Title (en)

TEMPERATURE-STABLE MICROWAVE INTEGRATED CIRCUIT DELAY LINE.

Title (de)

TEMPERATURSTABILISIERTE INTEGRIERTE MIKROWELLENVERZÖGERUNGSLEITUNG.

Title (fr)

LIGNE DE TEMPORISATION A CIRCUIT INTEGRE A MICRO-ONDES AYANT UNE TEMPERATURE STABLE.

Publication

EP 0050657 A4 19820903 (EN)

Application

EP 81901261 A 19810427

Priority

US 14368280 A 19800425

Abstract (en)

[origin: WO8103087A1] A temperature-stable microwave integrated circuit (MIC) delay line (10) employs at least two cascade connected dielectric substrates (12, 14), for example, a high dielectric barium tetratitanate (Ba- Ti<u4>u0<u9>u) ceramic microstrip (22), and a short sapphire single crystal Al<u2>u0<u3>u microstrip section (26). Temperature changes in the transmission phase are compensated for by selecting the substrate materials such that the positive transmission phase temperature coefficient of one substrate is effectively cancelled out by the negative transmission phase temperature coefficient of the other sub-strate. In this manner, the transmission delay temperature coefficient of the composite delay line may be reduced to a value of 0.6(+/- 0.3) x 10- 6 parts per degree C. at 14 GHz over the temperature range of 20 degrees C. +/- 30 degrees C.

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IPC 8 full level

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