

ACT533SMX-2

The ACT533SMX-2 is a 2 pad, high quality, cost competitive ceramic packaged, glass sealed crystal. The package provides for the durability and reliability, necessary for strenuous processes like infrared and vapour reflow. The pads are gold plated. The device is very suitable for automatic placement on PCB's. With an excellent range of Fundamental Frequencies (from 7 to 60.0MHz) allowing for ease of circuit design, and with a good range of stabilities it has become one of the optimum choices for design engineers. Applications include Microprocessor Systems, Instrumentation, Office Automation, Audio Visual and many more. (Available loose, or on 1,000pc reels to assist with varying volume requirements.)



Specification

Parameter	Symbol	Specification	Condition
Frequency Range	fo	7.00 ~ 60.00 MHz	Fundamental
		40.00~80.0 MHz	Third overtone
Frequency Tolerance	$\Delta f/f_0$	$\pm 10\text{ppm} \sim 100\text{ppm}$ (@25°C $\pm 3^\circ\text{C}$)	Refer to Table 2
Stability over Temp Range	Tc	$\pm 20\text{ppm} \sim 100\text{ppm}$ (Ref to :25°C $\pm 3^\circ\text{C}$)	Refer to Table 2
Temp Operating Range	Topr	-20 ~ +70°C , -30~85° (-40 ~ +85°C option)	Please specify
Temp Storage Range	Tstg	-55 ~ +125°C	
Equivalent Series Resistance	ESR	See table1 below	
Load Capacitance	CL	8 ~ 30pF or Series Resonance	Please specify
Shunt Capacitance	C0	7pF max	
Drive Level	DL	100 μW max. (200 μW Max)	
Insulation Resistance	IR	500M Ω min	@100V DC
Reflow Process		10 Seconds (max) @260°C	
Aging	Fa	$\pm 5\text{ppm} / \text{year max}$	@25°C

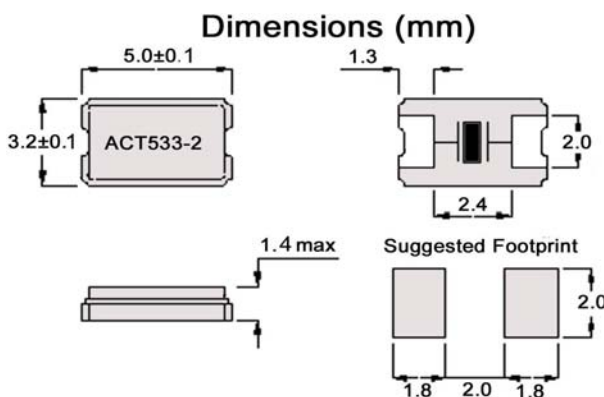
Table 1

Frequency (MHz)	ESR max (Ω)	Mode
7 ~ 9.998	120	Fundamental
10.0 ~ 11.999	80	Fundamental
12.0 ~ 23.999	50	Fundamental
24.0 ~ 60.000	30	Fundamental
40.0 ~ 80.00	90	3rd O/T

Table2

		$\pm 10\text{ppm}$	$\pm 20\text{ppm}$	$\pm 30\text{ppm}$	$\pm 50\text{ppm}$	$\pm 100\text{ppm}$
Tolerance	25°C	Enquire	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Stability	-10+60°C	Enquire	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	-20+70°C	Enquire	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	-30+85°C	Enquire	Enquire	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	-40+85°C	Enquire	Enquire	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Outline



Pad surface material
Au

Lead used as an inapplicability substance in the glass seal and as such is exempt from the RoHS legislation

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 be subject to change without notice

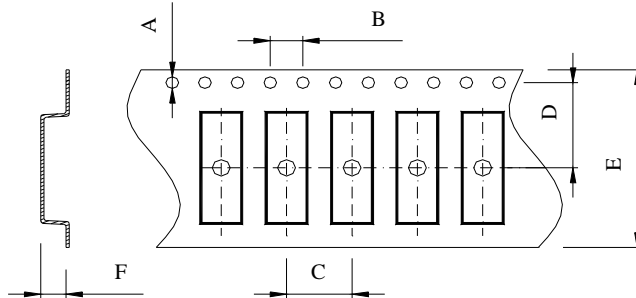
ISO9001:2000 Registered

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>

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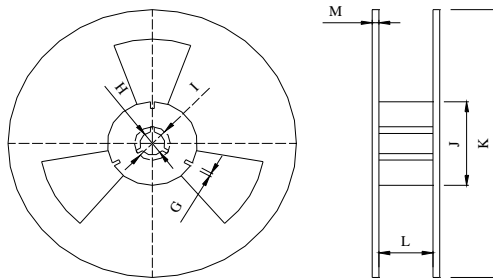
Tape Dimensions (Units in mm)



A	B	C	D	E	F
1.5	4.0	8.0	5.5	12.0	1.5

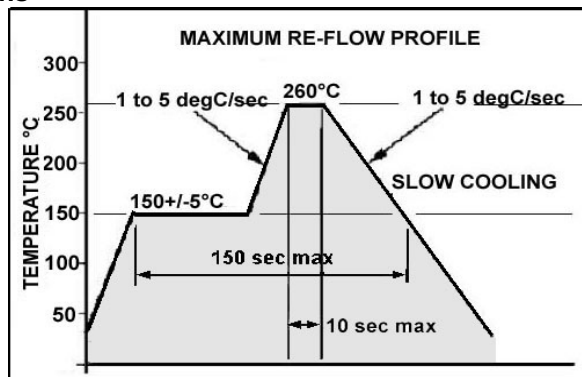
Reel Dimensions (Units in mm)

* 1,000 piece reels



G	H	I	J	K	L	M
2.5	13.5	21.6	60.0	178.0	13.5	1.6

Re-flow Conditions



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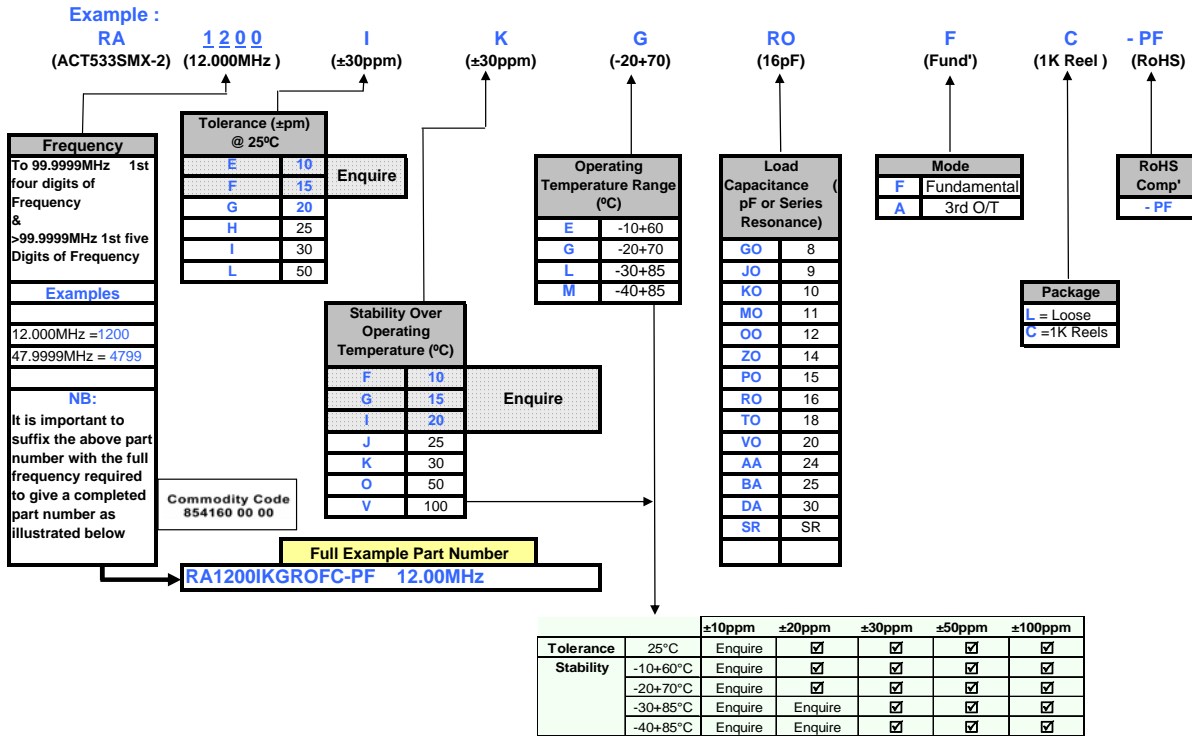
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SERIES : ACT533SMX-2 Part numbering code is RA



NOTES :

- 1) Tighter Tolerances and Stabilities other Operating Temperature Ranges may be available. As each of these specification parameters impact on each other, it is not always possible to combine all options in one device. Therefore, if a specification not catered for above is required, please contact us directly for the relevant part number code(s).
- 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 12.00MHz custom ACT533SMX-2 device may have a part number such as RA1200C- C1122-PF)
- 3) A guide to availability of tighter stabilities appears on page one of this data sheet in Table 2

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