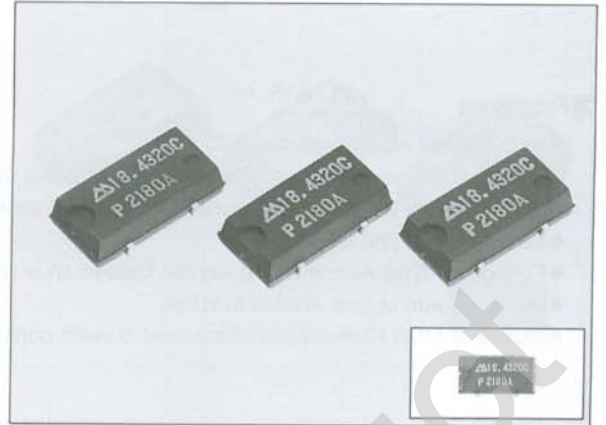


# SMALL SMD TYPE HIGH FREQUENCY CRYSTAL OSCILLATOR

## 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



### Specifications (characteristics)

Item	Symbol	Specifications	Remarks
Output frequency range	$f_o$	2.2167MHz to 40.000MHz	
Power source voltage	MAX. supply voltage	$V_{DD}-V_{SS}$	-0.5V to +7.0V
	Operating voltage	$V_{DD}$	5.0V $\pm$ 0.5V
Temperature range	Storage temperature	$T_{STG}$	-55°C to +100°C
	Operating temperature	$T_{OPR}$	-10°C to +70°C
Soldering condition	$T_{SOL}$	Under 260°C within 10 sec. $\times$ 2 times or under 230°C within 3 min.	
Frequency stability	$\Delta f/f_o$	C : $\pm$ 100ppm	-10°C to -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	$t_{FLR}$	7nsec. MAX.	Refer to output waveform chart (page 9)
Output fall time	$t_{FHL}$	7nsec. MAX.	
Oscillation start time	$t_{OSC}$	10msec. MAX.	More than for 1ms until $V_{DD}=0V \rightarrow 4.5V$ . Time at 4.5V to be 0sec.
Aging	fa	$\pm$ 5ppm/year MAX.	$T_a = 25^\circ C$ , $V_{DD} = 5V$ , first year
Shock resistance	S. R.	$\pm$ 20ppm 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 in 3 directions

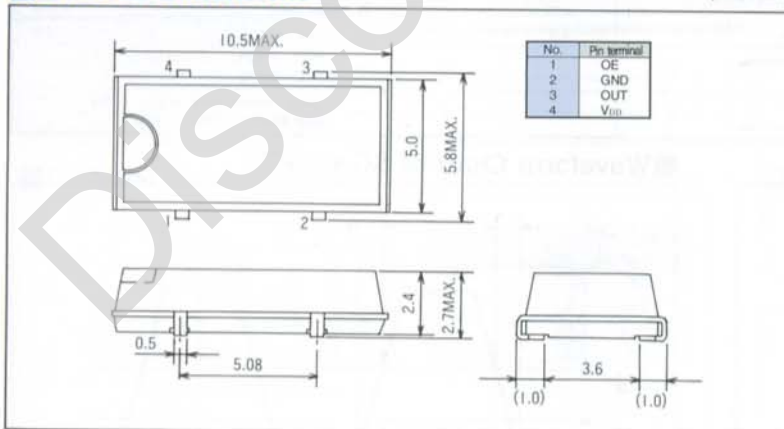
Note ● Unless otherwise stated, characteristics (specifications) shown in the above table are based on the rated operating temperature and voltage condition.

● The SG-636PT for a TTL load is also available. Please consult us.

$\#1$  It is possible depending on condition, refer to reference data

### External Dimensions

(Unit : mm)



### View of recommended soldering pattern (Unit : mm)

