

# X21EL 32.768 kHz SURFACE-MOUNT CRYSTAL

## FEATURES

2.0 x 1.2 x 0.6 mm



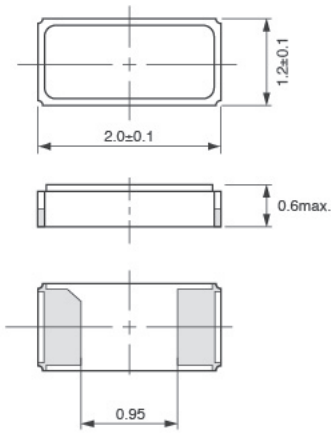
- Ultra Miniature package size for 32.768 kHz
- LOW ESR , 50 kOhm max
- Extended temperature -40/+85°C for industrial applications Applications:
- Wireless applications, Commercial and Industrial applications

Item	Symbol	Specification
Nominal Frequency	Fo	32.768 kHz
Cut		XY-cut
Operating temperature Range	To	-40° to +85°C
Frequency Tolerance at 25°C	Δf/F	± 20ppm standard (see options)
Temperature coefficient	β	-0.040 ppm/°C <sup>2</sup> max
Load Capacitance (CL)	CL	12.5 pF standard (see options)
Equivalent Series Resistance	ESR	50 kΩ max.
Insulation Resistance	Ri	500 MΩ min. (at 100Vdc)
Drive Level	DL	0.5 μW max.
Aging	Δf/F	±3ppm max (at 25°C, first year)
Packing Unit		3000pcs / reel
Soldering Condition		260°C, 10 sec x2 max
		<b>Customer specifications on request</b>

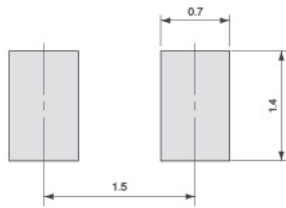
## OPTIONS & ORDERING INFORMATION

X21EL-..... —	..... —	32.768 kHz
Freq. Tolerance	Load Capacitance	
<b>20</b> = ±20 ppm	<b>12.5</b> = 12.5 pF	
<b>30</b> = ±30 ppm	<b>9</b> = 9.0 pF	
<b>50</b> = ±50 ppm	<b>7</b> = 7.0 pF	
	<b>6</b> = 6.0 pF	

# OUTLINE DIMENSIONS



## Recommended Solder Pattern



## XY-Cut

