

**"Giga Contactor Unit, Hi Giga Contactor Unit For High Speed IC Test"**

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**■ Summary**

Yokowo America Corporation, utilizing its core competency for micro machining and precision process control, has completed the development of a contactor that will address the need for microwave/high-speed IC device testing. Yokowo will immediately begin aggressively introducing this high speed IC test contactor to semiconductor manufacturers.

**■ Background**

Yokowo Corporation recognizes that Bluetooth and other wireless networks rely on RF devices and CPU's that operate at similarly high frequencies, this is a trend that is increasingly making such technology key to many communication systems. As speeds increase, and the trend continues, it is essential that test equipment and accessories also move along with this trend and meet the demand for high speed performance.

Today's standard IC test sockets are already limited in their ability to provide a test solution that meets the high-speed connection demands of RF and Microwave devices. For this reason, Yokowo has developed a "Contactor Unit" that interfaces the socket and the tester. The commercialization of this "Contactor Unit" now provides a transmission system by which signal is moved from the socket to the tester via a multilayered substrate under the socket. Efficiency of transmission is maximized by a device interface unit we call the "Contactor Unit".

Yokowo Corporation is introducing two types of contactor units to the world's Semiconductor market, the products are featured below with a brief technical explanation:

**■ Outline of "Giga Contactor Unit" & "Hi Giga Contactor Unit"****1) "Giga Contactor Unit" - utilizing low profile spring probes by Yokowo**

Yokowo has successfully created an ideal test environment with controlled impedance for devices up to 3GHz by utilizing Yokowo's low profile test socket in conjunction with a multilayer substrate.

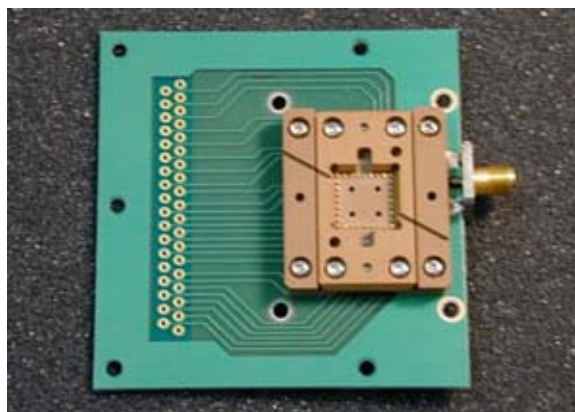


Photo: Yokowo's low profile test socket on multi layer substrate  
"Giga Contactor Unit"



2) "Hi Giga Contactor Unit" - utilizing coaxial spring probes by Yokowo

Yokowo has produced this contactor unit by insulating its ultra-fine spring contact probes and populating them into the socket. Our customer's requirements will dictate method of signal transmission, either by impedance controlled multilayer substrate, or by semi-rigid cable for higher frequencies.

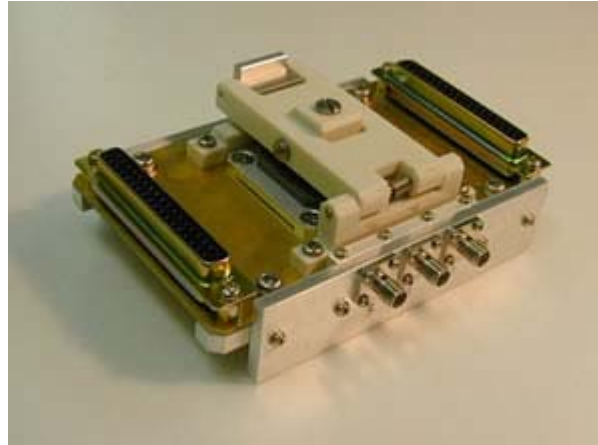


Photo: Yokowo's coaxial probe contactor unit  
"Hi Giga Contactor Unit"

• Product description

Product Name	"Giga Contactor Unit"	"Hi Giga Contactor Unit"
Device Package	BGA or LGA	
Lead Pitch	0.5mm - 1.27mm	
Pin Count	300pins (RF:5pins)	500pins (RF:30pins)
Bandwidth	DC - 3GHz	DC - 10GHz
Return Loss	-20dB@1GHz -15dB@3GHz	-20dB@3GHz -10dB@10GHz
Insertion Loss	-1.5dB@1GHz -2.5dB@3GHz	-1.5dB@3GHz -2.5dB@10GHz
Crosstalk	-20dB Max	
Propagation delay	500ps Max.	
Resistance	2 $\Omega$ Max.(200m $\Omega$ typical)	
Insertions	200,000 Cycles	

■ Our future plan

Yokowo's marketing efforts around the world have led to the introduction of these contactor units. Evaluation of the product is now being compiled and sales are expected to begin at the beginning of January 2003. Yokowo expects to sell 100 contactor units the first year, and anticipates selling 300 contactor units the following year.

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