Abstracts

Long-term stability of passive millimeterwave circuits on high-resistivity silicon substrates

R.H. Rasshofer, E.M. Biebl, K.M. Strohm and J.F. Luy. "Long-term stability of passive millimeterwave circuits on high-resistivity silicon substrates." 1999 MTT-S International Microwave Symposium Digest 99.2 (1999 Vol. II [MWSYM]): 585-588 vol.2.

We investigate the long-term performance of passive millimeterwave microstrip circuits on high resistivity silicon substrates. Three types of test structures were exposed to harsh environmental conditions such as thermal stress, humidity and organic vapors for 400 hours. Measured results at 38 GHz showed excellent long-term stability of the circuits. No significant difference between chips with and without SiO/sub 2/ passivation layer has been found though chips with passivation showed larger photosensitivity and higher loss.

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