

# CFS-308, CFS-206, CFS-145



## ■ FEATURES:

- Because of their excellent shock resistance and low power consumption, the units are ideal for portable equipment.
- Features superior characteristics indigenous to tuning fork-type quartz crystal units.

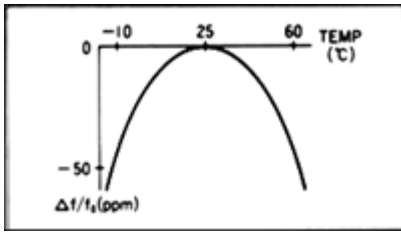
## ■ APPLICATIONS:

- Used as a clock source for communication equipment, AV equipment, OA equipment, measuring instruments and various types of clocks

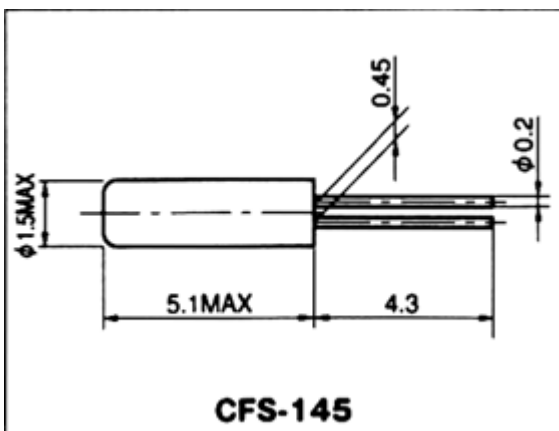
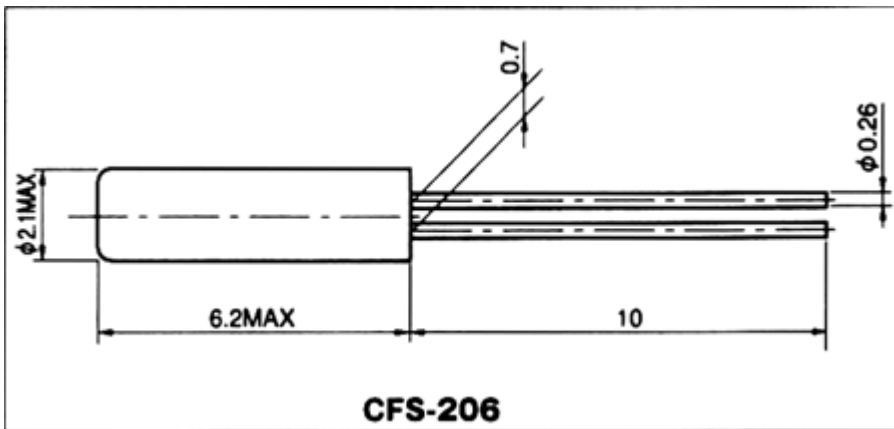
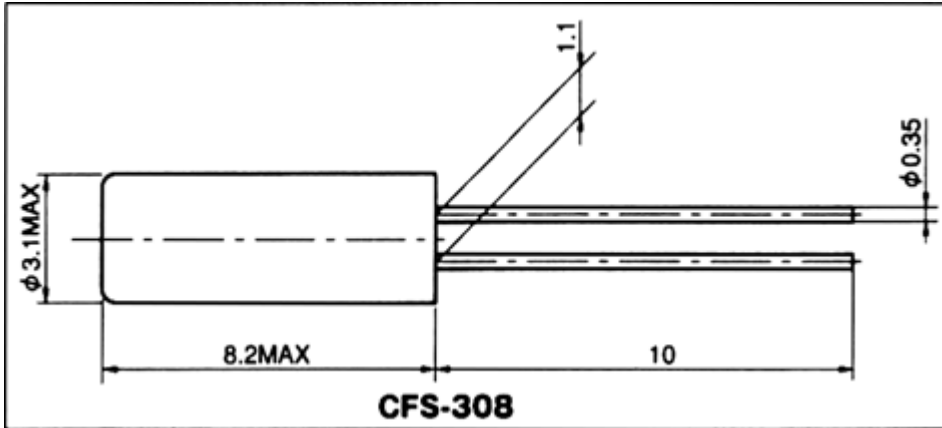
## ■ STANDARD SPECIFICATIONS

Item		CFS-308	CFS-206	CFS-145	Conditions
Nominal frequency	$f_0$	32.768KHz			
Frequency tolerance	$\Delta f/f_0$	±20ppm			(25°C) Reference temperature
Frequency vs. Temperature Characteristics	$\Delta f/f_0$	See drawing			-10°C to +60°C
Turnover Temperature	$T_m$	25°C ± 5°C			
Temperature coefficient	beta	-0.034 ± 0.006ppm/°C <sup>2</sup>			
Operating temperature range	$T_{opr}$	-10°C to +60°C			
Storage temperature range	$T_{stg}$	-40°C to +85°C			
Quality factor	Q	90,000 TYP.	70,000 TYP.	80,000 TYP.	
Equivalent series resistance	$R_1$	35K ohm MAX.		40K ohm MAX.	Reference temperature (25°C)
Load capacitance	$C_L$	12.5pF TYP.		8.0pF TYP.	Please specify
Motional capacitance	$C_1$	0.0035pF TYP.	0.0030pF TYP.	0.0025pF TYP.	
Shunt capacitance	$C_0$	1.60pF TYP.	1.35pF TYP.	1.00pF TYP.	
Capacitance ratio	gamma	460 TYP.	450 TYP.	400 TYP.	
Drive level	DL	1 μ W MAX.			
Insulation resistance	IR	500M ohm MIN.			DC100V ± 15V
Aging (First year)	$\Delta f/f_0$	± 3ppm MAX.			25°C ± 3°C
Hermeticity of seal		1 x 10 <sup>-2</sup> μ Pa·m <sup>3</sup> /s MAX.			
Shock resistance		± 5ppm MAX. Drop test of 3 times on a board from 75cm height or shock test of 3000G x 0.3ms x 1/2sin wave x 3 directions			

## ■ FREQUENCY vs TEMPERATURE CURVE



■ DIMENSIONS: (UNIT=mm)



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