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FEATURES

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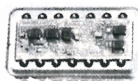
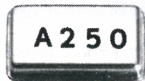
APPLICATIONS

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STATE-OF-THE-ART



EXTERNAL FET

FET CAN BE COOLED

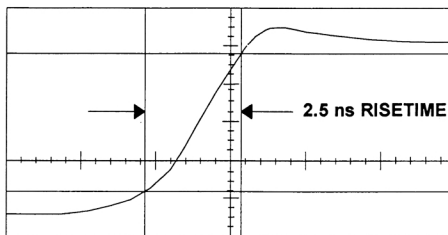
NOISE: $< 100 \text{ e}^- \text{ RMS}$ (Room Temp.)

$< 20 \text{ e}^- \text{ RMS}$ (Cooled FET)

GAIN-BANDWIDTH $f_T > 1.5 \text{ GHz}$

POWER: 19 mW typical

SLEW RATE: $> 475 \text{ V}/\mu\text{s}$



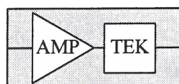
Horizontal = 2 ns/div. Vertical = 500 mV/div.

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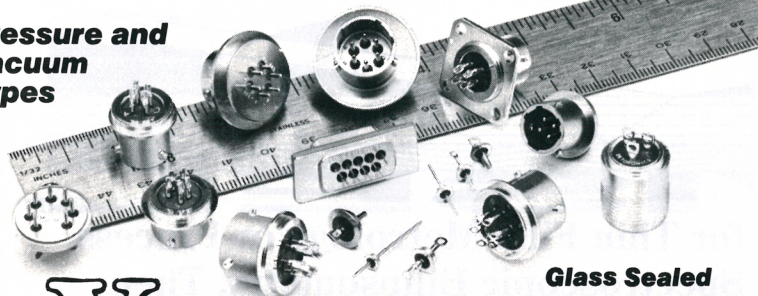
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This goal escaped Feynman, and that made him very unhappy.

Schweber finds my book to be a "pastiche" and thinks I have done the "easy" work of writing a biography. My book is no more a pastiche and no less easy work than Schweber's own *QED and the Men Who Made It* (Princeton U. P., 1994). I have told the story of the life and achievements of one of the great physicists who made QED and did much else. I have done it with accuracy, dedication and much hard work.

Schweber concludes his review by declaring that Feynman "deserves better" than my book provides. I think my book deserves better than Schweber provides in his review, which impugns my scholarship and integrity without, in my view, offering either justification or evidence.

JAGDISH MEHRA

University of Houston
Houston, Texas

SCHWEBER REPLIES: I stand by my original review.

SILVAN S. SCHWEBER

Brandeis University
Waltham, Massachusetts

US A-Bomb Success Was Very Graphitic

In his letter about the World War II atomic bomb projects (January, page 83), Mark Singer states that the Germans used scarce heavy water as a moderator while we used relatively abundant and inexpensive graphite. The fact is that our graphite was an extremely refined material, made before the war only in small amounts in St. Louis for electrodes for arc lamps used in spectroscopic analysis.

Constructing the facilities to manufacture a roughly 40-foot cube of the material for the first Hanford reactor (where I was working at the time), and doing so in little more than a year and with no manufacturing pilot plant, was in fact a great coup for American industry. As noted by Singer, the Germans experimented with graphite as a possible structural material, but with discouraging results.

As is well-known, the German supply of heavy water could have been much more abundant if the Norwegian underground had not been able to sabotage its transport. The Allies were able to manufacture quite large quantities of heavy water by electrolysis of ordinary water in British Columbia, with a relatively easy separation.

After the war, heavy water was

plentiful and inexpensive enough to be used in the Canadian power reactor known as CANDU.

S. GEORGE BANKOFF
Northwestern University
Evanston, Illinois

Cartoon Verdict: Don't Count on Aye of Beholder

Reuben Alley (March, page 128) is right for the wrong reason in condemning the EMF-related cartoon you ran in the January issue. He claims it is in "poor taste" because "neither capital punishment nor cancer is an acceptable subject for attempts at humor." I say it is weak for simply being not very funny. Taste in humor, I dare say, is determined less by choice of subject than by choice of treatment or approach. Like Alley, I'm dead set against the death penalty (and cancer). But I much enjoy—when it's done well—"humor that makes fun of a very serious or terrifying situation," which is how my dictionary defines "gallows humor." Please keep trying.

JULIE S. LINK
Vienna, Virginia

The cartoon reproduced on page 13 of the March issue is in exceedingly poor taste. Regardless of what view one takes in the current debates about the existence of elementary particles, neither quantum foam nor particle physicists are acceptable subjects for attempts at humor.

DAVID SOLTYSIK
University of Illinois at Chicago

Corrections

April, page 17—The distance between Capella's two component stars, which are shown in the figure, is 6 light-minutes, or roughly the distance between the Sun and Venus.

April, page 50—The pricing structure for copies of "National Science Education Standards" from National Academy Press is as follows: single copy, \$19.95; 2–9 copies, \$16.50 each; 10 or more, \$13.95 each. Add \$4.00 for shipping the first book, \$0.50 for each additional book. The report can be viewed at <http://www.nap.edu/nap/online/nses/>.

May, page 88—The obituary for Arthur F. Kip was written by Eugene D. Commins, Charles Kittel, Alan M. Portis and Joseph Tussman, all of the University of California, Berkeley, not by Roger W. Falcone, who forwarded it to us. ■

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