INTERQUIP ELECTRONICS

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Interquip Newsletter

Issue 2
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Content

New distributor in the US

Interquip is very pleased to announce that we have recently signed a franchise distribution agreement with **World Micro Inc.** Headquartered in Roswell, GA, World Micro is a leading distributor of electronic components.

This agreement complements our long standing partnership with **Dove Electronic Components** of New York to give our customers another distribution option to source our products in North and South America.

We look forward to working with both distributors to better service our customers and develop the American market.

Interquip is looking to fill its marketing gaps in the American market, so if you are aware of any manufacturers representatives in New England, Washington State, and Texas we would be happy to hear from them.

New product launch – SMCM 3225

Interquip is proud to launch its SMCM-3225 series.

The SMCM-3225 series is suitable for various applications, like audio, Bluetooth applications, RFID, POS, Wi-Fi applications, LoRA, Sigfox, video applications and USB applications etc.

This series provides customers a cost-performance-quality well-balanced timing solution which it is pin-to-pin compatible with conventional packages.

Features:

Size :	3.2 x 2.5	4pads
Frequency :	12MHz ~ 54MHz	
Load Capacitance :	6pF or specified	
Tol. @ 25°C:	±10ppm, ±20ppm	
Temp.Characteristic :	±10ppm, ±20ppm	
Operation Temp. :	-20°C ~ +70°C	
	-40°C ~ +85°C	

Contact Interquip at *marketing@interquip.com* or our representatives and distributors in your area for more details!

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Technical corner
Why is load capacitance so important for frequency accuracy?

Crystal resonators are subject to loading in real world applications. Depending on the application, the PCB load capacitance can be varied. This PCB load capacitance CL_{pcb} can be calculated based on the formula below:

$$CL_{pcb} = \frac{C_d \times Cg}{C_d + Cg} + Cstr \qquad (1)$$
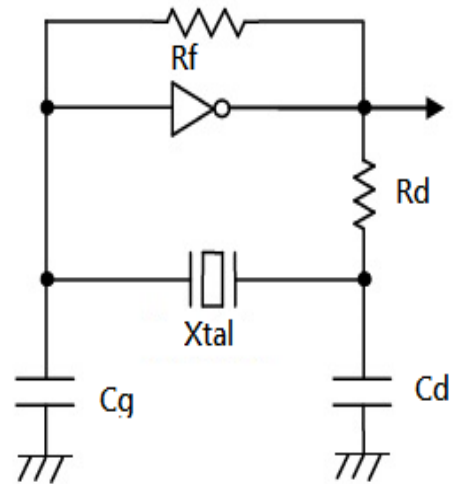
C_d and C_g are the external capacitances of the circuit.
C_{str} stands for stray capacitance and is the compound of parasitic capacitance on the PCB and input capacitance of ICs.

In the crystal resonator manufacturing process, crystal resonator frequency is tuned based on the load capacitance set. This means all crystal resonators are preset to work at a certain load condition to deliver the highest accuracy for frequency. Incorrect loading will cause frequency drift on the PCB which in turn creates problems in the real world application.

Since C_{str} keeps changing for different applications, this creates a tedious and time consuming task for engineers to optimize CL_{pcb}. Interquip offers a circuit optimization service to customers. This includes on board frequency adjustment, oscillator operating margin evaluation and crystal operating status evaluation to ensure the oscillation circuit is stable.

Contact us to enquire about our circuit optimization services and save time!

◆ **The End** ◆