

# 2016 SMX-4 Series

## 2.0 x 1.6mm Crystal unit



RoHS & REACH compliant  
Small package size



Parameters	Specification	Remarks
Frequency range	F_nom 16.0MHz ~ 62.5MHz	Fundamental
Frequency tolerance	F_tol ±10.0ppm ~ ±50.0ppm	
Frequency stability over operating temperature range	F_stb ±10.0ppm ~ ±50.0ppm	Table 2
Operating temperature range	T_use -20°C ~ +70°C, -30°C ~ +85°C, -40°C ~ +85°C	Table 2
Storage temperature	T_stg -55°C ~ +125°C	
Load capacitance	CL 6.0pF ~ 16.0pF	
Equivalent series resistance	ESR Table 1	
Shunt capacitance	CO 3.0pF max	
Drive level	DL 100µW max	50µW typical
Frequency aging	F_age ±2.0ppm at 25°C, 1 <sup>st</sup> Year	For ±1.0ppm please enquire
Moisture sensitivity level	MSL 1 (unlimited)	
Electrostatic discharge	ESD Not applicable	
Insulation resistance	IR 500MΩ min	At 100V DC

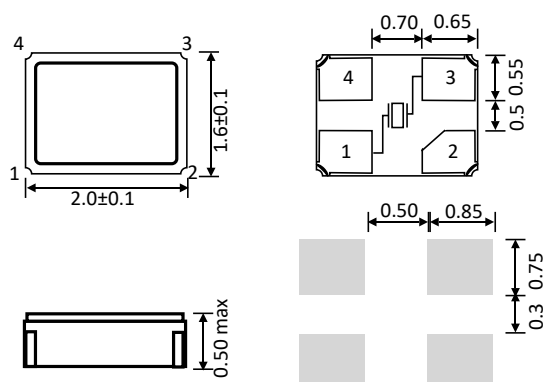
Table 1. Frequency range (MHz) vs ESR

16.0MHz ~ 18.999MHz	200Ω
19.0MHz ~ 24.999MHz	100Ω
25.0MHz ~ 29.999MHz	80Ω
30.0MHz ~ 62.500MHz	60Ω

Table 2. Frequency Stability vs Temperature

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

Dimensions (mm)



Part number generation

CX	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
CX	8MHz = 0800 27MHz = 2700  Note: Use the first 4 characters of the frequency in Hz i.e. 27MHz = 27000000Hz  If the frequency is 100MHz or higher then 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	6 = BO 7 = DO 8 = GO 9 = JO 10 = KO 11 = MO 12 = OO 13 = YO 14 = ZO 15 = PO 16 = RO	Fundamental = F	Loose = L 3000pcs = D	<u>Standard</u> ±2ppm=blank  <u>Non standard</u> ±1ppm=1	RoHS = -PF

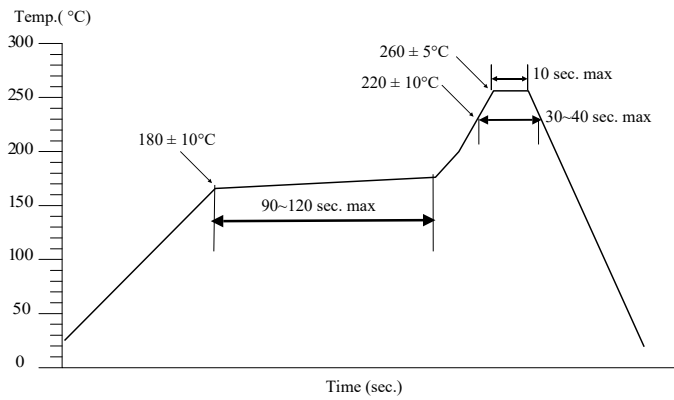
Note: It is important to suffix the above part number with full frequency required to give a completed part number as illustrated below.  
Full Example Part Number : CX0800GKLGOF-L-PF [8.000MHz], CX2700GKLGOF-L-PF [27.000MHz], CX2457GKLGOF-L-PF [24.576MHz]

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## Solder Reflow Profile



## Additional information

Drawing control: (Internal use only)  
Commodity code: 854160 00 00  
Issue number: N2  
Date: 19/6/2020  
Internal reference: H2

**ACT (A wholly owned Acal BFi Company)**  
**+44 (0) 118 978 8878 | sales@act.co.uk | www.act.co.uk**  
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