

Simple and Concise Maximum Power Control Circuit for PV Power Generation

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Abstract : Consumption of energy is increasing every year, and yet does not the decline at all. The main energy source is fossil fuels such as petroleum and natural gas. Since it is the finite resources, they will be exhausted someday. Moreover, to make the fossil fuel an energy source causes an environment problem. In such way, one solution of the problems is the solar battery that is remarkable as one of the alternative energies. Under such circumstances, in this paper, we propose a novel maximum power control circuit for photovoltaic power generation system with simple and fast-response operation. In addition to an application to the solar battery, since this control system is possible to operate with simple circuit and fast-response, the polar value control like the maximum or the minimum value tracking for general application could be easily realized.

Keywords : maximum power control, inter-connection, photovoltaic power generation, PI controller, multiplier, exclusive-or, power system

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