FULL-SIZE DIP HIGH-FREQUENCY CRYSTAL OSCILLATOR

SG-51 series

- Pin compatible with full-size metal can.

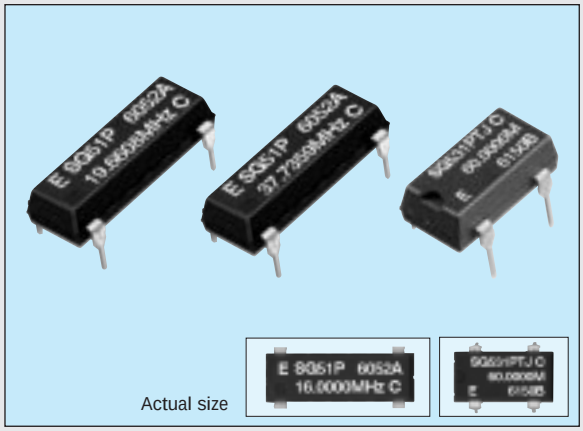
HALF-SIZE DIP HIGH-FREQUENCY CRYSTAL OSCILLATOR

SG-531 series

- Pin compatible with half-size metal can.

Common

- Cylindrical AT-cut crystal unit builtin, thus assuring high reliability.
- Use of C-MOS IC enables reduction of current consumption.



Specifications (characteristics)

Item		Symbol	SG-51P/531P	SG-51PTJ/531PTJ	SG-51PH/531PH	Remarks
			Specifications			
Output frequency range		f_0	1.0250 MHz to 26.0000 MHz	26.0001 MHz to 66.6667 MHz		
Power source voltage	Max. supply voltage	V_{DD}-GND		-0.3V to +7.0V	-0.5V to +7.0V	
	Operating voltage	V_{DD}		5.0V±0.5V		
Temperature range	Storage temperature	T_{STG}		-55˚C to +125˚C		
	Operating temperature	T_{OPR}		-20˚C to +70˚C		
Soldering condition (lead part)		T_{SOL}	Under 260˚C within 10 sec.			Don't heat the package to more than 150˚C
Frequency stability		$\Delta f/f_0$		B: ± 50ppm C: ±100ppm		-10˚C to +70˚C B type is possible up to 55.0 MHz
Current consumption		Iop	23mA max.	35mA max.		No load condition
Duty	C-MOS level	t_w/t	40% to 60%	—	40% to 60%	1/2 V_{DD} level
	TTL level		45% to 55%		—	1.4V level
Output voltage		V_{OH}	V_{DD}-0.4V min.	2.4V min.	V_{DD} -0.4V min.	
		(I_{OH})	-400µA		-4mA	
		V_{OL}		0.4V max.		
		(I_{OL})	16mA	8mA	4mA	
Output load condition (fan out)	C-MOS	C_L	50pF max.	—	50pF max.	
	TTL	N	10TTL max.	5TTL max.	—	C_L≤15pF
Output enable/disable input voltage		V_{IH}	2.0V min.	3.5V min.	2.0V min.	I_{IH}=1µA max. (OE=V_{DD})
		V_{IL}	0.8V max.	1.5V max.	0.8V max.	I_{IL}= -100µA min. (OE=GND), PTJ: -500µA
Output disable current		I_{OE}	12mA max.	28mA max.	20mA max.	OE=GND
Output rise time	C-MOS level	t_{TLH}	8ns max.	—	7ns max.	C-MOS load: 20%→80% V_{DD}
	TTL level			5ns max.	—	TTL load: 0.4V→2.4V
Output fall time	C-MOS level	t_{THL}	8ns max.	—	7ns max.	C-MOS load: 80%→20% V_{DD}
	TTL level			5ns max.	—	TTL load: 2.4V→0.4V
Oscillation start up time		t_{OSC}	4ms max.	10ms max.		More than for 1ms until V_{DD} =0V→4.5V Time at 4.5V to be 0 sec.
Aging		fa		±5ppm/year max.		Ta=25˚C, V_{DD} =5V,first year
Shock resistance		S.R.		±20ppm max.		Three drops on a hard board from 75 cm or excitation test with 3000G x 0.3ms x 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.
• External by-pass capacitor is recommended.

External dimensions

(Unit: mm)