PIEZOELECTRIC HIGH-TEMPERATURE SENSOR RKTV206 and RKOV206

APPLICATIONS

RKTV206 used to sense temperature changes. It is designed for applications in precision electronic thermometers and temperature controllers for the conversion of temperature to frequency. **RKOV206** is a temperature-stable reference quartz crystal resonator.

FEATURES

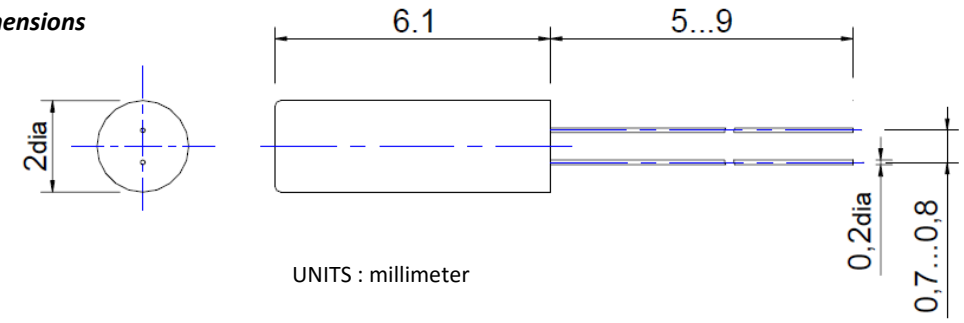
- High shock and vibration characteristics
- Miniature size
- Wide temperature range (-50…+180…+ 370 °C)
- Suitable for DTCXO and precision temperature equipment

ELECTRICAL CHARACTERISTICS (at temperature 37°C) / OPERATING CONDITIONS

PARAMETERS	SPECIFICATIONS AND REMARKS				UNITS
Package size	DS26 (DT26). Diameter 2 mm / length 6 mm				mm
Electrical characteristics at temperature 37°C					
Frequency Range, f_o	32.000…36.000				kHz
Frequency Tolerance typ./max., $\Delta f/f_O$	± 150				ppm
Resonance resistance typ./max., R_r	75 / 95				KΩ
Static Capacitance typ., C_O	1.3 ± 0.2				pF
Capacitance ratio r	900				
Drive Level max., D_L	3.0				µW
Insulation Resistance min.	500				MΩ
Thermal characteristics					
Frequency vs. Temperature $f_T=f_O+A_1*(T-T_O)+A_2*(T-T_O)^2$, f_T – *crystal frequency at temperature T (°C),* f_O – *crystal frequency at reference temperature* T_0 *(°C),* T_O – *reference temperature (°C).* *For higher accuracy* f_T *can be represented by a third order polynomial as follow:* $f_T=f_O+A_1*(T-T_O)+A_2*(T-T_O)^2+A_3*(T-T_O)^3$					
Model	**RKTV206A**	**RKTV206B**	**RKTV206C**	**RKOV206(A…C)**	
1st order temperature coefficient A_1*	-1.76 ± 0.1	-1.76 ± 0.1	-1.76 ± 0.1	-	K^{-1}
2nd order temperature coefficient A_2*	-0,00310 ± 0,0001	-0,00310 ± 0,0001	-0,00310 ± 0,0001	-0,00120 ± 0,0001	K^{-2}
Reference temperature	0			25 ± 5	°C
For high-temperature sensing, the crystal RKTV206(A…C) is used in combination with the temperature-stable reference crystal resonator RKOV206(A…C). The frequency difference between both is used as temperature signal.					
Aging first year / 10 years max.	±5 … ±10				ppm
Thermal time constant in liquid τ	5				sec
Operational conditions					
Operating Temperature, T_{OPR} (typ/max)**	--50…+180 / -269…+200	-50…+270 / -269…+300	-50…+370 / -269…+400	-50…+180…370 / -269…+200…+400	°C
Storage Temperature, T_{STR}	-55 … +85				°C
Shock resistance, $\Delta f/f_0$	Drop test 3 times on hard wooden board, height 100cm 5000g., 0.2 ms / ±5 ppm max.				ppm
Vibration Resistance, $\Delta f/f_0$	10g / 10-2000 Hz, 8 hours / ±7 PPM max.				ppm

*A1, A2 and A3 coefficients can be changed on request.

Package dimensions



UNITS : millimeter

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