: Q3102JF02000100

: Q3102JC02000100

SG-3030CM: X1B000211xxxx00 SG-3030LC : Q3102LC02000100

SG-3040LC : Q3103LC02000100

CRYSTAL OSCILLATOR (SPXO) 32.768 kHz

SG-3030CM/LC/JF/JC **SG-3040LC**

- Built-in 32.768 kHz crystal unit allows adjustment-free efficient operation.
- Use of C-MOS IC enables reduction of current consumption.
- Vio controls swing amplitude.



CM Type

SG-3030CM







SG-3030LC

SG-3040LC



Product Number

SG-3030JF

SG-3030JC



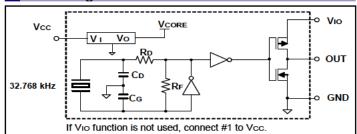


Specifications (characteristics)

Item	Symbol	Specifications		0 55 10 1
		SG-3030CM/LC/JF/JC	SG-3040LC	Conditions / Remarks
Output frequency range	fo	32.768 kHz		
Supply voltage	Vcc	1.5 V to 5.5 V	0.9 V to 3.6 V	
Interface power supply voltage	Vio	1.5 V to 5.5 V	0.9 V to 3.6 V	
Storage temperature	T_stg	-55 C to +125 C		Storage as single product
Operating temperature	T_use	-40 C to +85 C		
Frequency tolerance	f_tol	5 ±23 × 10 ⁻⁶		+25 C,Vcc=3.3 V (SG-3040: Vcc=1.2 V)
Frequency temperature coefficient	fo-Tc	+10 × 10 ⁻⁶ / -120 × 10 ⁻⁶		-20 C to +70 C (+25 C is reference)
Frequency / voltage coefficient	fo-Vcc	±2 × 10 ⁻⁶ / V Max.	±5 × 10 ⁻⁶ / V Max.	+25 C
Current consumption	lcc	2 μA Max.	3.1 μA Max.	3.3 V, No load condition
Symmetry	SYM	45 % to 55 %		1/2 Vcc(Vio)level (SG-3040: Vio=1.2 V to 3.6 V)
Output voltage	Voн	Vio-0.4 V Min.		Iон=-0.4 mA (SG-3040: Vio=1.2 V to 3.6 V)
	Vol	0.4 V Max.		IoL= 0.4 mA (SG-3040: Vio=1.2 V to 3.6 V)
Output load condition (CMOS)	L_CMOS	15 pF Max.		CMOS load
Rise time / Fall time	tr/tr	200 ns Max.	100 ns Max.	CMOS load:20 % Vcc(Vio) to 80 % Vcc(Vio)level
				(SG-3040: Vio=1.2 V to 3.6 V)
Start-up time	t_str	1 s Max.	3 s Max.	Time at minimum Supply voltage to be 0 s
				+25 C (SG-3030: Vcc= 2.0 V to 5.5 V)
Frequency aging	f aging	±5 × 10 ⁶ / year Max.		+25 C, Vcc= 3.3 V, First year

Unless otherwise stated, characteristics (specifica ions) shown in the above table are based on he rated operating temperature and voltage condition.

Block diagram



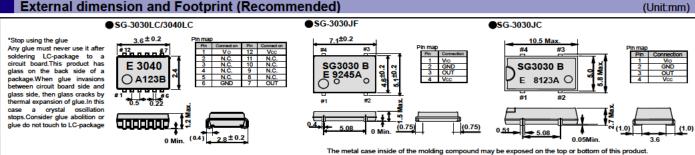
Product name (Standard form)

> SG-3030 LC 32.768000kHz 4 1 3

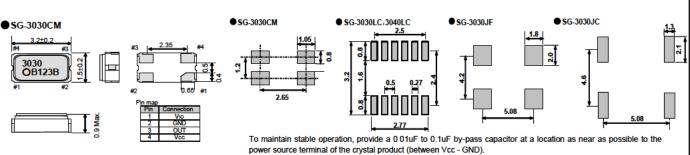
1)Model 2Package type 3Frequency

④Frequency tolerance (B: 5±23×10⁻⁶,+25 °C)

External dimension and Footprint (Recommended)



The metal case inside of the molding compound may be exposed on the top This purely cosmetic and does not have any effect on quality, reliability or el



PROMOTION OF ENVIRONMENTAL MANAGEMENT SYSTEM CONFORMING TO INTERNATIONAL STANDARDS

At Seiko Epson, all environmental initiatives operate under the Plan-Do-Check-Action (PDCA) cycle designed to achieve continuous improvements. The environmental management system (EMS) operates under the ISO 14001 environmental management standard.

All of our major manufacturing and non-manufacturing sites, in Japan and overseas, completed the acquisition of ISO 14001 certification.

ISO 14000 is an international standard for environmental management that was established by the International Standards Organization in 1996 against the background of growing concern regarding global warming, destruction of the ozone layer, and global deforestation.

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IATF 16949 is the international standard that added the sector-specific supplemental requirements for automotive industry based on ISO9001.

Explanation of the mark that are using it for the catalog



►Pb free.



► Complies with EU RoHS directive.

*About the products without the Pb-free mark.

Contains Pb in products exempted by EU RoHS directive.





▶ Designed for automotive applications such as Car Multimedia, Body Electronics, Remote Keyless Entry etc.



▶ Designed for automotive applications related to driving safety (Engine Control Unit, Air Bag, ESC etc).

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