max.	50Ω	LVPECL: 50Ω	
Rise/Fall Time:	2ns Max.	600ps Max.	400ps Max.	



Frequency (MHz)	Frequency Stability	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Tape and Reel Qty.	Pricing	Epson Part No.
			1	10	50				
Fig. 1 — EG-2001CA Series									
106.2500	±100ppm	SE1008CT-ND	18.92	16.22	11.90	SE1008TR-ND	1,000	7207.20	EG-2001CA 106.2500M-PCHL0
125.0000	±100ppm	SE1009CT-ND	18.92	16.22	11.90	SE1009TR-ND	1,000	7207.20	EG-2001CA 125.0000M-PCHL0
133.0000	±100ppm	SE1007CT-ND	18.92	16.22	11.90	SE1007TR-ND	250	2702.70	EG-2001CA 133.0000M-PCHL3
Fig. 1 — EG-2021CA Series									
125.0000	±50ppm	SER3654-ND†	27.96	23.97	17.58	—	—	—	EG-2021CA 125.0000M-CGPNB
Fig. 2 — EG-2101CA LVPECL Series									
125.0000	±100ppm	SE3610CT-ND	45.83	39.28	28.81	SE3610TR-ND	250	6546.54	EG-2101CA 125.0000M-PCHL3
155.5200	±100ppm	SE3611CT-ND	45.83	39.28	28.81	SE3611TR-ND	250	6546.54	EG-2101CA 155.5200M-PCHL3
156.2500	±100ppm	SE3612CT-ND	50.87	43.61	31.98	SE3612TR-ND	250	7267.26	EG-2101CA 156.2500M-PCHL3
159.3750	±100ppm	SE3613CT-ND	50.87	43.61	31.98	SE3613TR-ND	250	7267.26	EG-2101CA 159.3750M-PCHL3
161.1328	±100ppm	SE3614CT-ND	50.87	43.61	31.98	SE3614TR-ND	250	7267.26	EG-2101CA 161.1328M-PCHL3
250.0000	±100ppm	SE3615CT-ND	50.87	43.61	31.98	SE3615TR-ND	250	7267.26	EG-2101CA 250.0000M-PCHL3
Fig. 2 — EG-2102CA LVPECL Series									
106.2500	±50ppm	SER3637CT-ND	42.25	36.22	26.56	SER3637TR-ND	250	6036.03	EG-2102CA 106.2500M-PGPNB3
125.0000	±100ppm	SER3638CT-ND	50.45	43.25	31.72	SER3638TR-ND	250	7207.20	EG-2102CA 125.0000M-PHPAL3
156.2500	±100ppm	SER3639CT-ND	50.45	43.25	31.72	SER3639TR-ND	250	7207.20	EG-2102CA 156.2500M-PHPAL3
200.0000	±100ppm	SER3655-ND†	55.50	47.57	34.89	—	—	—	EG-2102CA 200.0000M-PHPAB
212.5000	±100ppm	SER3656-ND†	55.50	47.57	34.89	—	—	—	EG-2102CA 212.5000M-PHPAB
312.5000	±100ppm	SER3657-ND†	55.50	47.57	34.89	—	—	—	EG-2102CA 312.5000M-PHPAB
Fig. 2 — EG-2121CA LVPECL Series									
125.0000	±100ppm	SE3616CT-ND	55.50	47.57	34.89	SE3616TR-ND	250	7927.92	EG-2121CA 125.0000M-PHPAL3
100.0000	±100ppm	SER3660-ND†	43.72	37.48	27.49	—	—	—	EG-2121CA 100.0000M-PHPAB
125.0000	±50ppm	SER3640CT-ND	63.90	54.78	40.17	SER3640TR-ND	250	9129.12	EG-2121CA 125.0000M-PGPAL3
125.0000	±50ppm	SER3662-ND†	58.02	49.73	36.47	—	—	—	EG-2121CA 125.0000M-PGPNB
156.2500	±50ppm	SER3641CT-ND	68.32	58.56	42.95	SER3641TR-ND	250	9759.75	EG-2121CA 156.2500M-PGPAL3
200.0000	±100ppm	SER3667-ND†	59.28	50.82	37.27	—	—	—	EG-2121CA 200.0000M-PHPAB
212.5000	±100ppm	SER3668-ND†	59.28	50.82	37.27	—	—	—	EG-2121CA 212.5000M-PHPAB
312.5000	±100ppm	SER3671-ND†	59.28	50.82	37.27	—	—	—	EG-2121CA 312.5000M-PHPAB
Fig. 2 — EG-2121CA LVDS Series									
100.0000	±50ppm	SER3658-ND†	61.81	52.98	38.85	—	—	—	EG-2121CA 100.0000M-LGPAB
100.0000	±100ppm	SER3659-ND†	43.72	37.48	27.49	—	—	—	EG-2121CA 100.0000M-LHPAB
125.0000	±100ppm	SER3661-ND†	55.50	47.57	34.89	—	—	—	EG-2121CA 125.0000M-LHPAB
156.2500	±100ppm	SER3663-ND†	59.28	50.82	37.27	—	—	—	EG-2121CA 156.2500M-LHPAB
200.0000	±50ppm	SER3664-ND†	68.32	58.56	42.95	—	—	—	EG-2121CA 200.0000M-LGPAB
200.0000	±50ppm	SER3665-ND†	64.33	55.14	40.44	—	—	—	EG-2121CA 200.0000M-LGPNB
200.0000	±100ppm	SER3666-ND†	59.28	50.82	37.27	—	—	—	EG-2121CA 200.0000M-LHPAB
250.0000	±50ppm	SER3669-ND†	68.32	58.56	42.95	—	—	—	EG-2121CA 250.0000M-LGPAB
312.5000	±50ppm	SER3670-ND†	68.32	58.56	42.95	—	—	—	EG-2121CA 312.5000M-LGPAB

† Tube

Digi-Reel® Most SMT cutdown parts are available on a Digi-Reel®. For Digi-Reel part number, change 1-ND to 6-ND or CT-ND to DKR-ND. See Digi-Key® Services on page 2 for additional information.

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