

ATSSM4P SERIES

Po

QUARTZ CRYSTAL W/ FOUR LEADS

FEATURES

- Four Leaded Package [HC-49/US-SM Type]
- Fundamental and 3rd Overtone Crystals
- Alternative for Common Plastic Molded Designs
- Stable Frequency Over Temperature and Drive Level
- Frequency Range 3.2 64MHz
- Frequency Tolerance, Options from ±10ppm to ±30ppm
- Frequency Stability, Options from ± 10ppm to ±50ppm
- Operating Temperature, -20°C to +70°C & -40°C to +85°C Standard
- Tape & Reel Packaging Standard
- RoHS/Green Compliant [6/6]



APPLICATIONS

The ATSSM4P [4 Pad] crystal series offers excellent long-term stability and reliability in a proven resistance-weld metal package. The excellent shock performance makes it suitable for microprocessor, telecommunication, industrial, consumer electronics and networking applications.

ORDERING INFORMATION CRYSTAL CONFIGURATION **PACKAGING** P - Crystal Connection, Pin 1 to 4 T = Tape and Reel LOAD CAPACITANCE **FREQUENCY** Product Frequency Code K = 8pFD = 18pF[3 digits] E = 20pFJ = 9pFRefer to document 016-1454-0. A = 10pFF = 24pFL = 12pFG = 30pFB = 13pFH = 32pFMODE OF OSCILLATION C = 16pFS = SeriesF = Fundamental T = 3rd Overtone TEMPERATURE RANGE $C = -20^{\circ}C \text{ to } +70^{\circ}C$ FREQUENCY TOLERANCE @ + 25°C I = -40°C to +85°C ¹ $1 = \pm 10 \text{ppm}^{-1}$ $Y = \pm 25ppm$ $X = \pm 15ppm$ $3 = \pm 30$ ppm $2 = \pm 20ppm$ TEMPERATURE STABILITY $1 = \pm 10 \text{ppm}^{-1}$ $Y = \pm 25ppm$ $X = \pm 15ppm$ $3 = \pm 30$ ppm $5 = \pm 50$ ppm $2 = \pm 20$ ppm

1. Check factory availability for "11|" Tolerance/Stability/Temperature combination.

Not all performance combinations and frequencies may be available.

Contact your local CTS Representative or CTS Inside Sales Representative for availability.

SHENZHEN YIJIN ELECTRONICS CO: LTD TEL: 0755-27876565

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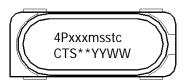
ELECTRICAL CHARACTERISTICS

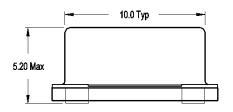
	PARAMETER	VALUE	
ELECTRICAL PARAMETERS	Frequency Range	3.2MHz to 40MHz	24MHz to 64MHz
	Operating Mode	Fundamental	3rd Overtone
	Crystal Cut	AT-Cut	
	Frequency Tolerance @ +25°C *	±10, ±15, ±20, ±25, ±30ppm	
	Frequency Stability Tolerance *	±10, ±15, ±20, ±25, ±30, ±50ppm	
	[Operating Temperature Range, Referenced to +25°C Reading]		
	Operating Temperature Ranges	-20°C to +70°C	
		-40°C to +85°C	
	Equivalent Series Resistance - Fundamental Mode [Maximum]	3.20MHz - <4.00MHz	150 Ohms
		4.00MHz - <5.00MHz	120 Ohms
		5.00MHz - <8.00MHz	80 Ohms
		8.00MHz - <12.00MHz	60 Ohms
		12.00MHz - <20.00MHz	40 Ohms
		20.00MHz - 40.00MHz	30 Ohms
	Equivalent Series Resistance - 3rd Overtone Mode	24.00MHz - <48.00MHz	80 Ohms
	[Maximum]	48.00MHz - 64.00MHz	60 Ohms
	Load Capacitance	See Ordering Information	
	Shunt Capacitance [C ₀]	7.0pF Maximum	
	Drive Level	100μW Typ., 1000μW Max.	
	Aging @ +25°C	±3ppm/yr Typical, ±5ppm/yr Maximum	
	Insulation Resistance	500M Ohms @ DC 100V	
	Storage Temperature Range	-40°C to +100°C	

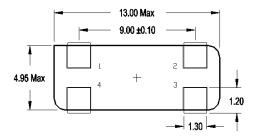
^{*} See Ordering Information.

MECHANICAL SPECIFICATIONS

PACKAGE DRAWING











KEY: mm

a) 4P – ATSSM4P platform.

- b) xxx 3-digit Frequency Code. [Reference document 016-1454-0] c) m – Operating Mode; \tilde{F} = fundamental, T = 3^{rd} Overtone.
- d) sstc Tolerance, Stability, Temperature and Load Capacitance codes. Reference Ordering Information.
- ** Manufacturing Site Code.

MARKING INFORMATION

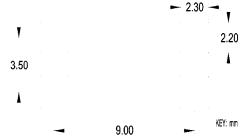
3. YYWW - Date Code, YY - year, WW - week.

1. 4Pxxxmsstc – Truncated CTS Part Number. [Packaging code is not required in the marking.]

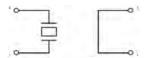
4. Complete CTS part number, frequency value and date code information must appear on bag and box labels.

- 1. JEDEC termination code (e1). Lead finish is SnAgCu.
- Reflow conditions per JEDEC J-STD-020; 260°C maximum, 10 seconds.

SUGGESTED SOLDER PAD GEOMETRY



SCHEMATIC



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