210
Accession number:20115114605862
Title:Design of a new wide bandwidth TE01-mode converter
Authors:Wang, Yongshuai (1); Cai, Zhongbin (1); Kang, Xiaoke (1); Liu, Yueling (1)
Author affiliation:(1) Institute of Electronic Engineering, China Academy of Engineering Physics, Mianyang, Sichuan 621900, China
Corresponding author:Wang, Y.(wysh_921@163.com)
Source title:Journal of Infrared, Millimeter, and Terahertz Waves
Abbreviated source title:J. Infrared. Millim. Terahertz Waves
Volume:32
Issue:11
Issue date:November 2011
Publication year:2011
Pages:1307-1313
Language:English
ISSN:18666892
E-ISSN:18666906
Document type:Journal article (JA)
Publisher:Springer New York, 233 Springer Street, New York, NY 10013-1578, United States
Abstract:This study presents the design and cold testing of a Q-band TE 01-mode converter. Integrating Marie transducer and the design of Ching-Fang Yu and Tsun-Hsu Chang, we have improved the design of circular TE01-mode converter. The working principle of each section are analyzed and discussed. Two identical converters are joined back-to-back to explore the field symmetry and to examine the existence of competing modes. The angle-independent transmissions manifest high mode purity. This converter features high back-to-back converting efficiency, high mode purity, compact converting section, and broad bandwidth (18% at a 1-dB transmission).
Number of references:8