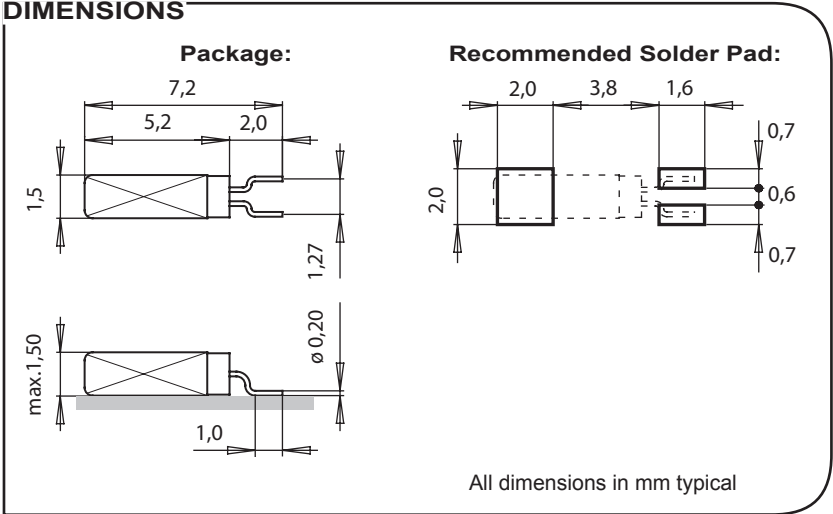


# MS2V-T1S

## Tuning Fork Crystal 30 kHz – 200 kHz



- Small SMT package
- Package height 1.58 mm max.
- Formed leads for SMD mounting
- Industrial temp. range
- Very price competitive
- High stability
- Low aging
- Low power consumption
- High shock and vibration resistance

**DESCRIPTION:**

The MS2V-T1S is a miniature square-bodied 1.5 x 7.2 x 1.5 mm metal package with formed leads, intended for surface mounting and reflow soldering.

Within the package is a high-quality tuning fork quartz crystal resonator, manufactured with a precision high-volume photolithographic process and operating in the fundamental mode.

Due to highly automated, large-volume production, the MS2V-T1S is very price competitive and ideal for any consumer and industrial applications.

For pick-and-place equipment, the crystals are supplied in 16 mm tape:

- 7" (178 mm) reel with 2'000 crystals
- 13" (330 mm) reel with 9'000 crystals

**ELECTRICAL CHARACTERISTICS AT 25°C:**

Frequency Range	F <sub>L</sub>	30–200	kHz
Load capacitance <sup>1)</sup>	C <sub>L</sub>	7.0 / 9.0 / 12.5	pF
Frequency tolerance <sup>2)</sup>	ΔF/F	+/-20	ppm
	ΔF/F	+/-100	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

Frequency Example <sup>3)</sup>	F <sub>L</sub>	32.000	32.768	75.000	kHz
Series resistance typ./max.	R <sub>S</sub>	50 / 65	50 / 65	19 / 30	kΩ
Motional capacitance typ.	C <sub>1</sub>	2.3	2.1	1.45	fF
Static capacitance typ.	C <sub>0</sub>	0.9	0.9	0.9	pF
Turnover temperature	T <sub>0</sub>	25 +/-5	25 +/-5	22 +/-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) For standard and other load capacitances consult factory.  
 2) Tighter and wider frequency tolerances on request other frequencies consult factory.

