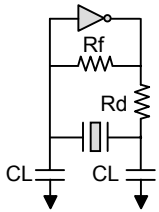


IC Evaluation Request Form – CERALOCK® (Ceramic Resonators)

Application Information

Application		Required
Estimated Annual Usage		Required
Production Start Date		Required
Production Location		Required

IC and Test Information

IC Manufacturer		Required
IC Part Number		Required
Resonator Part Number		Required
Supply Voltage	Voltage Nominal: V	Required
Ex: 5V ± 0.5%	Voltage Tolerance: ± % OR	Required
Ex: 12V, Range: 8V ~ 16 V	Voltage Range: V ~ V	
Operating Temperature Range	-20C ~ +80C -40C ~ +85C -40C ~ +125C	Required
	Other: - C ~ + C	
Number of ICs or Modules Provide		Optional
Customer Circuit Conditions	 <p>Feedback resistor (Rf) =</p> <p>Dampening resistor (Rd) =</p> <p>Load capacitor (CL) =</p>	If Available
Can the circuit conditions be changed?	YES NO	please check one
Tighter total tolerances required? (for CAN bus or USB type applications)	YES NO	Optional
	± 0.30% ± 0.35% ± 0.50% Other: ± %	
Is this the final board layout?	YES NO	Optional

Customer Contract Information

Company		Required
Contact Person		Required
Phone Number		Required
E-mail		If Available
Sales Name and Office		If Available

Additional Comments or Requests (attach additional page if needed):

IC Evaluation Service Instructions

Please read complete document

1) Please provide the following:

- ❑ 2 to 5 bulk IC samples **or** actual production PC board with ICs Mounted on it (preferred)*
 - ❑ Top View Pin-Out Diagram for the package of the IC samples.
 - ❑ Supply voltage **and tolerance** that the IC or module will operate under in design.
 - ❑ Murata resonator part number they want characterized with IC samples (see note below on correlation frequency)
 - ❑ Temperature range that resonator must operate over in the design.
- ❖ *If customer is using a PIC micro-controller from Microchip, please provide information on which oscillator mode (XT or HS) they are using. And if they can preprogram the oscillator mode on the IC samples, it will help speed up the evaluation process. If they can not preprogram, it will take an additional 2 weeks to complete the evaluation.*

* *If providing IC samples on PC boards, please attach wires for the power supply & ground (mark the wires).*

2) Complete the form attached.

3) Mail or pass completed form and IC samples/modules to Murata Sales or Murata Sales Representative.

Within 4 to 6 weeks, Murata will provide Initial Recommendation Report. This Initial Recommendation Report will confirm basic Murata resonator part number that insures stable oscillation and start-up over given circuit conditions. The only item not covered by this Initial Recommendation is frequency correlation between standard Murata sorting IC and the IC under characterization.

Within 4 to 5 weeks of providing the Initial Recommendation Report, Murata will provide the final formal Recommendation Report. This report will cover correlation frequency.

Note1: Correlation Frequency. It is very common to see a repeatable frequency shift between resonators sorted with Murata standard sorting circuit and actual IC used in design. This is mainly due to the various clock oscillators designs and construction methods used in the IC industry.

Following example demonstrates correlation frequency shift: Resonator sorted by Murata standard production sorting circuit produces resonator "for example" exactly at 4.000MHz. This resonator with different part number IC oscillates at 3.98MHz. This is basically a 0.5% shift down. This difference between Murata's standard sorting circuit and the application IC's clock circuit is the correlation frequency shift. This correlation shift is not covered under the initial oscillation frequency specification for the resonator.

Note 2: If frequency tolerance is very crucial to your design, Murata is able to compensate for such correlation shift by custom production frequency sorting or by making custom resonator. Please note on the Evaluation Form that initial oscillation frequency is critical to your application.