

Features

- > Frequency range : 32.768 kHz
- > Low ESR
- > SMD : Ceramic package
- > External dimensions (mm)
L : 2.0 x W : 1.2 x H : 0.6
- > RoHS compliant & Pb free

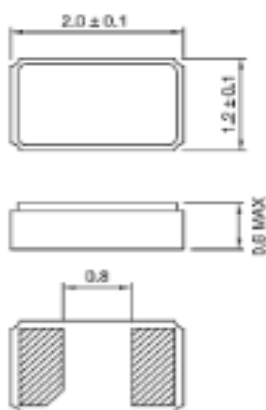
Applications

- > Power sensitive designs
- > Small mobile devices
- > Communication devices
- > Consumer products
- > Commercial & industrial applications

Electrical Characteristics

Item	Symbol	9HT11L	Conditions
Nominal Frequency	f_0	32.768 kHz	
Frequency Tolerance	$\Delta f/f_0$	± 20 ppm	at 25°C
Load Capacitance	C_L	4pF, 12.5pF	
Operating Temperature Range	T_{OTR}	-40°C ~ +85°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	9.5 fF Typ.	
Motional Resistance (ESR)	R_1	70 k Ω Max.	at 25°C
Drive Level	D_L	0.1 μ W Typ. / 0.5 μ W Max.	
Aging	$\Delta f/f_0$	± 3 ppm Max.	at 25°C $\pm$ 3°C, first year
Shunt Capacitance	C_0	1.9 pF Typ.	

Dimensions



Top View Crystal Connection



(Unit: mm)

Ordering Information

9HT11L - 32.768K D Z F - T

Frequency Tolerance (at 25°C)

D ± 20 ppm

Packaging Method

T **Tape & Reel**

Load Capacitance

A 4 pF

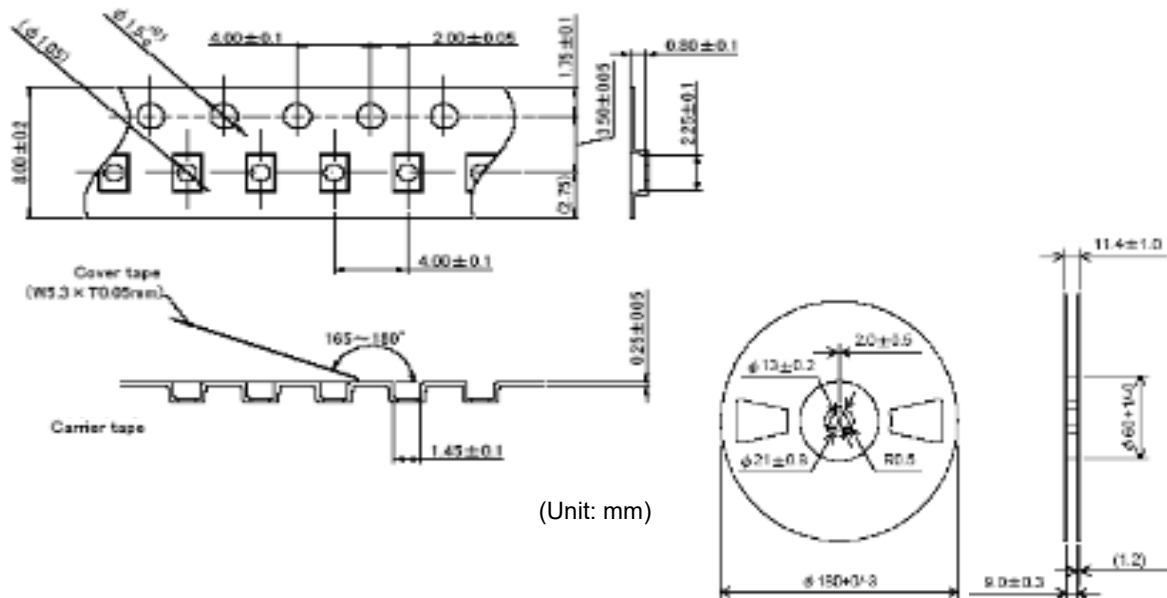
B **6 pF**

F 12.5 pF

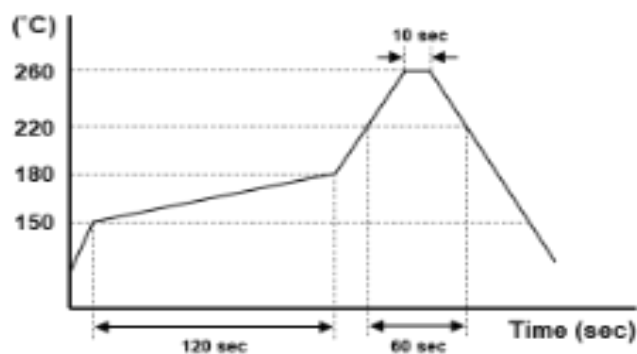
Frequency Stability (over Temp.)

Z **Standard for kHz**

Packing



Reflow Profile



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