

CRYSTAL OSCILLATOR SPXO

SG - 550 series

- Frequency range : 1 MHz to 48 MHz
- Supply voltage : 1.8 V Typ. / 2.5 V Typ. / 3.3 V Typ.
- Current consumption : SEF1.8 V No load condition 48 MHz
1.5 mA Typ.
- Function : Standby($\overline{ST}$)
- Thickness : 1.2 mm Max.



Actual size

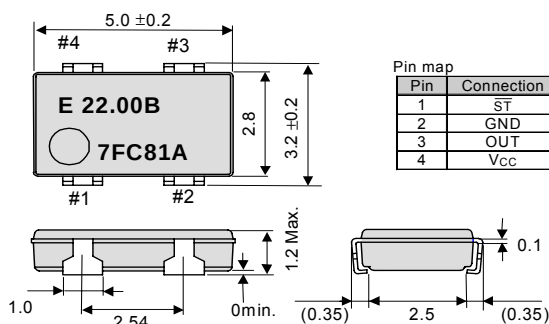


Specifications (characteristics)

Item		Symbol	Specifications				Remarks	
			SG-550SEF	SG-550SDF	SG-550SCF	SG-550SCG		
Output frequency range		f ₀	2 MHz to 48 MHz			1 MHz to 48 MHz		
Supply voltage		V _{cc}	1.8 V Typ. 1.6 V to 2.2 V	2.5 V Typ. 2.2 V to 3.0 V	3.3 V Typ. 2.7 V to 3.6 V			
Temperature range	Storage temperature	T _{stg}	-40 °C to +125 °C				Store as bare product after unpacking	
	Operating temperature	T _{use}	-40 °C to +85 °C					
Frequency tolerance	F _{tol(osc)}	B: ±50 × 10 ⁻⁶ , C: ±100 × 10 ⁻⁶			—		-20 °C to +70 °C	
		M: ±100 × 10 ⁻⁶			—		-40 °C to +85 °C	
		—			S: ±25 × 10 ⁻⁶		-20 °C to +70 °C	
		L: ±50 × 10 ⁻⁶			—		-40 °C to +85 °C	
Current consumption	I _{cc}	1.5 mA Max.	1.5 mA Max.	1.5 mA Max.	—		No load condition, 2 MHz<f ₀ ≤ 4 MHz	
		1.5 mA Max.	1.5 mA Max.	2.0 mA Max.	—		No load condition, 4 MHz<f ₀ ≤ 8 MHz	
		1.5 mA Max.	2.0 mA Max.	2.5 mA Max.	—		No load condition, 8 MHz<f ₀ ≤16 MHz	
		2.0 mA Max.	2.0 mA Max.	2.5 mA Max.	—		No load condition, 16 MHz<f ₀ ≤25 MHz	
		2.0 mA Max.	2.5 mA Max.	3.5 mA Max.	—		No load condition, 25 MHz<f ₀ ≤33 MHz	
		3.0 mA Max.	3.5 mA Max.	4.5 mA Max.	—		No load condition, 33 MHz<f ₀ ≤48 MHz	
		—	—	—	12 mA Max.		No load condition, Max.frequency output.	
Stand-by current	I _{std}	0.7 μA Max.	1.5 μA Max.	2.0 μA Max.	50 μA Max.		ST =GND	
Symmetry	SYM	45 % to 55 %	45 % to 55 %		45 % to 55 %	1 MHz≤f ₀ ≤16 MHz	50 % V _{cc} level L _{CMOS} ≤ 15 pF	
		40 % to 60 %				16 MHz<f ₀ ≤40 MHz		
						40 MHz<f ₀ ≤48 MHz		
High output voltage		V _{OH}	90 % V _{cc} Min.		V _{cc} -0.4 V Min.		I _{OH} =-3 mA(SEF, SDF, SCF), -8 mA(SCG)	
Low output voltage		V _{OL}	10 % V _{cc} Max.		0.4 V Max.		I _{OL} = 3 mA(SEF, SDF, SCF), 8 mA(SCG)	
Output load condition(CMOS)		L _{CMOS}	15 pF Max.					
Output enable / disable input voltage		V _{IH}	80 % V _{cc} Min.		70 % V _{cc} Min.		ST terminal	
		V _{IL}	20 % V _{cc} Max.					
Output rise and fall time		t _r / t _f	4 ns Max.				20 % V _{cc} to 80 % V _{cc} level, L _{CMOS} =15 pF	
Oscillation start up time		t _{osc}	10 ms Max.		12 ms Max.		t=0 at 90 % V _{cc}	
Frequency aging		F _{aging}	±5 × 10 ⁻⁶ / year Max.		±10 × 10 ⁻⁶ Max. 10 years		+25 °C, First year, V _{cc} =1.8 V, 2.5 V, 3.3 V	

External dimensions

(Unit:mm)



Note.
 $\overline{ST}$ pin
 $\overline{ST}$ pin = HIGH or "open" : Specified frequency output.
 $\overline{ST}$ pin = LOW : Output is low level (weak pull - down), oscillation stops.(SCG) High-z(SEF,SDF,SCF)

Metal may be exposed on the top or bottom of this product.
 This will not affect any quality, reliability or electrical spec.

Footprint (Recommended)

(Unit:mm)

