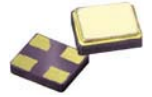


# 2205 SMX-4 Series

## 2.5 x 2.0mm Crystal unit



RoHS & REACH compliant  
Small package size



| Parameters   |       | Specification                               | Remarks                    |
|--|-------|---|----------------------------|
| Frequency range                                      | F_nom | 12.0MHz ~ 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    | 8.0pF ~ 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                 |

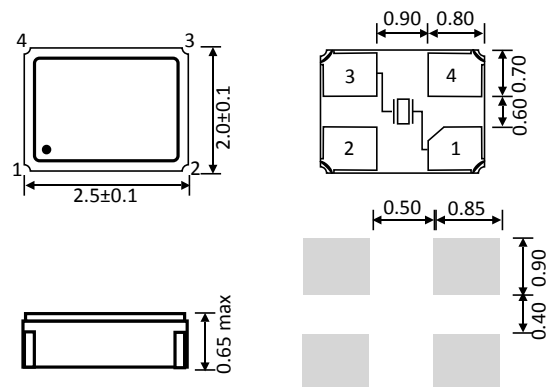
Table 1. Frequency range (MHz) vs ESR

|                     |      |
|---------------------|------|
| 12.0MHz ~ 15.999MHz | 200Ω |
| 16.0MHz ~ 19.999MHz | 100Ω |
| 20.0MHz ~ 25.999MHz | 80Ω  |
| 26.0MHz ~ 62.500MHz | 50Ω  |

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          | ✓   | ✓   | ✓   | ✓   |

Dimensions (mm)



Part number generation

| CW              | 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             |
| CW              | 8MHz = 0800<br>27MHz = 2700<br><br>Note: Use the first 4 characters of the frequency in Hz i.e. 27MHz = 27000000Hz<br><br>If the frequency is 100MHz or higher then the first 5 characters are used | ±10 = E<br>±15 = F<br>±20 = G<br>±30 = I<br>±50 = L | ±10 = F<br>±15 = G<br>±20 = I<br>±30 = K<br>±50 = O | -20 ~ +70 = G<br>-30 ~ +85 = L<br>-40 ~ +85 = M | 8 = GO<br>9 = JO<br>10 = KO<br>11 = MO<br>12 = OO<br>13 = YO<br>14 = ZO<br>15 = PO<br>16 = RO | Fundamental<br>=<br>F | Loose = L<br>3000pcs = D | <u>Standard</u><br>±2ppm = leave blank for standard aging<br><br><u>Non standard</u><br>±1ppm = 1 | RoHS<br>=<br>-pF |

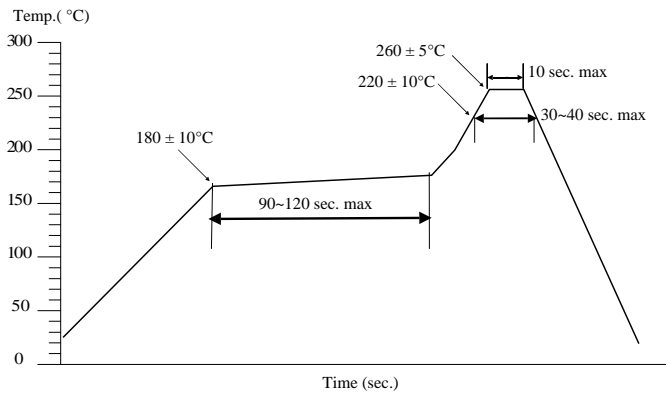
Note: It is important to suffix the above part number with full frequency required to give a completed part number as illustrated below.  
Full Example Part Number : CW2700GKLGOF-L-PF [27.000MHz] , CW2457GKLGOF-L-PF [24.576MHz]

# 2205 SMX-4 Series

2.5 x 2.0mm Crystal unit



## Solder Reflow Profile



## Additional information

Drawing control: (Internal use only)  
Commodity code: 854160 00 00  
Issue number: N1  
Date: 1/02/2017  
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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