Abstracts

High-power HTS Planar Filters with Novel Back-Side Coupling (Short Papers)

Z.-Y. Shen, C. Wilker, P. Pang and C. Carter, III. "High-power HTS Planar Filters with Novel Back-Side Coupling (Short Papers)." 1996 Transactions on Microwave Theory and Techniques 44.6 (Jun. 1996 [T-MTT]): 984-986.

Novel back-side coupling was used to produce high-power high temperature superconducting (HTS) filters. Several 2.88 GHz, 0.7% equal-ripple bandwidth, 2-pole TE/sub 01/ mode filters were fabricated using TI/sub 2/ Ba/sub 2/CaCu/sub 2/O/sub 8/ HTS thin films on 20-mil LaA10/sub 3/ substrates. The calibrated, measured performance of the filter at 77 K was <0,1 dB in-band insertion loss and 0.2 dB ripple up to 8 W. The uncalibrated measured performance of the filter was unchanged up to 21 W. This represents a significant advance in the power handling of planar HTS filters. These high-power, high-performance, compact HTS filters were designed to be used in transmitters for satellite communications.

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