

Features

SG-51 series

- Pin compatible with full size metal can
- Packaged in plastic 14 pin DIP
- Auto insertable
- Provided with output enable and standby functions

SG-531 series

- Pin compatible with half size metal can
- Provided with output enable function

Common

- Cylindrical type AT cut quartz crystal built-in, thus assuring high reliability
- Possible with 386 CPU
- Use of C-MOS IC enables reduction of current consumption

Item	Symbol	SG-51PH/51YH,SG-531PH/531YH	
		Specifications	Remarks
Output frequency range	f_0	26.0001MHz to 66.6667MHz	
Power source voltage	Max. supply voltage	V_{DD-GND}	-0.3V to +7.0V
	Operating voltage	V_{DD}	5.0V $\pm 0.5V$ *2
Temperature range	Storage temperature	V_{STG}	-55°C to +100°C
	Operating temperature	T_{OPR}	-10°C to +70°C
Soldering condition (lead part)	T_{SOL}	Under 260°C within 10sec	Package less than 150°C
Frequency stability	$\Delta f/f_0$	Under 260°C within 10sec (B: $\pm 50ppm$)C $\pm 100ppm$	-10°C to +70°C. B type is possible up to 55MHz, please consult us.
Current consumption	I_{OP}	35mA MAX.	No load condition Up to 45MHz : 21mA MAX.
Duty	T_w/T	40% to 60%	1/2 V_{OH} level
Output voltage	V_{OH}	$V_{DD} - 0.4V$ MIN.	$I_{OH} = -4mA$
	V_{OL}	0.4V MAX.	$I_{OL} = 4mA$
Output load condition (Fan out)	TTL	N	
	C-MOS	CL	50pF MAX.
Output enable/standby input voltage	V_{IH}	2.0V MIN.	
	V_{IL}	0.8V MAX.	
Output disable current	I_{OE}	20mA MAX.	OE=GND. Up to 45MHz : 15mA MAX.
Standby current	I_{ST}		
Output rise time	t_{RUI}	7nsec. MAX. *2	Over 45MHz : 5nS. MAX. Refer to output waveform chart (page 9)
Output fall time	t_{FAL}	7nsec. MAX. *2	
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. $T_a = 25^\circ C$ $V_{DD} = 5V$, first year
Aging	f_a	$\pm 5ppm/year$ MAX.	
Shock resistance	S.R.	$\pm 2g$ 10ms 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 in 3 directions

*1 It is possible depending on condition, reference data (page 22).

*2 AC characteristics of 386 CPU.

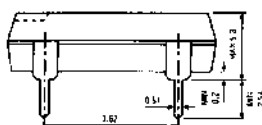
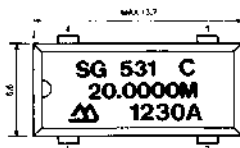
($V_{DD} = 5V \pm 0.25V$, Load : $CL \leq 50pF$, $T_a = -10$ to $+70^\circ C$, Refer to output waveform chart of 386 CPU)

Item	Symbol	26.001MHz to 36.000MHz		40.000MHz		45.000MHz to 50.000MHz		50.001MHz to 66.667MHz		Unit	Remarks
		Min.	Max.	Max.	Min.	Min.	Max.	Min.	Max.		
CLK high time	t2a	9		8		7		6.25		ns	2V level
CLK high time	t2b	5		5		4		4.5		ns	Under 45MHz : $V_{OH} = 0.8V$ level Over 45MHz : 3.7V level
CLK low time	t3a	9		8		7		6.25		ns	2V level
CLK low time	t3b	7		6		5		4.5		ns	2v level
CLK fall time	t4		8		8		7		4	ns	Under 45MHz : $V_{IL} = 0.8V$ to 0.8V Over 45MHz : 3.7V to 0.8V
CLK rise time	t5		9		9		7		4	ns	Under 45MHz : $V_{OH} = 0.8V$ to $V_{OH} - 0.8V$ Over 45MHz : 0.8V to 3.7V

External Dimensions

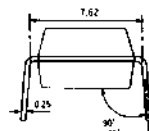
(Unit : mm)

SG-531 series



No.	Pin terminal
1	NC (OE)
2	GND
3	OUT
4	V_{DD}

() shows P type



Waveform Chart of 386 CPU

