ABSTRACT

A power supply line for connecting a superconducting consumer system to a current delivery point, which is at a higher temperature than the consumer system, includes a carrier and a plurality of band-shaped, mechanically and electrically parallel high-temperature superconductors (HTSL). To achieve a high critical current density with simultaneously low heat-conducting capacity of the power supply line, the carrier includes at least one elongated plate that includes a sparingly (low) heat-conducting material, with a ratio of width to thickness of at least 3:1 and band-shaped HTSL that are arranged parallel adjacent to one another on the carrier. Each band-shaped HTSL also has a normally conducting current path.