# SMALL SMD TYPE HIGH FREQUENCY CRYSTAL OSCILLATOR
SG-636P

- Small type SMD, thus allowing high density mounting
- Designed for universal purpose with built-in heat-resisting cylindrical type AT cut crystal and allowing almost the same temperature condition for soldering as SMD IC
- Height is 2.5mm
- Use of C-MOS IC enables reduction of current consumption
- Provided with output enable function
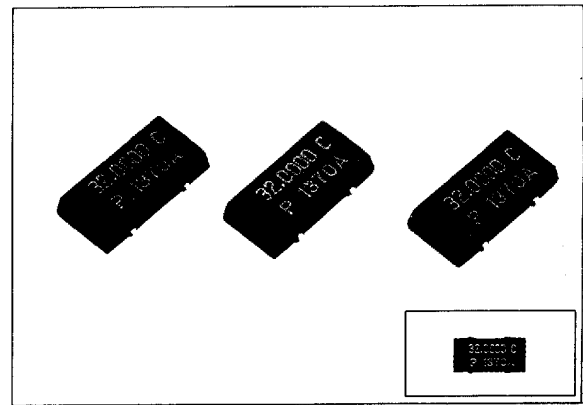
Actual size

■Specifications (characteristics)

Item		Symbol	Specifications	Remarks
Output frequency range		fo	2.2167MHz～40.000MHz	
Power source voltage	Max. supply voltage	V_{DD}-GND	−0.5V to +7.0V	
	Operating voltage	V_{DD}	5.0V ±0.5V	
Temperature range	Storage temperature	T_{STG}	−55°C to +100°C	Stored without Tape and Reel
	Operating temperature	T_{OPR}	−10°C to +70°C	
Soldering condition		T_{SOL}	Under 260°C witnin 10 sec×2 times or under 230°C within 3 min.	
Frequency stability		△f/fo	C : ±100ppm	−10°C～+70°C
Current consumption		I_{OP}	16mA MAX.	No load condition
Duty		T_W/T	40% to 60% (45% to 55% ※1)	1/2 V_{DD} level
Output voltage		V_{OH}	V_{DD}−0.4V MIN.	I_{OH} = −2mA
		V_{OL}	0.4V MAX.	I_{OL} = 2mA
Output load condition		N	5LS TTL. MAX.	LSTTL load
		CL	15pF MAX.	C-MOS load
Output enable voltage		V_{IH}	2.0V MIN.	
		V_{IL}	0.8V MAX.	
Output disable current		I_{OE}	12mA MAX.	OE terminal=GND
Output rise time		t_{TLH}	7nsec MAX.	Refer to output waveform chart (page 9)
Output fall time		t_{THL}	7nsec MAX.	
Oscillation start time		t_{OSC}	10msec MAX.	More than for 1mS until V_{DD}=0V→4.5V. Time at 4.5V to be 0sec.
Aging		fa	±5ppm/year MAX.	Ta=25°C, V_{DD}=5V, first year
Shock resistance		S. R.	±20ppm MAX.	Drop test of 3 times on a hard board from 75cm height or excitation test with 3000G 0.3mS 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.
※1 It is possible depending on condition, refer to reference data (page 22).

■External Dimensions
(Unit : mm)

No.	Pin terminal
1	OE
2	GND
3	OUT
4	V_{DD}
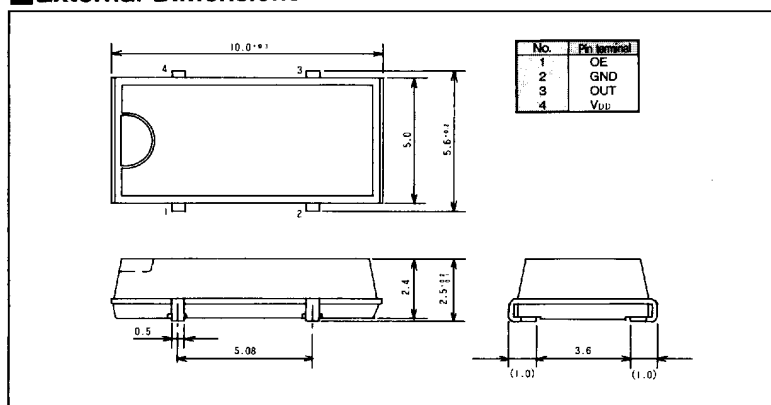
■View of recommended soldering pattern
(Unit : mm)