

Features

Frequency range : 32.768 kHz
 SMD : Ceramic package
 External dimensions (mm)
 L : 3.2 x W : 1.5 x H : 0.75
 RoHS compliant & Pb free

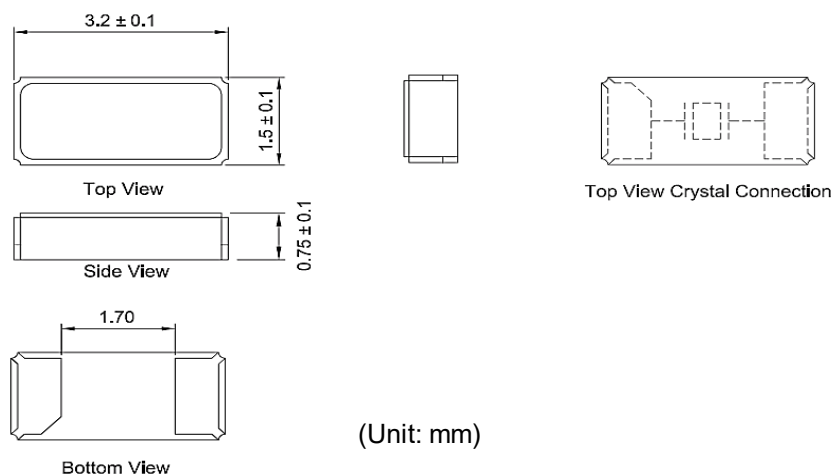
Applications

Small mobile devices
 Communication devices
 Consumer products
 Commercial & industrial applications

Electrical Characteristics

Item	Symbol	9HT10	Conditions
Nominal Frequency	f_0	32.768 kHz	
Frequency Tolerance	$\Delta f/f_0$	$\pm 10\text{ppm}$, $\pm 20\text{ppm}$	at 25°C
Load Capacitance	C_L	6pF, 7pF, 9pF, 12.5pF	
Operating Temperature Range	T_{OTR}	-40°C ~ +85°C	
		-40°C ~ +125°C	
Storage Temperature Range	T_{STR}	-55°C ~ +125°C	
Turnover Temperature	T_M	25°C $\pm$ 5°C	
Temperature Coefficient	β	-0.04 ppm/°C ² Max.	
Motional Capacitance	C_1	3.1 fF Typ.	
Motional Resistance (ESR)	R_1	70 kΩ Max.	at 25°C
Drive Level	D_L	0.1μW Typ. / 1.0μW Max.	
Aging	$\Delta f/f_0$	± 3 ppm Max.	at 25°C $\pm$ 3°C, first year
Shunt Capacitance	C_0	1.0 pF Typ.	

Dimensions



Ordering Information

9HT10 - 32.768K D Z F - T

Frequency Tolerance (at 25°C)

D	± 20 ppm
E	± 10 ppm

Packaging Method

T	Tape & Reel
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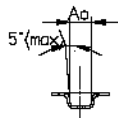
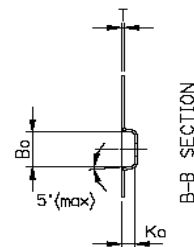
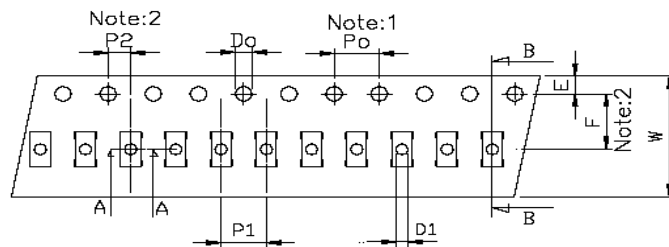
Operating Temperature Range

Z	-40°C ~ +85°C
W	-40°C ~ +125°C

Load Capacitance

B	6 pF
Y	7 pF
C	9 pF
F	12.5 pF

Packing

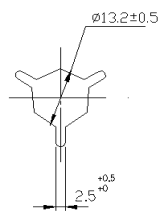


A-A SECTION

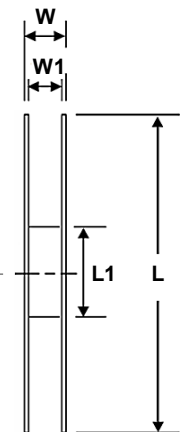
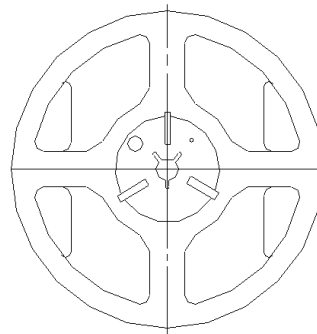
$A_0 = 1.8 \pm 0.10 \text{ mm}$
 $B_0 = 3.5 \pm 0.10 \text{ mm}$
 $K_0 = 1.0 \pm 0.10 \text{ mm}$

CARRIER TAPE DIMENSIONS	K1	P0	P1	P2	D0	D1	E	F	10P0	W	T
	-	4	4	2	1.55	1.1	1.75	5.5	40	12	0.25

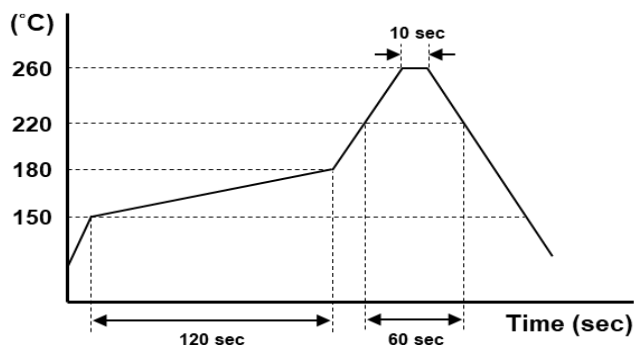
REEL DIMENSIONS	W	W1	L	L1
	16±1.4	13±0.3	180+0/-3	60.2±0.5



(Unit: mm)



Reflow Profile



Total time : Max. 200 sec.
 Solder melting point : 220°C