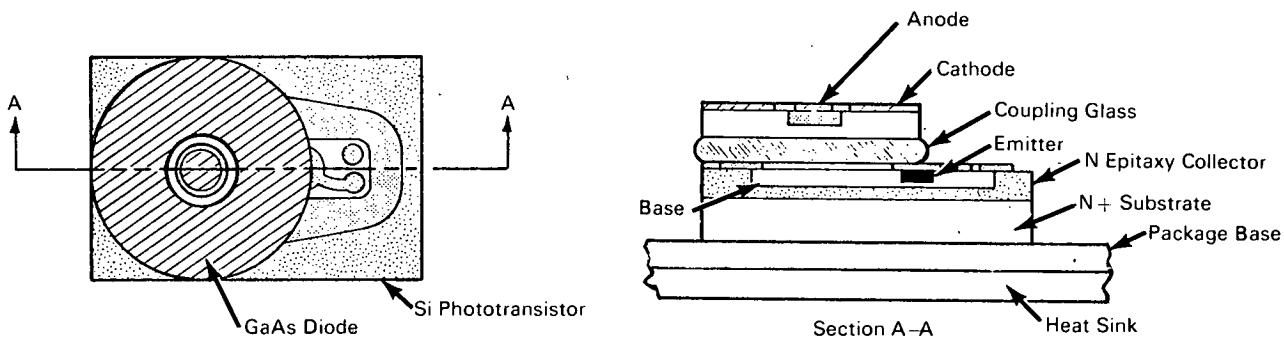
NASA TECH BRIEF

An Integrated Circuit Switch



GaAs Switch Construction

A multi-chip integrated circuit switch consisting of a GaAs photon-emitting diode in close proximity with Si phototransistor is described in this Tech Brief.

A Si transistor is mounted on a heat sink with the GaAs diode being bonded to the transistor with a high-refractive-index coupling glass. Designing the transistor so that it has a high forward common-emitter current gain (about 500), a relatively high current gain is obtained. Larger current gains are obtained at temperatures under 100°C than at high temperatures.

Notes:

1. This item could be used extensively in isolation of digital circuits (such as computers) to eliminate common anode coupling and electromagnetic interference problems.
2. Documentation is available from:
   Clearinghouse for Federal Scientific and Technical Information
   Springfield, Virginia 22151
   Price $3.00
   Reference: TSP 69-10326

Patent status:

No patent action is contemplated by NASA.

Source: Edward L. Bonin of
Texas Instruments Incorporated
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Category 01