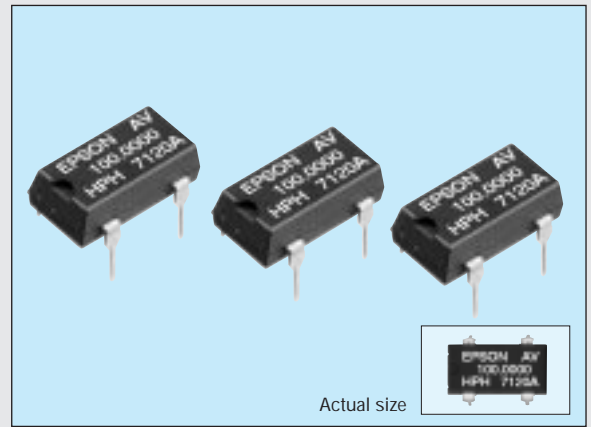


PROGRAMMABLE HIGH-STABILITY HIGH-FREQUENCY CRYSTAL OSCILLATOR

HG-8002DC series

- Wide frequency output by PLL technology.
- Low current consumption by output enable function (OE) or standby function (ST)
- Pin compatible with half-size oscillator.(SG-531 and the shape)
- Low current consumption due to use of C-MOS technology.
- Excellent shock resistance and environmental capability.



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 \pm 0.25V	3.3V \pm 0.165V	
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)			Refer to page 6."Frequency range"
Soldering condition	T_{SOL}	Under 260°C within 10 sec.			
Frequency stability	$\Delta f/f_0$	AV: \pm 20ppm BV: \pm 25ppm CX: \pm 30ppm(-40°C to +85°C)			-20°C to +70°C
Current consumption	I_{OP}	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}	50 μ A max.			ST=GND(ST, SH, SC)
Duty	t_w/t	—	40% to 60%		C-MOS load: 1/2 V_{DD} level, Max. load condition
		40% to 60%	—		TTL load: 1.4V level, Max. load condition
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		2TTL max.	Max. frequency and max. operating voltage range
	C-MOS	CL		15pF max.	
Output enable/disable input voltage	V_{IH}	2.0V min.		$0.7 \times V_{DD}$ min.	\overline{ST} , OE terminal
	V_{IL}	0.8V max.		$0.2 \times V_{DD}$ max.	
Output rise time	C-MOS level	—		3ns max.	C-MOS load: 20%→80% V_{DD} level
	TTL level	4ns max.		—	TTL load: 0.4V→2.4V level
Output fall time	C-MOS level	—		3ns max.	C-MOS load: 80%→20% V_{DD} level
	TTL level	4ns max.		—	TTL load: 2.4V→0.4V level
Oscillation start up time	t_{OSC}	10ms max.			Time at minimum operating voltage to be 0 sec.
Aging	f_a	\pm 2ppm/year max.			T_a = 25°C, V_{DD} = 5.0V/3.3V(PC/SC)
Shock resistance	S.R.	\pm 2ppm 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.

External dimensions

(Unit: mm)

