Abstracts

Broad-Band TEM Diode Limiting

R.V. Garver and J.A. Rosado. "Broad-Band TEM Diode Limiting." 1962 Transactions on Microwave Theory and Techniques 10.5 (Sep. 1962 [T-MTT]): 302-310.

The bandwidths of two types of limiters operating below diode resonance and one type of limiter operating at diode resonance are calculated. A 2.5-Gc base-band limiter was made providing a low power insertion loss of less than 1 db, a limiting threshold of 10 mw, and a high power isolation of greater than 20 db. A 0.9-to 1.3-Gc matched limiter was made having a VSWR of less than 1.2 for all power levels. The burnout power of these two limiters was calculated to be about 10 watts incident CW power or 1500 watt-microsecond incident pulse energy. Using the diode resonance the calculations indicate that it is possible to make a 5-Gc limiter with 15 per cent bandwidth, less than 1-db low power insertion loss, a limiting level of 10 mw, and greater than 20-db isolation at high power. The bandwidths derived for diode limiting are equally applicable to switching.

❑ Return to main document.