

RoHS Compliant  
Pb - Lead Free

Ltr	Revisions	Date	Appr

**Electrical Specifications:**

Nominal Frequency	Standard	32.768	KHz
	Optional	30.000 to 165.000	
Frequency Tolerance at 25° C	Standard	±20	PPM
	Optional	±15	
Aging		±3 (first year)	
Turnover Temperature		25 ±5	° C
Temperature Coefficient		-0.034 ± 0.006 PPM/Δ °C <sup>2</sup>	
Temperature Range (Operating)	Standard	-20 to +60	
	Extended	-40 to +85	
Temperature Range (Storage)		-55 to +125	
Equivalent Series Resistance		30	K Ohm Max
Load Capacitance	Standard	12.5	pF
	Optional	6.0	
Shunt Capacitance		1.6	pF Typ
Motional Capacitance		3.5	fF Typ
Drive Level		1.0	uW Max
Insulation Resistance		500 at 100 Vdc ± 15 Vdc	M Ohm Min
Quality Factor		90000	Typ
Capacitance Ratio		460	
Resistance to Shock		±5 PPM maximum offset from 75 cm drop test in all axes on to a hard surface.	-

**Notes:**

- 1- Consult us for frequency and specification between 30.000 and 165.000 KHz.
- 2- Manual or Hand soldering is 350 °C Max for 3 seconds
- 3- Product is shipped in bulk.
- 4- Tape and Reel packaging is available for 3K minimum quantity.
- 5- Specification is subject change without notice.



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All dimensions are millimeters.

CAD: TCR

Review: EG

Appr: JL

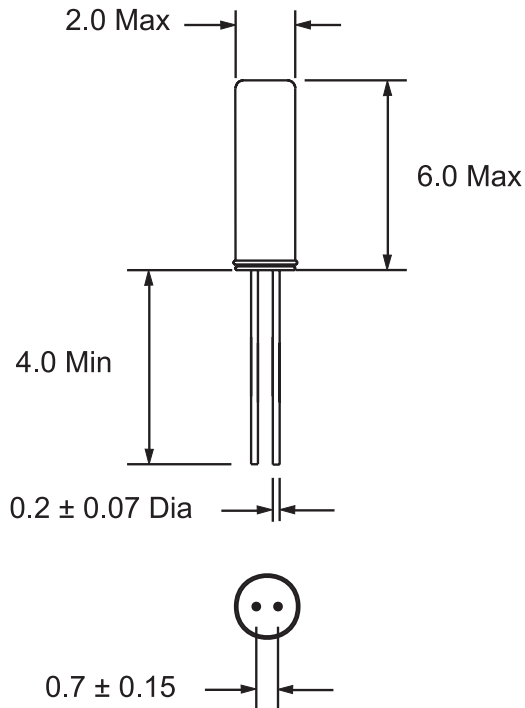
Page: 1/2 Date: May 8, 2006

Specification Title:

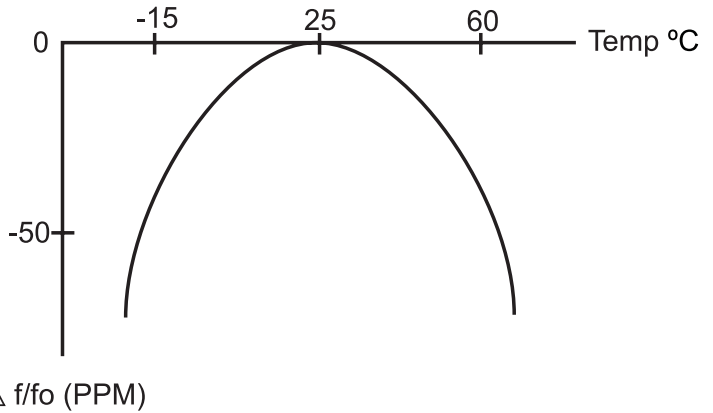
**Quartz Crystal-Tuning Fork  
2.0 x 6.0 mm Cylindrical Package  
32.768 KHz  
General Product Specification**

Part Number: **CT26-32.768-12.5-20**

**Mechanical Outline:**



**Frequency vs. Temperature Characteristics:**



To calculate the frequency stability the parabolic curvature constant (K) is needed.

For calculating the stability at 45 ° C?

- 1- Change in temperature ( $\Delta T$ ) is  $(45-25) = +20$  ° C
- 2- Change in frequency is  $(-0.034 \times (\Delta^{\circ} C)^2) = (-0.034 \times (20)^2 = -13.6$  PPM

Dimensions are millimeters.

How to build a Part Number:

Series		CT	Parameter
Package		26	2.0 x 6.0 mm Cylindrical
		-	
Frequency	Standard	32.768	KHz
	Option	30.000 to 165.000	
		-	
Load Capacitance	Standard	12.5	12.5 pF
	Option	6	6 pF
		-	
Frequency Tolerance	Standard	20	±20 PPM
	Option	10	±10 PPM
		-	
Temperature Range	Standard	See Notes	-20 to +60 °C
	Option	X	-40 to +85 °C
		-	
Packaging	Standard	-	Bulk
	Option	R	Tape and Reel

Part Number Example:

CT26-32.768-12.5-20

CT26 - 2.0 x 6.0 mm Cylindrical Package

32.768 KHz Nominal Frequency

12.5 pF Standard Load Capacitance

±20 PPM Frequency Tolerance

-20 to +60 ° C Standard Temperature Range