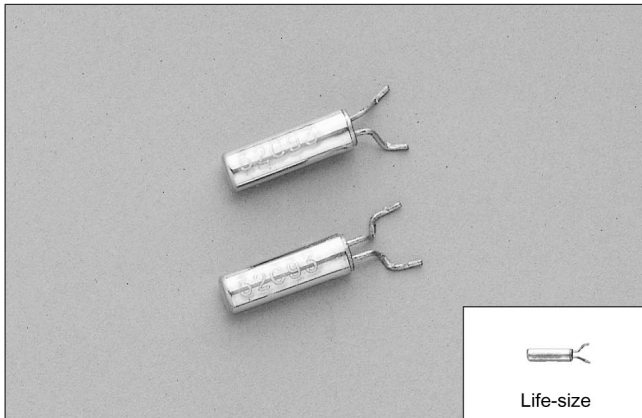


TUNING FORK CRYSTAL UNITS (SMD • Cylinder Type)

RoHS Compliant Optional

CMR200T • CMR250T

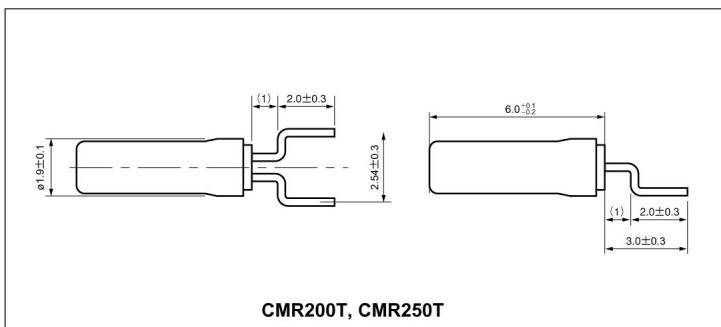
2000pcs/reel



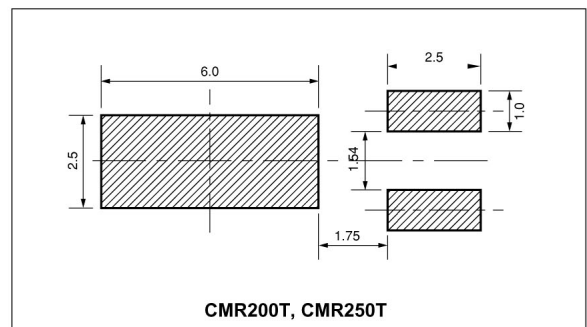
FEATURES

- Lead formed SMD type with embossed tape. Automatic mounting and reflowable Type.
- Most appropriate for clock source for portable and other various equipment with low power consumption.

DIMENSION [mm]



SOLDER PAD LAYOUT [mm]



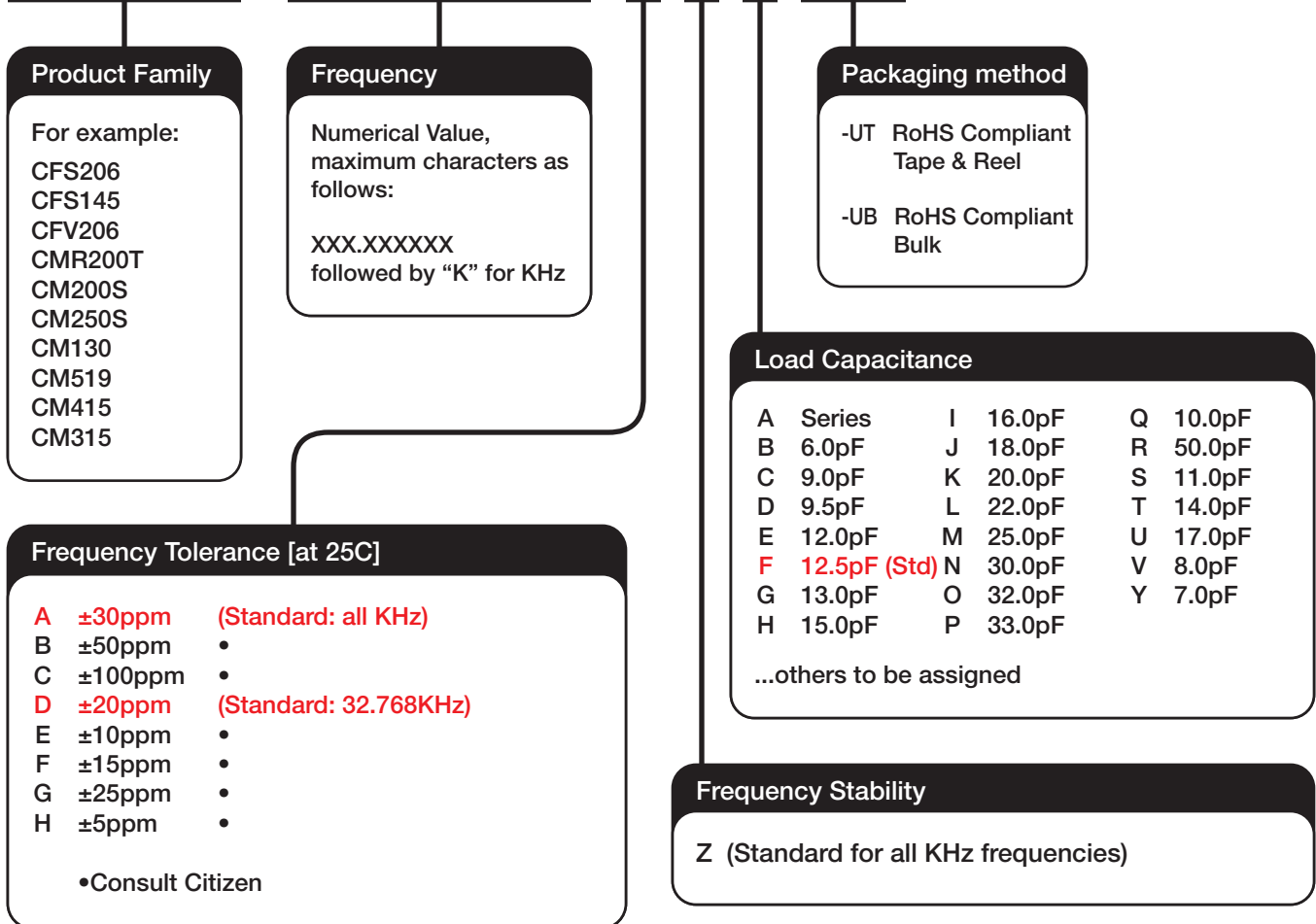
STANDARD SPECIFICATIONS

Item	Model	CMR200T	CMR250T	Conditions
Nominal Frequency	f_0	32.768kHz	30kHz~100kHz	Need to contact us for the available frequency in CMR250T
Frequency Tolerance	$\Delta f/f_0$	$\pm 20\text{ppm}$	$\pm 30\text{ppm}$	at 25°C
Load capacitance	C_L	12.5pF		Need to specify your requirement
Operating Temperature Range	T_{OPR}	-40°C ~ +85°C		
Storage Temperature Range	T_{STR}	-55°C ~ +125°C		
Turnover Temperature	T_M	25°C \pm 5°C		See figure 2 in P4
Temperature Coefficient	β	-0.034 \pm 0.006ppm/°C ²		
Motional (series) resistance	R_1	50K Ω Max.		at 25°C
Level of drive	DL	1 μ W Max.		
Aging (first year)	$\Delta f/f_0$	$\pm 3\text{ppm}$ Max.	$\pm 5\text{ppm}$ Max.	25°C \pm 3°C
Quality Factor	Q	70000 Typ.	70000 ~ 100000 Typ.	Depend on frequency
Shunt capacitance	C_0	1.35pF Typ.	0.8pF ~ 1.7pF Typ.	Depend on frequency

KHz CRYSTAL Part Numbering System

Example Part Number:

CM200S 32.768K D Z F -UT



Product Family

For example:
 CFS206
 CFS145
 CFV206
 CMR200T
 CM200S
 CM250S
 CM130
 CM519
 CM415
 CM315

Frequency

Numerical Value, maximum characters as follows:
 XXX.XXXXXX
 followed by "K" for KHz

Frequency Tolerance [at 25C]

A	±30ppm	(Standard: all KHz)
B	±50ppm	•
C	±100ppm	•
D	±20ppm	(Standard: 32.768KHz)
E	±10ppm	•
F	±15ppm	•
G	±25ppm	•
H	±5ppm	•

•Consult Citizen

Packaging method

- UT RoHS Compliant Tape & Reel
- UB RoHS Compliant Bulk

Load Capacitance

A	Series	I	16.0pF	Q	10.0pF
B	6.0pF	J	18.0pF	R	50.0pF
C	9.0pF	K	20.0pF	S	11.0pF
D	9.5pF	L	22.0pF	T	14.0pF
E	12.0pF	M	25.0pF	U	17.0pF
F	12.5pF (Std)	N	30.0pF	V	8.0pF
G	13.0pF	O	32.0pF	Y	7.0pF
H	15.0pF	P	33.0pF		

...others to be assigned

Frequency Stability

Z (Standard for all KHz frequencies)