A scheme for the spectral-polarization multiplexing of the radiation of individual laser diodes based on Scholz filters for optical pumping of a Ti: Sapphire femtosecond generator was realized. It has been experimentally shown that the multiplexer preserves the spatial characteristics of the reducible beams and provides a high degree of polarization of the output radiation, which is an advantage of this method over other methods of reducing laser beams. For the realized scheme based on Scholz filters and three laser diodes Osram PL TB450B, the efficiency of beam reduction was 74%, which agrees well with the theoretical analysis. The total radiation power of the beam was 2.46 W, the depolarization coefficient was 6.7%. The achieved values of beam-beam efficiency allow us to say that by using more powerful laser diodes, it is possible to achieve an output power of up to tens of watts. The obtained results obtained are of practical importance for the development of high-power femtosecond laser systems with diode pumping, and this scheme can be used not only for pumping Ti: Sapphire lasers, but also for sources of ultrashort pulses based on other active environment.