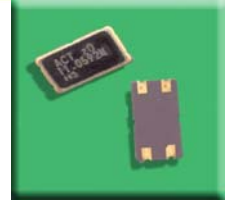


ACT421LCSMX-4 (Preferred type)

The ACT421LCSMX-4 is a 4 pad, high quality, low aging SMD Crystal in a ceramic base / metal lid package, seam welded for good long term reliability. The lid is grounded through the package to assist with EMI issues and the pads are gold plated. Its wide frequency range and frequency tolerance / stability options with its small size make the device ideal for many applications including Bluetooth, Notebook, PCMCIA, Instrumentation, Microprocessor Systems and Wireless / Communications equipment. Available loose or on 2K reels to suit high/low volume requirements.

Compatible with Eu Directive
2002/EC - RoHS



Specification

Parameter	Symbol	Specification	Condition
Frequency	fo	12 ~ 48MHz	Fundamental
Frequency Tolerance	$\Delta f/f_0$	$\pm 10\text{ppm} \sim \pm 30\text{ppm}$ @25°C	Refer to table 3
Stability over temp range	Tc	$\pm 10\text{ppm} \sim \pm 30\text{ppm}$	Refer to table 3
Temp Operating Range	Topr	-20 ~ +70°C STD(-40 ~ +85°C Option)	Please specify
Temp Storage Range	Tstg	-40 ~ +85°C	Please specify
Equivalent Series Resistance	ESR	See Table 2	
Load Capacitance	CL	8~16pF	Please specify
Shunt Capacitance	C0	5pF max	
Drive Level	DL	10 μ W (300 μ W max)	
Insulation Resistance	IR	500M Ω min	@100V DC
Aging	Fa	$\pm 2\text{ppm}$ / year max	@25°C
Shock		Drop test 3 times onto 2mm stainless steel from 75cm	
Reflow		260°C for 10 seconds max	

Pad termination 0.3 -1.0um over 1.3-8.8um Ni

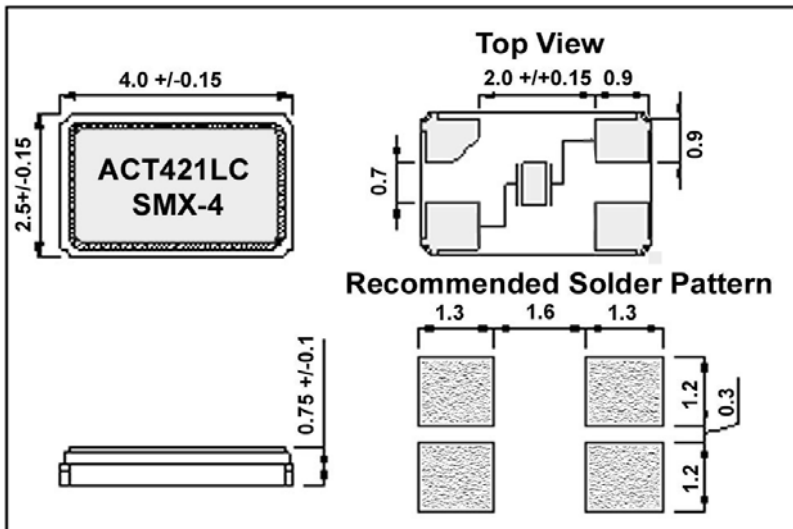


Table 1

Available Fundamental Frequencies

12.000MHz
 13.000MHz
 14.31818MHz
 16.000MHz
 20.000MHz
 24.576MHz
 25.000MHz
 26.000MHz
 27.000MHz
 30.000MHz
 32.000MHz
 35.328MHz
 40.000MHz
 48.000MHz

Table 2

ESR (Max)	Frequency Range	ESR (Max)
80 Ω	12MHz to 19.999MHz	
70 Ω	20MHz to 25.99MHz	
50 Ω	26MHz to 48MHz	

Table 3

	25°C	$\pm 10\text{ppm}$	$\pm 15\text{ppm}$	$\pm 20\text{ppm}$	$\pm 30\text{ppm}$
Tolerance		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Stability	-20 ~ +70°C	Enquire	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	-40 ~ +85°C	Enquire	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Please note that all parameters can not necessarily be specified in the same device

Customer to specify : Frequency, Frequency Tolerance, Temperature Stability, Operating Temperature & Load Capacitance

In line with our ongoing policy of product evolution and improvement, the above specification may subject to change without notice

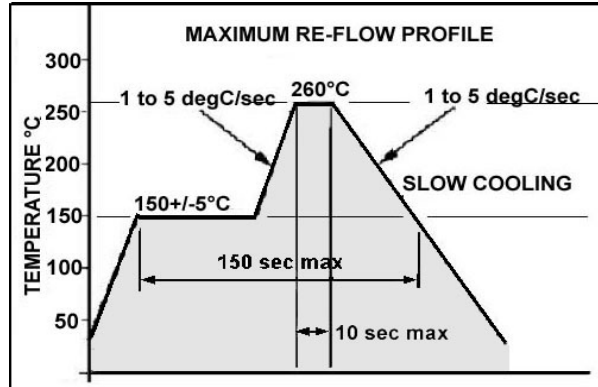
ISO9001:2000 Registered

For quotations or further information please contact us at:

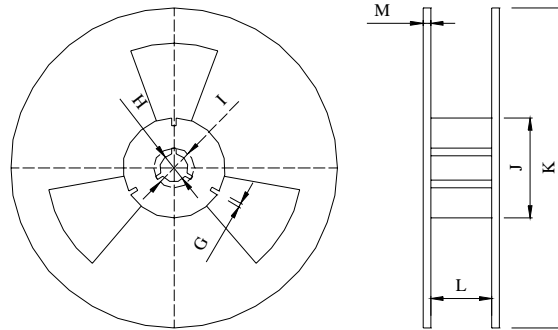
3 The Business Centre, Molly Millars Lane, Wokingham, Berkshire, RG41 2EY, UK

<http://www.actcrystals.com>

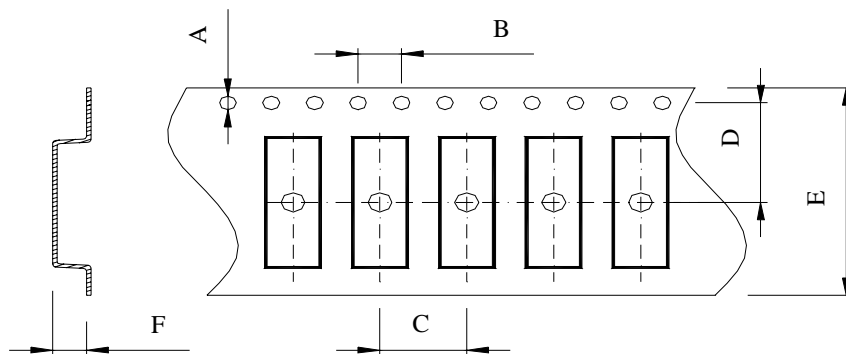
Specification: ACT421LCMX-4 Series
Re-Flow Profile



Tape and Reel Reel size = 2K pieces



G	H	I	J	K	L	M
2.5	13.5	21.6	60	178	13	1.2



A	B	C	D	E	F
1.5	4.0	4.0	3.5	12.0	1.0

In line with our ongoing policy of product evolution and improvement, the above specification may subject to change without notice

ISO9001:2000 Registered

For quotations or further information please contact us at:
3 The Business Centre, Molly Millars Lane, Wokingham, Berkshire, RG41 2EY, UK
<http://www.actcrystals.com>