Abstracts

High Efficiency Solid State Microwave Amplifier Using TRAPATT Diodes

R.J. Hess and D.A. Floyd. "High Efficiency Solid State Microwave Amplifier Using TRAPATT Diodes." 1970 G-MTT International Microwave Symposium Digest of Technical Papers 70.1 (1970 [MWSYM]): 291-294.

Silicon IMPATT diodes have been used in a reflectance amplifier circuit to achieve a DC to RF conversion efficiency of 50 percent at S-band with 8 to 10 dB gain and 10 watts peak output. The RF circuit used was a four slug coaxial structure similar to that used by others in the production of high efficiency oscillations. A pulse width of one microsecond at a repetition rate of 5 KHz was used. The circuit configuration of the reflectance amplifier is shown in Figure 1.

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