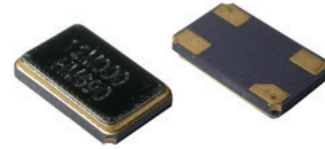


X53 CERAMIC SURFACE-MOUNT CRYSTAL

FEATURES

- Not recommended for new designs
- Small SMD package, 4 pad version
- Tight Tolerance & Stability available
- Wide Temperature Range -55° to +125°C
- Applications: Bluetooth, Wireless applications, Mobile phones,...

5.0 x 3.2 x 0.9 mm



Item	Symbol	Specification
Frequency Range	Fo	8 MHz ~ 150 MHz
Operation Mode		8.0 MHz ~ 70.0 MHz Fundamental (see options) 50.0 MHz ~ 150.0 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 50 pF (see options)
Equivalent Series Resistance	ESR	See Table 1
Shunt Capacitance (Co)	Co	5pF Max
Insulation Resistance	Ri	500 MΩ min. (at 100Vdc)
Drive Level	DL	100μW typical, 300μW max.
Aging	Δf/F	±2ppm max (at 25°C, first year)
Packing Unit		1000pcs / reel
Soldering Condition		260°C, 10 sec x2 max
		Customer specifications on request

TABLE 1: Standard ESR

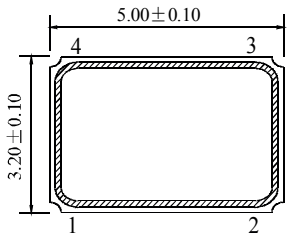
Frequency (MHz)	ESR (Ω) max.	Frequency (MHz)	ESR (Ω) max.
8.0 - 9.99	100	50.0 - 150.0, 3rd overtone	100
10.0 - 29.9	60		
30.0 - 70.0	40		

OPTIONS & ORDERING INFORMATION

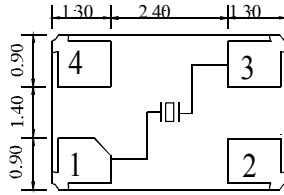
X53-	- MHz	
	Freq. Tolerance	Freq. Stability	Operating Temp.	Load Capacitance	Mode	ESR if other than STD Specify a value in Ω	Frequency in MHz Please specify the frequency in MHz
	10 = ±10 ppm	10 = ±10 ppm	D = -10° / +60°C	Please specify CL in pF or S for Series	F = Fundamental D = 3rd overtone		
	15 = ±15 ppm	15 = ±15 ppm	E = 0° / +70°C				
	20 = ±20 ppm	20 = ±20 ppm	F = -20° / +70°C				
	25 = ±25 ppm	25 = ±25 ppm	G = -30° / +75°C				
	30 = ±30 ppm	30 = ±30 ppm	H = -30° / +85°C				
	50 = ±50 ppm	50 = ±50 ppm	K = -40° / +85°C				
			L = -40° / +105°C				
			M = -40° / +125°C				
			N = -55° / +125°C				

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

OUTLINE DIMENSIONS



Top View



Recommended Solder Pattern

