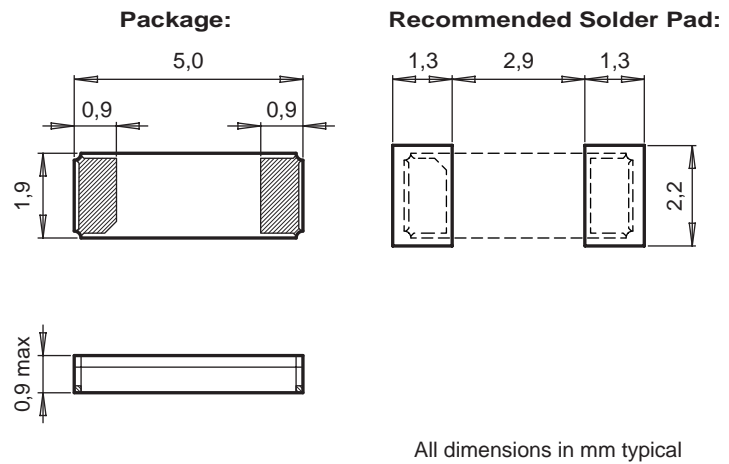


# CC4V-T1A

Tuning Fork Crystal 30 kHz – 1.0 MHz



## DIMENSIONS



## APPLICATIONS

Metering  
Industrial  
Automotive  
Health Care  
Medical Implantable  
Harsh Environments

## DESCRIPTION

The CC4V-T1A is a low frequency SMT Quartz Crystal Unit that incorporates a tuning fork Quartz Crystal Resonator. It operates under vacuum in a hermetically sealed ceramic package with ceramic lid.

## FEATURES

Mature product for harsh environments.  
Outstanding hermetic sealing with gold-tin preform.  
High stability and low aging guaranteed by hermetic sealing.  
Available for extended operating temperature range.  
High shock and vibration resistant.  
100% Pb-free, RoHS-compliant.  
Automotive qualification according to AEC-Q200 available.

## ELECTRICAL CHARACTERISTICS AT 25°C

Frequency Range	F <sub>L</sub>	30–200	201–560	1'000	kHz
Load capacitance <sup>1)</sup>	C <sub>L</sub>	6.0	9.0	7.0 10.0	pF
		7.0			
		9.0			
		10.0			
		12.5			
Frequency tolerance <sup>2)</sup>	ΔF/F	±20	±100	±100	ppm
	ΔF/F	±100	±250	±500	ppm
Drive level max.	P	1.0			μW
Insulation resistance min.	R <sub>i</sub>	500			MΩ
Aging first year max.	ΔF/F	±3			ppm

Standard Frequencies <sup>3)</sup>	F <sub>L</sub>	32.768	200.000	1'000	kHz
Series resistance typ./max.	R <sub>S</sub>	50 / 65	3.2 / 5.0	0.5 / 1.0	kΩ
Motional capacitance typ.	C <sub>1</sub>	2.1	2.1	2.1	fF
Static capacitance typ.	C <sub>0</sub>	1.2	1.3	1.0	pF
Turnover temperature	T <sub>0</sub>	25 ±5	30 ±5	32 ±5	°C
Frequency vs. temperature	ΔF/F <sub>0</sub>	−0.035 ppm/°C <sup>2</sup> (T - T <sub>0</sub> ) <sup>2</sup> ±10%			ppm

- 1) Other load capacitances on request.  
2) Tighter frequency tolerances on request.  
3) Other standard frequencies, see below.