

ACT2018SMX-4

The ACT2018SMX-4 is an extremely compact, high quality, low aging, seam welded crystal. Utilising a ceramic base with a metal lid, it provides for the durability and reliability, necessary for strenuous processes like infrared and vapour reflow. The lid is grounded through the package, to assist with EMC Issues, and the pads are gold plated. The device is very suitable for automatic placement on PCB's. With an excellent range of frequencies it is an optimum choice for designs where PCB space is at a premium. **Applications** include: PDA, Cellular, MPU Clocks, ISM, Bluetooth, WLAN, and consumer electronics. Available loose or on reels (Standard 3,000 pieces / reel.).



Specification

Parameter	Symbol	Specification	Condition
Frequency Range	fo	24.00 ~ 48.00 MHz AT Fundamental	Please specify
Frequency Tolerance	$\Delta f/fo$	$\pm 10\text{ppm}$ (standard) and $\pm 30\text{ppm}$ ($25^\circ\text{C} \pm 2\text{degC}$)	Please Specify
Stability over Temp Range	Tc	$\pm 10\text{ppm}$ (standard), $\pm 20\text{ppm}$ and $\pm 30\text{ppm}$	Please specify
Temp Operating Range	Topr	-20 ~ +70°C Standard Others available (enquire)	Please specify
Temp Storage Range	Tstg	-40 ~ +85°C	
Equivalent Series Resistance	ESR	Please refer to Table 1	
Load Capacitance	CL	8 pF min	Please specify
Shunt Capacitance	C0	5pF max	
Drive Level	DL	100 μ W max	
FDDL		10ppm max	6 steps minimum
DLD2		Refer to table 1	6 steps minimum
Insulation Resistance	IR	500M Ω min	@100V DC
Reflow Process		20 Seconds @ 270°C (max)	Refer to profile below
Aging	Fa	$\pm 2\text{ppm}$ / 1st year max (1ppm option*)	@25°C

* Tolerance +aging 1st yr= Tolerance plus $\pm 1\text{ppm}$

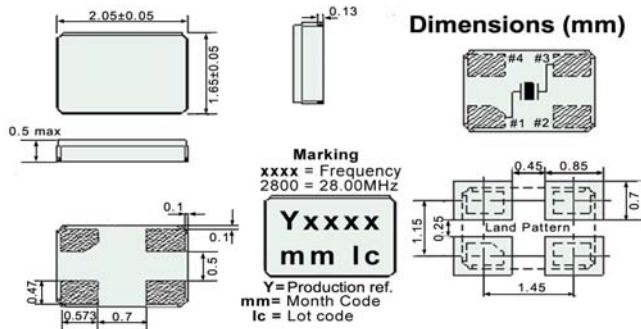
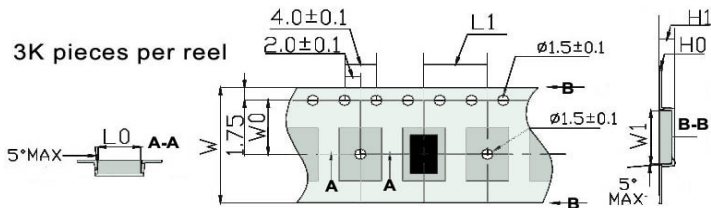


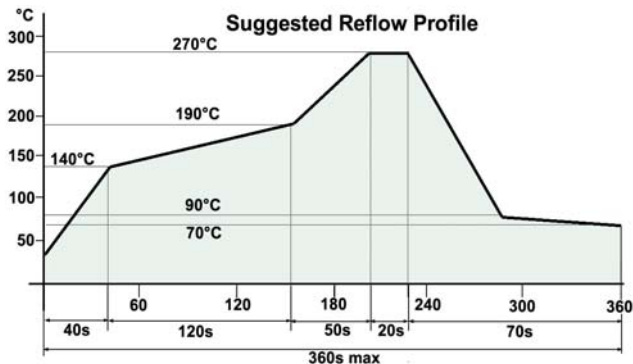
Table 1

Frequency(MHz)	ESR Ω max	Mode	DLD2
16.0~17.999	150	Fundamental	<15 Ω
18.0~19.999	120	Fundamental	<12 Ω
20.0~24.999	80	Fundamental	<10 Ω
25.0~31.999	70	Fundamental	<10 Ω
32.0~48.0	40	Fundamental	<10 Ω

Pad surface material Au



Tape & Reel Dimensions (mm)						
W	W0	W1	L0	L1	H0	H1
8 ± 0.3	3.5 ± 0.1	2.2 ± 0.1	2.35 ± 1.8	4.0 ± 0.1	0.1 ± 0.05	0.8 ± 0.1



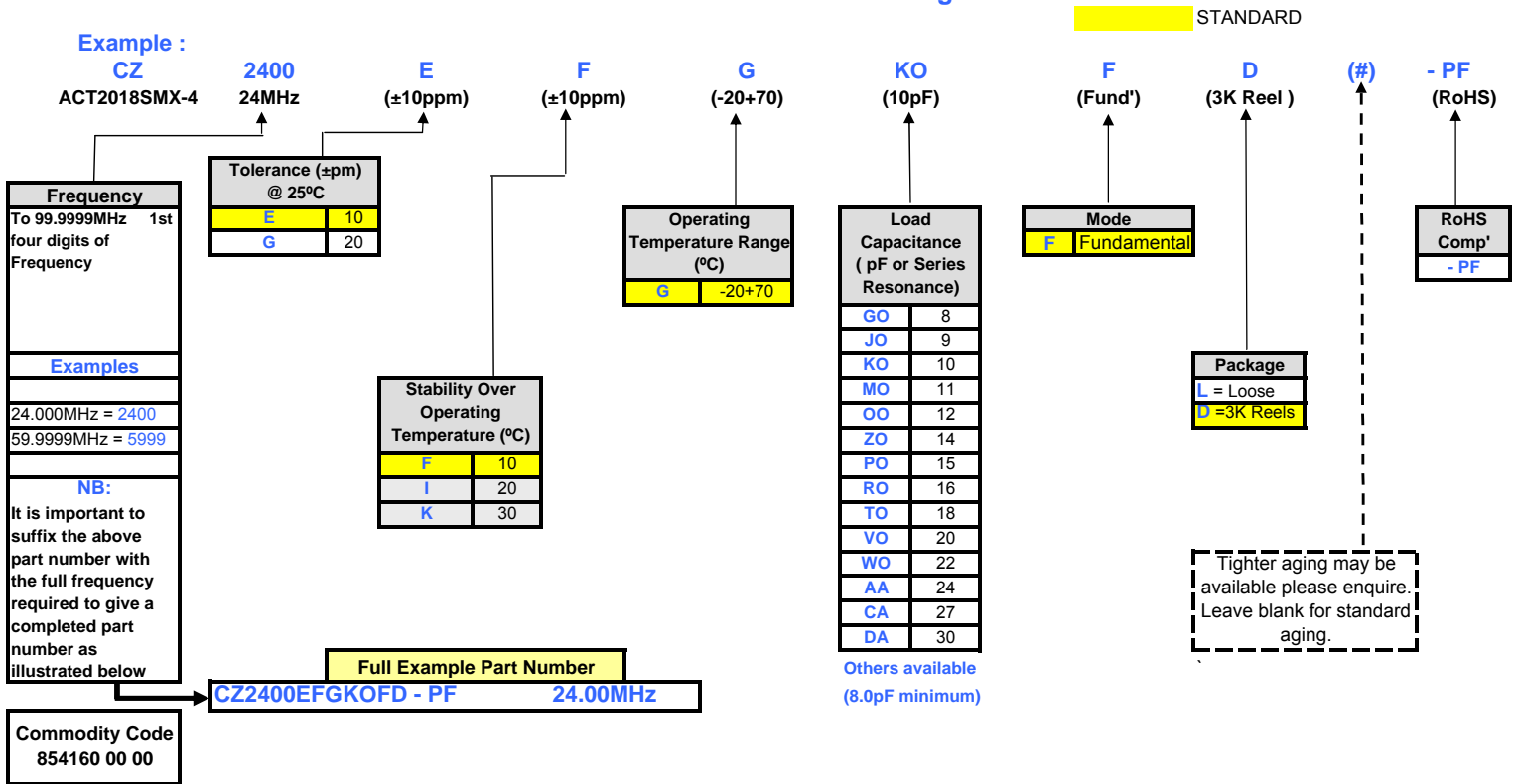
Please note that all parameters can not necessarily be specified in the same device

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>

SERIES : ACT2018SMX-4 Part numbering code is CZ



NOTES :

- 1) Tighter Tolerances and Stabilities and 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 : A24MHz custom ACT2018SMX-4 device may have a part number such as CZ2400C- C1133-PF)

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