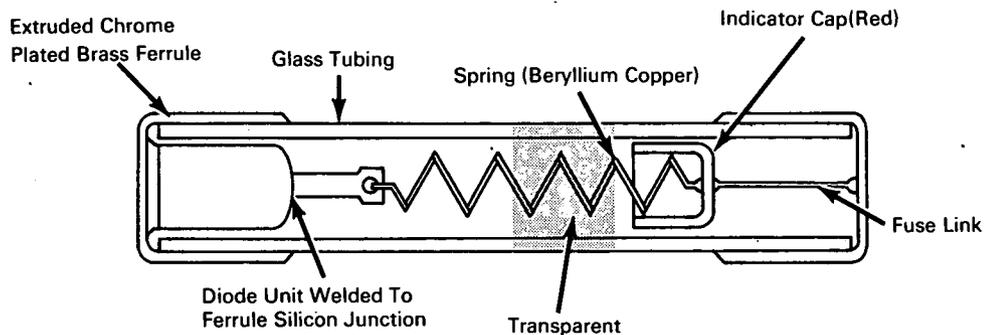


# NASA TECH BRIEF



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## Fused Diode Provides Visual Indication of Fuse Condition



### The problem:

To develop an electrical component that combines a circuit protective fuse and a semiconductor diode within a single transparent cartridge. The component should also provide means for visual indication of fuse condition to preclude the necessity of making resistance checks with an ohmmeter. This is of particular value where many fused diodes are used in a given system that must be periodically checked.

### The solution:

A fused diode that combines a diode and a fuse within a common cartridge.

### How It's done:

The fused diode consists of an elongated tube fabricated from a transparent heat-resistive material. The ends of the tube are closed with electrically conductive end caps, and layers of opaque material coat the interior for approximately one-third the length of the tube from each end. A diode is secured to one end cap, and a fuse, with a spring and indicator cap providing an electrical connection between the two elements, is

secured to the other end. The spring serves to bias the indicator cap so that, should the fuse wire melt due to an excess of current, the indicator cap will be displayed in the transparent portion of the tube.

### Notes:

1. The fused diode may be used wherever a need exists for circuit protection from the shorting of a specific component as opposed to protection from a short at any point within the circuit. It may be used in many applications where relay actuation requires arcing noise suppression. This device would be beneficial in multiple applications where a quick visual inspection of the fused diode could be performed instead of making the more time consuming ohmmeter checks on each diode to determine condition.
2. Inquiries concerning this invention may be directed to:

Technology Utilization Officer  
Kennedy Space Center  
Kennedy Space Center, Florida 32899  
Reference: B67-10230

(continued overleaf)

**Patent status:**

This invention is owned by NASA, and a patent application has been filed. Royalty-free, nonexclusive licenses for its commercial use will be granted by NASA. Inquiries concerning license rights should be made to NASA, Code GP, Washington, D.C. 20546.

Source: K. H. Jenkins  
(KSC-67-16)