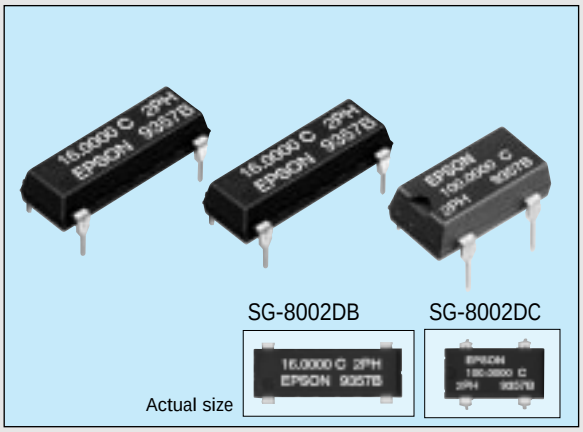
PROGRAMMABLE HIGH-FREQUENCY CRYSTAL OSCILLATOR

SG-8002DB/ DC series

- Wide frequency output by PLL technology.
- Quick delivery of samples and short lead mass production time.
- Excellent shock resistance and environmental capability.
- Output enable function (OE) and stand-by function (ST) can be used for low current consumption applications.
- Pin compatible with full size and half size.

8002 PROM Writer available to purchase.(Type:PRW-8000A3-M01)
Please contact EPSON or local sales representative.



Specifications (characteristics)

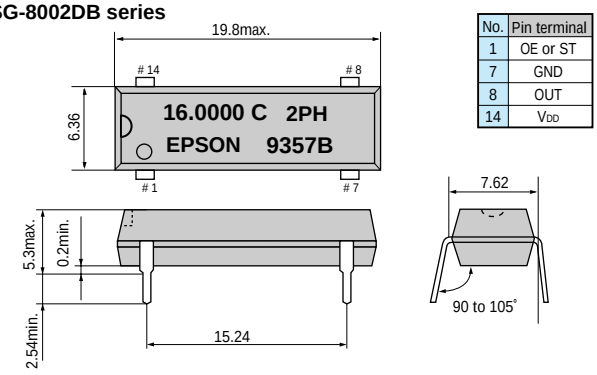
Item		Symbol	PT/ST	PH/SH	PC/SC	Remarks
			Specifications			
Output frequency range		f_0	1.0000 MHz to 125.0000 MHz			
Power source voltage	Max. supply voltage	V_{DD}-GND	-0.5V to +7.0V			
	Operating voltage	V_{DD}	5.0V±0.5V		3.3 ± 0.3V	3.0V ±0.3V: $f_0 \leq$ 66.7MHz(PC/SC)
Temperature range	Storage temperature	T_{STG}	-55°C to +125°C			
	Operating temperature	T_{OPR}	-20°C to +70°C (-40°C to +85°C)		-40°C to +85°C	Refer to page 4."Frequency range"
Soldering condition		T_{SOL}	Twice at under 260°C within 10 sec. or under 230°C within 3 min.			
Frequency stability		$\Delta f/f_0$	B: ±50ppm C: ± 100ppm M: ±100ppm(-40°C to +85°C)			-20°C to +70°C
Current consumption		Iop	45mA max.		28mA max.	No load condition, Max. frequency range
Output disable current		I_{OE}	30mA max.		16mA max.	OE=GND(PT, PH, PC)
Standby current		I_{ST}	50µA max.			ST=GND(ST, SH, SC)
Duty		t_w/t	—	40% to 60%		C-MOS load: 1/2V_{DD} level
			40% to 60%	—		TTL load: 1.4V level
High output voltage		V_{OH}	V_{DD} -0.4V min.			I_{OH}=-16mA(PT/ST, PH/SH),-8mA(PC/SC)
Low output voltage		V_{OL}	0.4V max.			I_{OL}= 16mA(PT/ST, PH/SH), 8mA(PC/SC)
Output load condition (fan out)	TTL	N	5TTL max.	—		Max. frequency and max. operating voltage range
	C-MOS	C_L	15pF max.	25pF max.	15pF max.	
Output enable/disable input voltage		V_{IH}	2.0V min.		0.7 × V_{DD} min.	ST, OE terminal
		V_{IL}	0.8V max.		0.2 × V_{DD} max.	
Output rise time	C-MOS level	t_{TLH}	—	4ns max.		C-MOS load: 20%→80% V_{DD}
	TTL level		4ns max.	—		TTL load: 0.4V→2.4V
Output fall time	C-MOS level	t_{THL}	—	4ns max.		C-MOS load: 80%→20% V_{DD}
	TTL level		4ns max.	—		TTL load: 2.4V→0.4V
Oscillation start up time		t_{OSC}	10ms max.			Time at minimum operating voltage to be 0 sec.
Aging		fa	±5ppm/year max.			Ta= 25°C, V_{DD} = 5.0V/3.3V(PC/SC)
Shock resistance		S.R.	±20ppm max.			Three drops on a hard board from 75 cm or excitation test with 3000G x 0.3ms x 1/2sine wave in 3 directions

Note: • Please contact us for inquiries about operating temperature(-40°C to +85°C), usable frequencies, duty and output load conditions. Checking possible by the Frequency Checking Program. **http://www.epson.co.jp/CRYSTAL/**

External dimensions

(Unit: mm)

SG-8002DB series

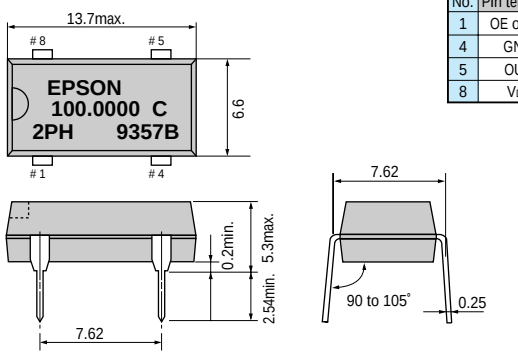


No.	Pin terminal
1	OE or ST
7	GND
8	OUT
14	V_{DD}

● (Wired-or connection & Jitter specification, please refer to page 13.)

(Unit: mm)

SG-8002DC series



No.	Pin terminal
1	OE or ST
4	GND
5	OUT
8	V_{DD}

● (Wired-or connection & Jitter specification, please refer to page 13.)

THE CRYSTALMASTER

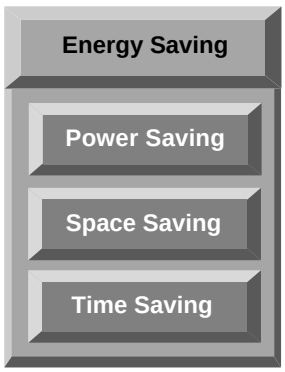
ENERGY SAVING EPSON

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.