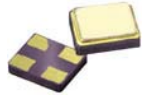


1210 SMX-4 Series

1.2 x 1.0mm Crystal unit



RoHS & REACH compliant
Ultra miniature SMD AT cut 4 pad crystal
Ultra thin package 0.35mm



Parameters	Specification	Remarks
Frequency range	F_nom 32.0MHz ~ 60.0MHz	AT cut, Fundamental
Frequency tolerance	F_tol ±10.0ppm ~ ±50.0ppm	@ 25°C
Frequency stability over operating temperature range	F_stb ±10.0ppm ~ ±50.0ppm	Table 2
Operating temperature range	T_use -10°C ~ +60°C, 20°C ~ +70°C, -30°C ~ +85°C, -40°C ~ 85°C	Table 2
Storage temperature	T_stg -45°C ~ +85°C	
Load capacitance	CL 7.0pF ~ 12.0pF	
Equivalent series resistance	ESR Table 1	
Shunt capacitance	CO 3.0pF max	
Drive level	DL 50µW max	
Frequency aging	F_age ±2.0ppm	@ 25°C, 1 st Year
Moisture sensitivity level	MSL 1 (unlimited)	
Electrostatic discharge	ESD Not applicable	
Insulation resistance	IR 500MΩ min	@ 100V DC

Table 1. Frequency range (MHz) vs ESR max

32.0MHz ~ 40.000MHz	150Ω
41.0MHz ~ 60.000MHz	100Ω

Dimensions (mm)

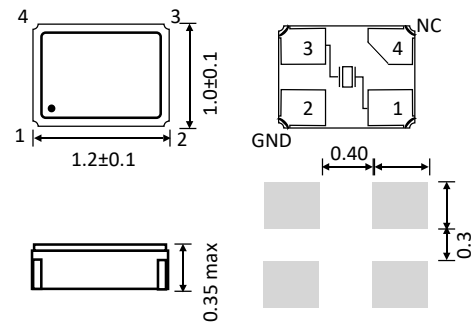


Table 2 Frequency Stability vs Temperature

Temp. (°C)	Stability in ppm				
	±10	±15	±20	±30	±50
-10°C ~ 60°C	✓	✓	✓	✓	✓
-20°C ~ 70°C	✓	✓	✓	✓	✓
-30°C ~ 85°C	Enquire	✓	✓	✓	✓
-40°C ~ 85°C	Enquire	✓	✓	✓	✓

Part number generation

CAS	2700	G	K	L	GO	F	L	-PF	
ACT Series Code	Frequency (MHz)	Frequency Tolerance (±ppm)	Frequency stability over temperature range (±ppm)	Operating Temperature Range (°C)	Load capacitance (CL -pF)	Frequency mode	Packaging (Tape & Reel)	Frequency aging	RoHS
CAS	32MHz = 3200 40MHz = 4000 38.40MHz =3840 Note: Use the first 4 characters of the frequency in Hz i.e. 27MHz =27000000Hz part code =2700 If the frequency is 100MHz or higher than the first 5 characters are used	±10 = E ±15 = F ±20 = G ±30 = I ±50 = L	±10 = F ±15 = G ±20 = I ±30 = K ±50 = O	-20 ~ +70 = G -30 ~ +85 = L -40 ~ +85 = M	7 = DO 8 = GO 9 = JO 10 = KO 11 = MO 12 = OO	Fundamental = F	Loose = L 3000pcs = D	<u>Standard</u> ±2ppm=leave blank <u>Non standard</u> ±1ppm=1	RoHS = -PF

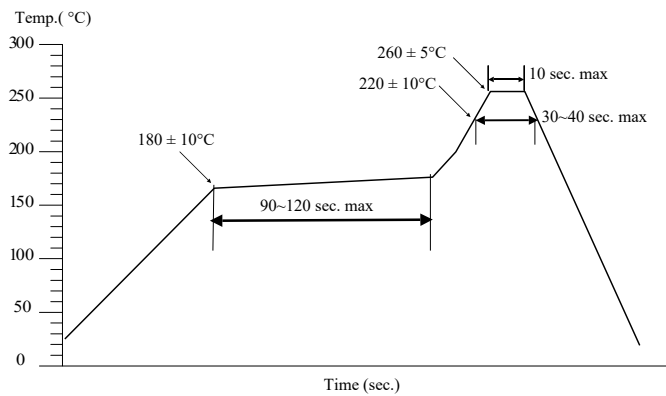
Note: It is important to suffix the above part number with full frequency required to give a completed part number as illustrated below.
Full Example Part Number : CAS4000GKLGOL-PF [40.000MHz] , CAS3200GKLGOL-PF [32.000MHz] , CAS3840GKLGOL-PF [38.40MHz]

1210 SMX-4 Series

1.2 x 1.0mm Crystal unit



Solder Reflow Profile



Additional information

Drawing control: (Internal use only)
Commodity code: 854160 00 00
Issue number: N1
Date: 01/7/2019
Internal reference: Y1

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