Abstracts

An S-Band, Dual Mode Reciprocal Ferrite Phaser for Use at High Power Levels

C.R. Boyd, Jr., L.R. Whicker and R.W. Jansen. "An S-Band, Dual Mode Reciprocal Ferrite Phaser for Use at High Power Levels." 1970 G-MTT International Microwave Symposium Digest of Technical Papers 70.1 (1970 [MWSYM]): 346-350.

This paper describes a new dual mode reciprocal phaser which operates at peak power levels of 100 kW and average power levels of 1500 watts over a -65°C to +85°C ambient temperature range. The device operates over a 370 frequency band centered at mid S-band. The total phase dispersion for the device is <5° for 200° differential phase shift. Details of the thermal design and ferrimagnetic materials selection are presented. Experimental data are given which indicates that the total insertion phase of the device varies less than 10° when incident average power is varied between 100 and 1100 watts. Little, if any change in differential phase shift is observed over this power range. Other similar phase shifters which provide up to 1000° differential phase shift at lower peak power levels are discussed.

❑ Return to main document.