

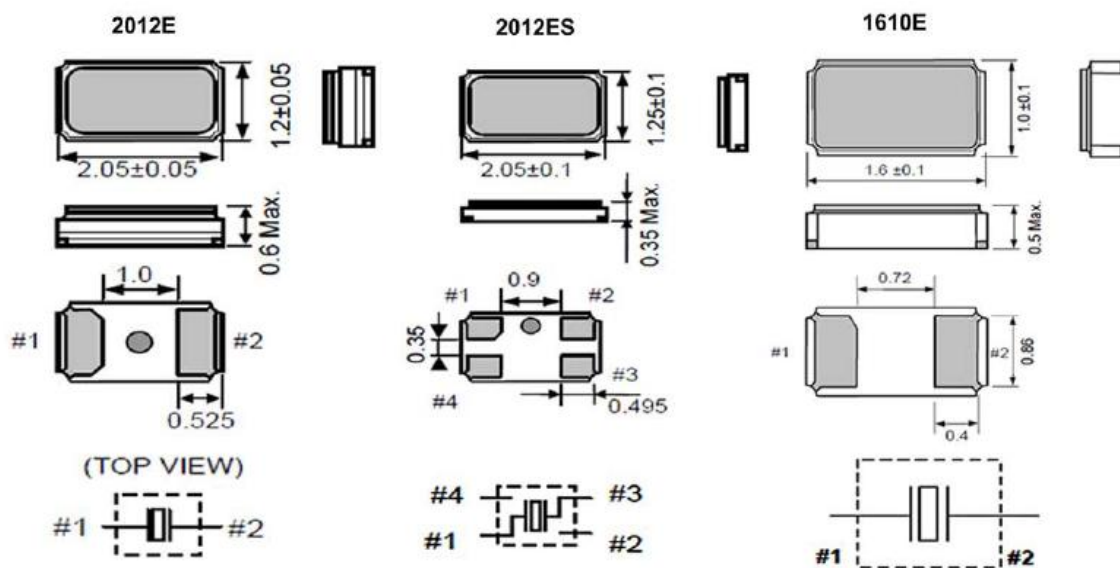
2012E, 2012ES, 1610E: Tuning Fork Cylinder Quartz Crystal

32.768 KHz

● SPECIFICATION

Type	2012E	2012ES	1610E
Frequency Range	32.768 KHz		
Load Capacitance	12.5 pF, specify	7 pF, 9 pF, 12.5 pF, specify	9 pF, 12.5 pF, specify
Drive Level	0.5 μ W (max)	0.25 μ W (max)	0.5 μ W (max)
Frequency Tolerance	± 20 ppm	± 20 ppm	± 20 ppm
Series Resistance	90 K Ω (max)	75 K Ω (max)	90 K Ω (max)
Turnover Temperature	25°C $\pm$ 5°C	25°C $\pm$ 5°C	25°C $\pm$ 5°C
Temperature Coefficient	-0.04 $\pm$ 0.01ppm/C ²	-0.04 $\pm$ 0.01ppm/C ²	-0.04 $\pm$ 0.01ppm/C ²
Operating Temperature Range	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C
Storage Temperature Range	-55°C ~ +125°C	-55°C ~ +125°C	-55°C ~ +125°C
Motional Capacitance	6.4 fF (typ)	3.7 fF (typ)	6.0 fF (typ)
Shunt Capacitance	1.3 pF (typ)	0.8 pF (typ)	1.2 pF (typ)
Capacitance Ratio	500 (typ)	500 (typ)	500 (typ)
Aging	± 5 ppm (max)	± 5 ppm (max)	± 5 ppm (max)

● DIMENSIONS (mm)



● RECOMMENDED LAND PATTERN

