

SEMICONDUCTOR CONSTRUCTIONS, METHODS OF FORMING SEMICONDUCTOR CONSTRUCTIONS, LIGHT-CONDUCTING CONDUITS, AND OPTICAL SIGNAL PROPAGATION ASSEMBLIES

ABSTRACT

The invention includes optical signal conduits having rare earth elements incorporated therein. The optical signal conduits can, for example, contain rare earth elements incorporated within a dielectric material matrix. For instance, erbium or cerium can be within silicon nanocrystals dispersed throughout dielectric material of optical signal conduits. The dielectric material can define a path for the optical signal, and can be wrapped in a sheath which aids in keeping the optical signal along the path. The sheath can include any suitable barrier material, and can, for example, contain one or more metallic materials. The invention also includes methods of forming optical signal conduits, with some of such methods being methods in which the optical signal conduits are formed to be part of semiconductor constructions.

FIGURE 1