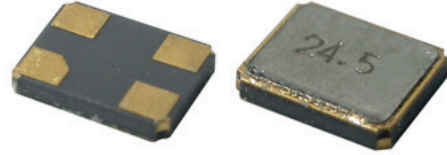


X32 CERAMIC SURFACE-MOUNT CRYSTAL

FEATURES

- Small SMD package
- Tight Tolerance & Stability available
- Automotive Temperature Range
- Applications: Bluetooth, Wireless applications, GPS, IoT, ...

3.2 x 2.5 x 0.70 mm



Item	Symbol	Specification
Frequency Range	Fo	8 MHz ~ 200 MHz
Operation Mode		8.0 MHz ~ 54.0 MHz Fundamental (see options) 40.0 MHz ~ 200 MHz 3rd-overtone (see options)
Operating temperature Range	To	-20° to +70°C (see options)
Frequency Tolerance at 25°C	Δf/F	± 50ppm max. (see options)
Temperature Stability	Δf/F	± 50ppm max. (see options)
Load Capacitance (CL)	CL	series or 6 pF to 32 pF (see options)
Equivalent Series Resistance	ESR	See Table 1
Shunt Capacitance (Co)	Co	3pF Max
Insulation Resistance	Ri	500 MΩ min. (at 100Vdc)
Drive Level	DL	10μ W typical, 100μ W max.
Aging	Δf/F	±1ppm max (at 25°C, first year)
Packing Unit		3000pcs / reel
Soldering Condition		260°C, 10 sec x2 max
		Customer specifications on request

TABLE 1: Standard ESR

Frequency (MHz)	ESR (Ω) max.	Frequency (MHz)	ESR (Ω) max.
8.0 - 8.99	600	12.0 - 19.99	60
9.0 - 9.99	300	20.0 - 54.0	40
10.0 - 10.99	120		
11.0 - 11.99	80	40.0 - 200.0 (3rd OT)	80

OPTIONS & ORDERING INFORMATION

X32- MHz	
	Freq. Tolerance	Freq. Stability	Operating Temp.	Load Capacitance	Mode	ESR if other than STD	Frequency in MHz
	10 = ±10 ppm	05 = ± 5 ppm	D = -10° / +60°C	Please specify CL in pF or S for Series	F = Fundamental	Specify a value in Ω	Please specify the frequency in MHz
	15 = ±15 ppm	10 = ±10 ppm	E = 0° / +70°C		D = 3rd overtone		
	20 = ±20 ppm	15 = ±15 ppm	F = -20° / +70°C				
	25 = ±25 ppm	20 = ±20 ppm	G = -30° / +75°C				
	30 = ±30 ppm	25 = ±25 ppm	H = -30° / +85°C				
	50 = ±50 ppm	30 = ±30 ppm	K = -40° / +85°C				
		50 = ±50 ppm	L = -40° / +105°C				
			M = -40° / +125°C				

* Note: Not all combinations are possible, please consult us.

OUTLINE DIMENSIONS

