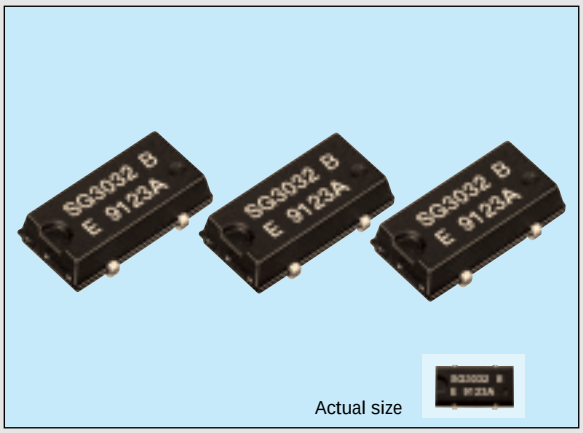
32kHz CRYSTAL OSCILLATOR

SG-3032JC

- No adjustment required with 32.768kHz crystal unit built-in.
- Use of C-MOS IC enables reduction of current consumption.
- Small suited to high-density mounting.



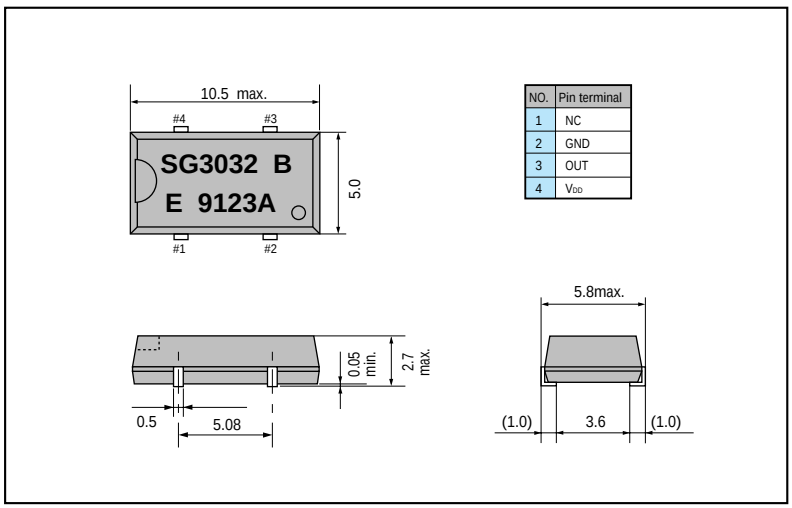
Specifications (characteristics)

Item		Symbol	Specifications	Remarks
Output frequency range		f_0	32.768 kHz	
Power source voltage	Max. supply voltage	V_{DD}-GND	-0.3V to +4.3V	
	Operating voltage	V_{DD}	1.8V to 3.6V	
Temperature range	Storage temperature	T_{STG}	-55˚C to +125˚C	
	Operating temperature	T_{OPR}	-20˚C to +70˚C	
Soldering condition		T_{SOL}	Twice at Under 260˚C within 10 sec.	
Frequency tolerance		$\Delta f/f_0$	B: 5±23ppm C: 5±50ppm D: 5±100ppm	V_{DD}=3.3V Ta=25˚C
Frequency temperature characteristics			+10ppm / -120ppm	-20˚C to +70˚C, taking Ta=25˚C as the reference
Frequency voltage characteristics			±2ppm /V max.	Ta=25˚C
Current consumption		I_{OP}	5µA max.	No load condition
Duty		$t_{W/t}$	40% to 60%	1/2 V_{DD} level
Output voltage		V_{OH}	V_{DD} -0.4V min.	I_{OH}= -50mA
		V_{OL}	0.4V max.	I_{OL}=+0.5mA
Output load condition (fan out)		C_L	15pF max.	C-MOS load
Output rise time		t_{TLH}	100ns max.	C-MOS load:20%→80% V_{DD}
Output fall time		t_{THL}	100ns max.	C-MOS load:80%→20% V_{DD}
Oscillation start up time		t_{OSC}	3s max.	For more than 1ms until V_{DD}=0V→1.8V. Time at 1.8V to be 0 sec.
Aging		fa	±5ppm/year max.	Ta=25˚C, V_{DD}=3.3V, first year
Shock resistance		S.R.	±5ppm max.	Three drops on a hard board from 75 cm or excitation test with 3000G x 0.3ms x 1/2 sine wave in 3 directions

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

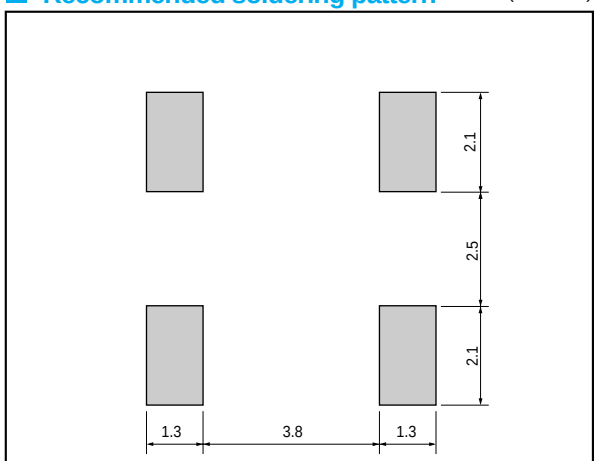
External dimensions

(Unit: mm)



Recommended soldering pattern

(Unit: mm)



THE CRYSTALMASTER

ENERGY SAVING EPSON

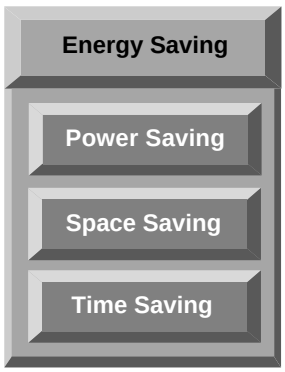
ENERGY SAVING EPSON

EPSON offers effective savings to its customers through a wide range of electronic devices, such as semiconductors, liquid crystal display (LCD) modules, and crystal devices. These savings are achieved through a sophisticated melding of three different efficiency technologies.

Power saving technology provides low power consumption at low voltages.

Space saving technology provides further reductions in product size and weight through super-precise processing and high-density assembly technology.

Time saving technology shortens the time required for design and development on the customer side and shortens delivery times.



Our concept of Energy Saving technology conserves resources by blending the essence of these three efficiency technologies. The essence of these technologies is represented in each of the products that we provide to our customers.

In the industrial sector, leading priorities include measures to counter the greenhouse effect by reducing CO2, measures to preserve the global environment, and the development of energy-efficient products. Environmental problems are of global concern, and although the contribution of energy-saving technology developed by EPSON may appear insignificant, we seek to contribute to the development of energy-saving products by our customers through the utilization of our electronic devices. EPSON is committed to the conservation of energy, both for the sake of people and of the planet on which we live.

SEIKO EPSON CORP. QUARTZ DEVICE DIVISION acquired ISO9001 and ISO14001 certification by B.V.Q.I. (Bureau Veritas Quality International) .

ISO9001 in October, 1992.

ISO14001 in November,1997.