

## ACT750SMX-4

The ACT750SMX-4 family is a low cost, 4 pad, high quality, low aging 7x5mm SMD Crystal in a ceramic base / metal lid package, seam sealed for good long term reliability. The device has the lid grounded via the package to reduce EMI issues. The wide frequency range and specification options ensure suitability for many applications.

**APPLICATIONS:** Wireless/WLAN, ATM, Cordless phones, Pagers, PC & Notebook, Instrumentation, Audio visual, Micro clock, Process control, Consumer & Communications.



## Specification

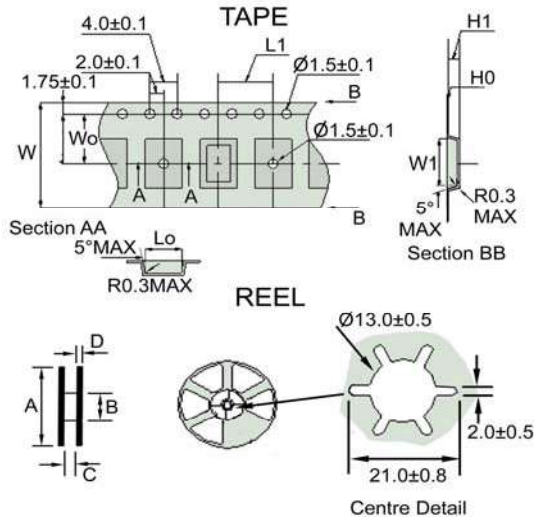
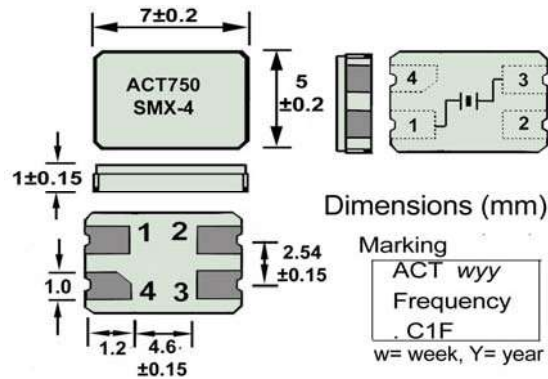
Parameter	Symbol	Specification	Condition
Frequency Range	fo	6.0 ~ 150.0MHz	Please specify
Frequency Tolerance (@25°C)	Δf/fo	±5,±10,±15,±20,±30 & ±50ppm(Std)	Please specify
Stability over temp range	Tc	±5ppm ~ 50ppm (See table 2)	Please specify
Temp Operating Range	Topr	0~+50°C ~ -40~+85°C (See table 2)	Please specify
Temp Storage Range	Tstg	-40 ~+85°C	
Equivalent Series Resistance	ESR	See table 1	
Load Capacitance	CL	10pF ~ 50pF & Series	(16,20 & 30pF Std. Please specify)
Shunt Capacitance	C0	5pF max	
Drive Level	DL	100μW typical (300μW max)	(Custom available - Please enquire)
Drive Level Dependency	DLD	ESR min to max <1.3 FL min to max <1.3	0.01, 0.1, 1, 10, 50, 100μW steps
Insulation Resistance	IR	500MΩ min	@100V DC
Aging	Fa	±3ppm /year	(First year max @ 25°C)

Table 1

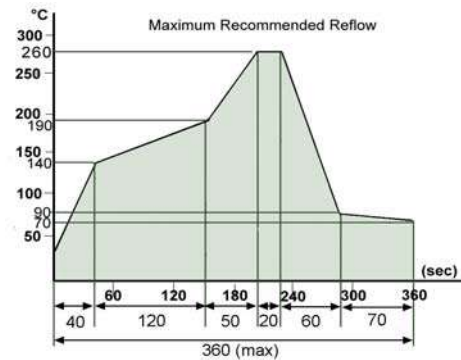
Freq. Range (MHz)	ESR (Ω) max	Mode / Cut
6.000 ~ 9.999	100	Fundamental / AT
10.000 ~ 11.999	60	Fundamental / AT
12.000 ~ 14.999	50	Fundamental / AT
15.000 ~ 49.090	40	Fundamental / AT
45.000 ~ 79.999	90	3 <sup>RD</sup> Overtone / AT
80.000 ~ 90.000	90	3 <sup>RD</sup> Overtone / AT
90.001 ~ 150.000	150	3 <sup>RD</sup> Overtone / AT

Table 2

Stability Temp	±5ppm	±10ppm	±20ppm	±30ppm	±50ppm
0~50°C	✓	✓	✓	✓	✓
-10~+60°C	✓	✓	✓	✓	✓
-20~+70°C		✓	✓	✓	✓
-30~+80°C		STD	STD	STD	STD
-40~+85°C		✓	✓	✓	✓



Pad Surface Material: Gold (Au)



Tolerance Dimension	TAPE							REEL			
	W	Wo	W1	Lo	L1	Ho	H1	A	B	C	D
±0.3	0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.1	±1	±1	±1	±0.2
16.0	7.5	7.4	5.4	8.0	0.3	1.4	178	80	17.5	2.0	

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 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>

**SERIES : ACT750SMX-4 Part numbering code is CF**

Example :

**CF** 750SMX-4    **1200** (12.000MHz)    **I** (±30ppm)    **K** (±30ppm)    **G** (-20+70)    **RO** (16pF)    **F** (Fund')    **C** (1K Reel)    **-PF** (RoHS)

Frequency	Tolerance (±ppm) @ 25°C	Stability Over Operating Temperature (°C)	Operating Temperature Range (°C)	Load Capacitance (pF or Series Resonance)	Mode	RoHS Comp'
6-9.999MHz 0 and 1st 3 digits of frequency	A 5	B 5	A -0+50	GO 8	F Fundamental	-PF
10-99.9999MHz 1st four digits of frequency. See note 4	E 10	F 10	E -10+60	JO 9	A 3rd Overtone	
100-150MHz 1st five digits of frequency	F 15	I 20	G -20+70	KO 10		
	G 20	K 30	K -30+80	MO 11		
	I 30	O 50	M -40+85	OO 12		
	L 50			ZO 14		
				PO 15		
				RO 16		
				TO 18		
				VO 20		
				AA 24		
				BA 25		
				DA 30		
				SR SR		

Temp	±5ppm	±10ppm	±20ppm	±30ppm	±50ppm
0-50°C	✓	✓	✓	✓	✓
-10-+60°C	✓	✓	✓	✓	✓
-20-+70°C		✓	✓	✓	✓
-30-+80°C		STD	STD	STD	STD
-40-+85°C		✓	✓	✓	✓

**Package**  
 L = Loose  
 C = 1K Reels

**Full Example Part Number**  
**CF1200IKGROFC - PF 12.000MHz**

**NOTES :**

- 1) Tighter Tolerances and Stabilities and other Operating Temperature Ranges may be available.
- 2) ACT are always happy to consider truly custom specification parts which may require non-standard specification parameters, specific testing, customer requested AQL requirements, non standard packaging or taping and reeling and custom marking. Such devices would normally be allocated a custom specification part number which is wholly customer specific.  
 ( EG : A 12.000MHz custom ACT750SMX-4 device may have a part number such as CF1200C- C1122-PF)
- 3) A guide to availability of tighter stabilities appears on page one of this data sheet in Table 2
- 4) Frequencies below 10.000MHz are prefixed with a "0" (eg: 0900 = 9MHz. Whereas 10.000MHz is 1000 )