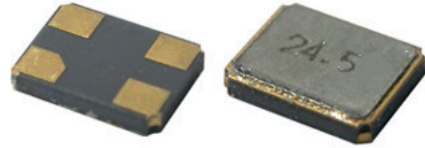


## X25 CERAMIC SURFACE-MOUNT CRYSTAL

### FEATURES

- Ultra Small SMD package
- Tight Stability available
- Automotive Temperature Range
- Applications: Bluetooth, Wireless applications, Modems, IoT, ...

2.5 x 2.0 x 0.60 mm



Item	Symbol	Specification
Frequency Range	Fo	12 MHz ~ 80 MHz
Operation Mode		Fundamental
Operating temperature Range	To	-20° to +70°C (see options)
Frequency Tolerance at 25°C	$\Delta f/F$	$\pm 50$ ppm max. (see options)
Temperature Stability	$\Delta f/F$	$\pm 50$ ppm 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	3pF Max
Insulation Resistance	Ri	500 M $\Omega$ min. (at 100Vdc)
Drive Level	DL	10 $\mu$ W typical, 100 $\mu$ W max.
Aging	$\Delta f/F$	$\pm 1$ ppm max (at 25°C, first year)
Packing Unit		3000pcs / reel
Soldering Condition		260°C, 10 sec x2 max
		<b>Customer specifications on request</b>

### TABLE 1: Standard ESR

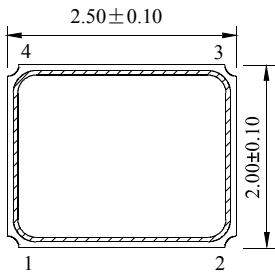
Frequency (MHz)	ESR ( $\Omega$ ) max.
12.0 - 15.99	100
16.0 - 19.9	80
20.0 - 29.9	50
30.0 - 80.0	40

### OPTIONS & ORDERING INFORMATION

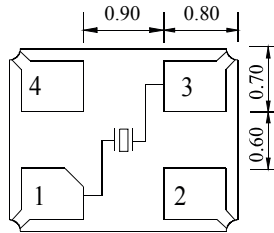
X25-	.....	.....	.....	.....	.....	..... MHz	
	Freq. Tolerance	Freq. Stability	Operating Temp.	Load Capacitance	Mode	ESR if other than STD	Frequency in MHz
	<b>10</b> = $\pm 10$ ppm	<b>05</b> = $\pm 5$ ppm	<b>D</b> = -10° / +60°C	Please specify CL in pF or S for Series	<b>F</b> = Fundamental	Specify a value in $\Omega$	Please specify the frequency in MHz
	<b>15</b> = $\pm 15$ ppm	<b>10</b> = $\pm 10$ ppm	<b>E</b> = 0° / +70°C				
	<b>20</b> = $\pm 20$ ppm	<b>15</b> = $\pm 15$ ppm	<b>F</b> = -20° / +70°C				
	<b>25</b> = $\pm 25$ ppm	<b>20</b> = $\pm 20$ ppm	<b>G</b> = -30° / +75°C				
	<b>30</b> = $\pm 30$ ppm	<b>25</b> = $\pm 25$ ppm	<b>H</b> = -30° / +85°C				
	<b>50</b> = $\pm 50$ ppm	<b>30</b> = $\pm 30$ ppm	<b>K</b> = -40° / +85°C				
		<b>50</b> = $\pm 50$ ppm	<b>L</b> = -40° / +105°C				
			<b>M</b> = -40° / +125°C				

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

## OUTLINE DIMENSIONS



Top View



Recommended Solder Pattern

