

DESIGN NOTES

Reader Comments and Questions

Here are a few questions and comments we have gotten from readers. If you know the answer to the questions, please send an e-mail to the Editorial Director (gary@highfrequencyelectronics.com) and we will forward the information to the person who wants it.

A Note on Electroformed Cables

I read with interest the great article “Electroformed Cables Deliver Performance in Highly Demanding Applications” in the January 2006 issue of *High Frequency Electronics* magazine. This article is well written and explains the advantages of electroforming for this application perfectly. My hat is off to Bob Thiele, he did a great job.

However, the one thing he neglected to mention is that although Semflex did produce these, they did not develop this application for the customer who uses the parts photographed. The electroforming process for this particular product was developed by the A J Tuck Company, which handed over the wax mandrel process to that customer as part of the original sales agreement. The customer in turn incorporated this information into their specifications and went looking for competitive suppliers, and this is when Semflex got involved. Undoubtedly, there still was a significant amount of development work by Semflex to make molds for the wax mandrels and re-create the whole manufacturing process, but the parts were already being produced in production quantities before they became involved. This is perhaps a minor point, but since I developed the process personally, I felt compelled to follow up.

*Alvin Tuck
President, A.J. Tuck Co.*

Using Power Transistor Substitutes

I am now receiving your magazine in hard copy form and find it a most useful addition to my electronics reading. Thank you for a great publication. I currently have an RF design related problem and was wondering if it would be a suitable subject for “Ask The Experts” or another appropriate column. [*We now have the right column!* —Editor]

The problem is: I have a 20W linear RF power amplifier using two BLW83 transistors. The amplifier is transformer coupled at input and output and oper-

ates from 2 to 30 MHz on power supplies ranging from 18 to 30 VDC. The BLW83 is no longer available from the original manufacturer and “BLW83” devices from other manufacturers have not performed at all. I have tried MRF426 devices in the circuit and they function fine at all supply levels above 20V. Below 20V a spurious causes excessive current draw and “on channel” broadband noise. Models for the BLW83 and the MRF426 are not available so simulation is not an option. I guess my problem is how to prove and debug a substitute RF power transistor.

I would be very interested in any thoughts that you or your readers may have on this.

Roger Henley

HF Propagation Through Vegetation?

Excellent idea for a new feature—addition of Design Notes! My contribution is an inquiry for information. While the technical literature is full of articles about VHF and UHF propagation path loss through trees of various sizes, it is void of such information for HF paths, particularly from 2 to 30 MHz. The IEEE PGAPs publications had several measured data articles during the Viet Nam war years, but those were for frequencies above 50 MHz.

Peter Onnigan

Broadcasters and radio amateurs have long believed that all types of “cluttered” environments create losses at MF and HF. Perhaps there is recent work on this subject, given the military’s renewed interest in HF communications for its new “agile force” approach. —*Gary Breed, Editorial Director*

More Eye Diagram Info Wanted

Good article on “Analyzing Signals Using the Eye Diagram.” One thing that I expected to see but wasn’t included is exactly how to set up to measure an eye diagram. What are the inputs to the o’scope? Where do you sync? Do you need a storage scope? It would also have been useful to talk about how to do simulation and output an eye diagram.

It was still a good article.

*Dale Edwards
Semiconductor Research Corporation®*