

LOW-JITTER SAW OSCILLATOR (SPSO)

OUTPUT : LV-PECL

For Automotive

EA-2102CB



Product Number
Q3861CB00xxxx00



- Frequency range : 100 MHz
- Operating voltage : 3.3 V
- Output : LV-PECL
- Function : Output enable (OE)
- External dimensions : 5.0 × 3.2 × 1.35 mm
- Applications : Car navigation system, Telematics
- Very low jitter and low phase noise by SAW unit.
- Conforms to AEC-Q200

Specifications (characteristics)

Item	Symbol	Specifications	Conditions / Remarks
Output frequency range	fo	100.0000 MHz	Please contact us about available frequencies.
Supply voltage	V _{CC}	3.3 V ± 0.3 V	
Storage temperature	T _{stg}	-40 C to +100 C	Storage as single product.
Operating temperature	T _{use}	-40 C to +85 C	
Frequency tolerance *1	f _{tol}	±300 × 10 ⁻⁶	
Current consumption	I _{CC}	80 mA Max.	OE=V _{CC} , L_ECL = 50 Ω
Disable current	I _{dis}	35 mA Max.	OE=GND
Symmetry	SYM	47.5 % to 52.5 %	At outputs crossing point
Output voltage	V _{OH}	2.35 V Typ. V _{CC} -1.025 V to V _{CC} -0.88 V	DC characteristics
	V _{OL}	1.60 V Typ. V _{CC} -1.81 V to V _{CC} -1.62 V	
Output load condition (ECL)	L_ECL	50 Ω	Terminate to V _{CC} -2.0 V
Input voltage	V _{IH}	70 % V _{CC} Min.	OE terminal
	V _{IL}	30 % V _{CC} Max.	
Rise time / Fall time	t _r / t _f	600 ps Max.	Between 20 % and 80 % of (V _{OH} -V _{OL})
Start-up time	t _{str}	10 ms Max.	Time at minimum supply voltage to be 0 s
Jitter *2	t _{DJ}	0.2 ps Typ.	Deterministic Jitter
	t _{RJ}	3 ps Typ.	Random Jitter
	t _{RMS}	3 ps Typ.	σ (RMS of total distr bution)
	t _{P-P}	25 ps Typ.	Peak to Peak
	t _{acc}	4 ps Typ.	Accumulated Jitter(σ) n=2 to 50 000 cycles
Phase Jitter	t _{PJ}	1 ps Max.	Offset frequency: 12 kHz to 20 MHz

*1 Includes initial frequency tolerance, temperature variation, supply voltage change, reflow drift, and aging (+25 C , 10 years).

*2 Tested using a DTS-2075 Digital timing system made by WAVECREST with jitter analysis software VISI6.

Product Name **EA-2102CB 100.000000MHz**

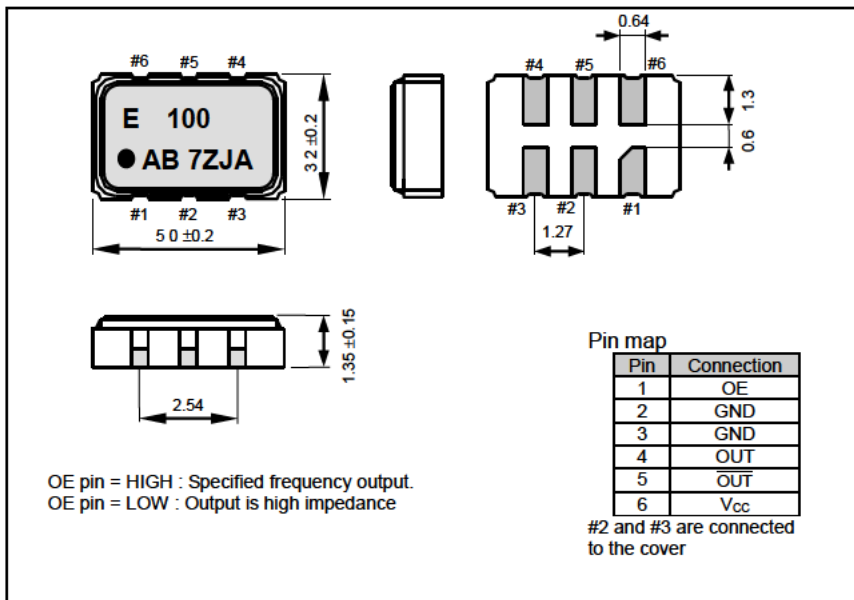
(Standard form)

① ② ③

①Model ②Package type ③Frequency

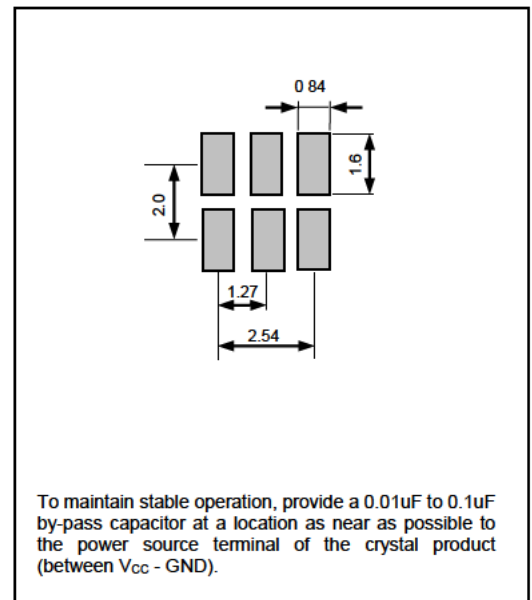
External dimensions

(Unit:mm)



Footprint (Recommended)

(Unit:mm)



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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► 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. (Contains Pb in sealing glass, high melting temperature type solder or other.)
	► Designed for automotive applications such as Car Multimedia, Body Electronics, Remote Keyless Entry etc.
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