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标题: WR1.5 Silicon Micromachined Waveguide Components and Active Circuit Integration Methodology
作者: Leong, KMKH (Leong, Kevin M. K. H.); Hennig, K (Hennig, Kelly); Zhang, CB (Zhang, Chunbo); Elmadjian, RN (Elmadjian, Raffi N.); Zhou, ZY (Zhou, Zeyang); Gorospe, BS (Gorospe, Ben S.); Chang-Chien, PP (Chang-Chien, Patty P.); Radisic, V (Radisic, Vesna); Deal, WR (Deal, William R.)
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摘要: This paper describes the development of silicon micromachined waveguide structures operating in the WR1.5 waveguide band (500-750 GHz). Average waveguide loss of 0.15 dB/mm was measured at 600 GHz. Capabilities of the proposed approach have been shown with the development of a 570-GHz three-pole waveguide bandpass filter that has a 0.9-dB passband loss and a Y-junction coupler operating at 670 GHz. These components have been tested using a novel on-wafer testing method for rapid characterization throughput. A batch process approach for integration of solid-state devices and micromachined waveguide components has also been developed. Further development of this technology will lead to the next generation of terahertz-frequency wafer-level packaging of active circuits.
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通讯作者地址: Leong, KMKH (通讯作者),Northrop Grumman Aerosp Syst, Redondo Beach, CA 90278 USA
电子邮件地址: kleong@ieee.org
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