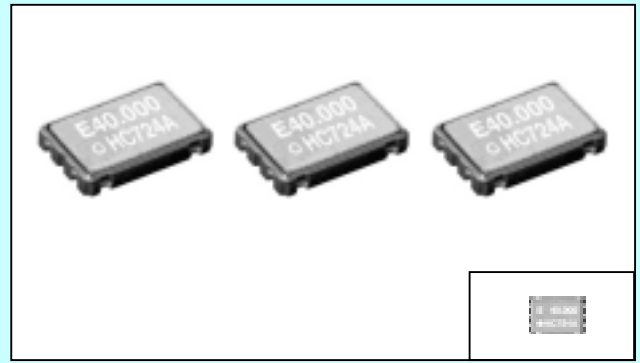


HIGH-FREQUENCY CRYSTAL OSCILLATOR

SG-710 series

Product number (please contact us)
Q33710xxxxxx00

- Frequency range : 1.8 MHz to 125 MHz
- Operating voltage : 3.3 V or 5.0 V
- Function : Output enable (OE) PTK,PHK
Standby (/ST) ECK
- Thickness : 1.3 mm Typ.
- Lead(Pb)-free : Comply with EU RoHS directive
(Lead free completely)



Actual size

Specifications (characteristics)

Item	Symbol	Specifications			Remarks
		PTK	PHK	ECK	
Output frequency range	f ₀	1.8 MHz to 50 MHz	1.8 MHz to 80 MHz	1.8 MHz to 125 MHz	
Operating voltage	V _{DD}	5.0 V ±0.5 V			3.3 V ±0.3 V
Temperature range	Storage temperature	-55 °C to +125 °C			Stored as bare product after unpacking
	Operating temperature	-10 °C to +70 °C, -40 °C to +85 °C			
Frequency stability	Δf/f ₀	B: ±50 × 10 ⁻⁶ , C: ±100 × 10 ⁻⁶ M: ±100 × 10 ⁻⁶			-10 °C to +70 °C -40 °C to +85 °C
Current consumption	I _{OP}	13 mA Max.	15 mA Max.	8 mA Max.	F ₀ ≤ 25 MHz, No load condition. (ECK:F ₀ ≤ 32 MHz)
		24 mA Max.	26 mA Max.	15 mA Max.	F ₀ ≤ 50 MHz, No load condition
		—	34 mA Max.	18 mA Max.	F ₀ ≤ 67 MHz, No load condition
		—	40 mA Max.	22 mA Max.	F ₀ ≤ 80 MHz, No load condition
		—	—	30 mA Max.	F ₀ ≤ 125 MHz, No load condition
Output disable current	I _{OE}	6 mA Max.	5 mA Max.	—	F ₀ ≤ 25 MHz, OE=GND (PTK, PHK)
		12 mA Max.	10 mA Max.	—	F ₀ ≤ 50 MHz, OE=GND (PTK, PHK)
		—	13 mA Max.	—	F ₀ ≤ 67 MHz, OE=GND (PTK, PHK)
		—	16 mA Max.	—	F ₀ ≤ 80 MHz, OE=GND (PTK, PHK)
Standby current	I _{ST}	—	—	15 μA Max.	/ST=GND(ECK)
Duty	tw/t	—	45 % to 55 %	45 % to 55 %	1.8 to 50 MHz, CL=15 pF(ECK)
		45 % to 55 %	—	40 % to 60 %	50 to 125 MHz, CL=15 pF(ECK)
High output voltage	V _{OH}	2.4 V Min.	V _{DD} -0.5 V Min.	90 % V _{DD} Min.	I _{OH} =-16 mA(PTK/PHK), -2 mA(ECK)
Low output voltage	V _{OL}	0.4 V Max.	0.5 V Max.	10 % V _{DD} Max.	I _{OL} = 16 mA(PTK/PHK), 2 mA(ECK)
Output loadcondition(TTL)	N	10 TTL Max.	10 TTL Max.	—	
Output loadcondition(CMOS)	C _L	15 pF Max.	50 pF Max.	15 pF Max.	
Output enable / disable input voltage	V _{IH}	2.0 V Min.	2.0 V Min.	70 % V _{DD} Min.	OE terminal (PTK, PHK)
	V _{IL}	0.8 V Max.	0.8 V Max.	30 % V _{DD} Max.	/ST terminal (ECK)
Output rise fall time	t _r t _f	—	5 ns Max.	6 ns Max.	CMOS load: 10 % V _{DD} to 90 % V _{DD} level
		5 ns Max.	—	—	TTL load: 0.4 V to 2.4 V level
Oscillation start up time	t _{OSC}	—	10 ms Max.	—	Time at minimum operating voltage to be 0 s
Aging	f _a	±5 × 10 ⁻⁶ / year Max.			T _a =+25 °C, V _{DD} =5.0 V / 3.3 V, First year.

External dimensions

(Unit:mm) ■ Recommended soldering pattern (Unit:mm)

