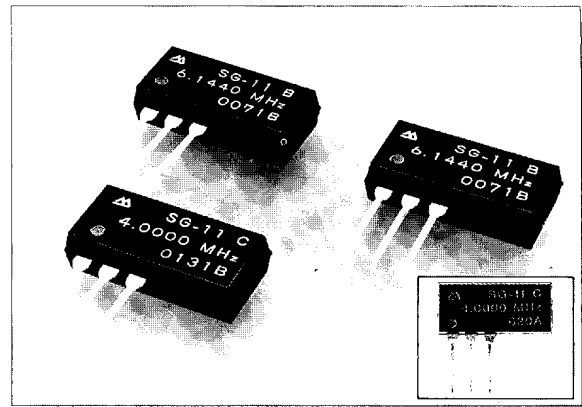


SIP TYPE HIGH FREQUENCY CRYSTAL OSCILLATOR

SG-11

- Use of C-MOS IC allows low current consumption
- Small size (high density mounting possible)
- Mountable on the standard printed board
- Cylindrical type AT cut quartz crystal built-in, thus assuring high reliability



Actual size

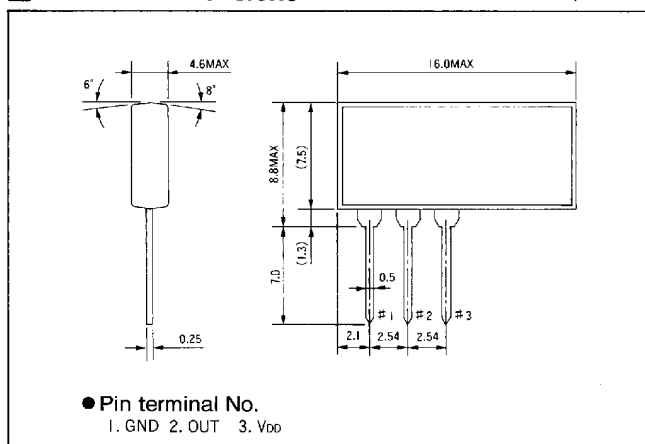
Specifications (characteristics)

Item	Symbol	Specifications	Remarks
Output frequency range	f_o	1.5000MHz to 24.0000MHz	For output frequency, refer to the table below.
Power source voltage	Max. supply voltage	V_{DD-GND}	-0.3V to 7.0V
	Operating voltage	V_{DD}	4.5V to 5.5V
Temperature range	Storage temperature	T_{STC}	-55°C to +125°C
	Operating temperature	T_{OPR}	-10°C to +70°C
Soldering condition (lead part)	T_{SOL}	Under 260°C within 10 sec.	Do not heat up the package to more than 150°C
Frequency stability	$\Delta f/f_o$	C: ± 100 ppm	
Current consumption	I_{OP}	10mA MAX.	No load condition
Duty	TW/T	40% to 60%	1/2 V_{DD} or 1.4V level
Output voltage	V_{OH}	$V_{DD} - 0.4V$ MIN.	$I_{OH} = -40\mu A$
	V_{OL}	0.4V MAX.	$I_{OL} = 1.6mA$
Output load condition (fan out)	N/CL	1TTL MAX./15pF MAX.	TTL load/C-MOS load
Output rise time	$t_{T,HI}$	20nsec MAX.	Refer to output waveform (page 9)
Output fall time	$t_{T,HL}$	15nsec MAX.	
Oscillation start time	T_{OSC}	10msec MAX.	For more than 1mS until $V_{DD} = 0V \rightarrow 4.5V$. Time at 4.5V to be 0 sec.
Aging	fa	± 10 ppm MAX. (3ppm TYP.)	$T_a = 25^\circ C \pm 3^\circ C$, $V_{DD} = 5V$, first year
Shock resistance	S. R.	± 10 ppm MAX.	Drop test of 3 times on a hard board from 75cm height or excitation test with 3000G $\times 0.3mS \times 1/2$ sine wave $\times 3$ 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)



Output Frequency

Output frequency
3.579545 MHz
4.0000 MHz
4.9152 MHz
6.1440 MHz
8.0000 MHz
9.8304 MHz
12.0000 MHz
14.31818 MHz
16.0000 MHz
18.4320 MHz
19.6608 MHz
20.0000 MHz
24.0000 MHz