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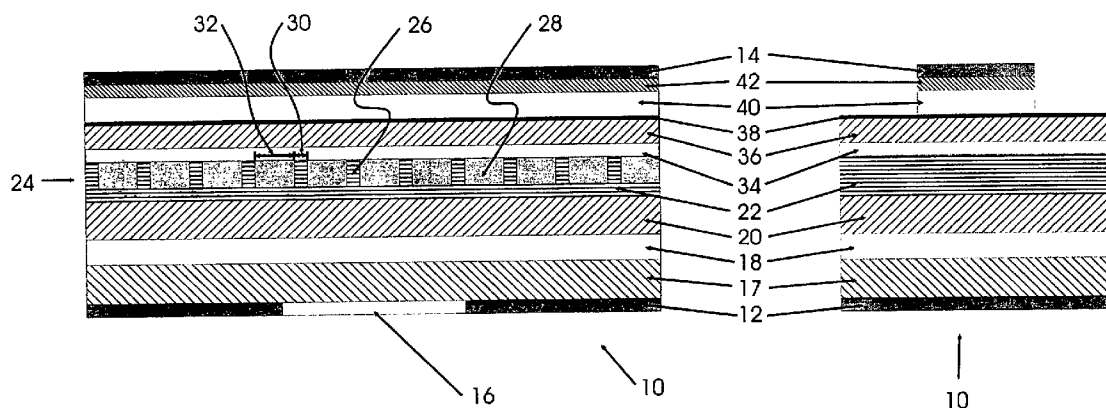
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(54) Title: SURFACE EMITTING DFB LASER STRUCTURES FOR BROADBAND COMMUNICATION SYSTEMS AND ARRAY OF SAME



(57) Abstract: A surface emitting semiconductor laser is shown having a semiconductor lasing structure having an active layer, opposed cladding layers contiguous to said active layer, a substrate, and electrodes by which current can be injected into the semiconductor lasing structure. Also included is a second or higher order distributed diffraction grating having periodically alternating elements, each of the elements being characterized as being either a high gain element or a low gain element. Each of the elements has a length, the length of the high gain element and the length of the low gain element together defining a grating period, where the grating period is in the range required to produce an optical signal in the optical telecommunications signal band. The total length of the high gain elements is no more than the total the lengths of the low gain elements. A single laser structure may be provided or an array of side by side laser structures on a common substrate is also provided. In a further aspect a method of testing laser structures on wafer is provided.



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.