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Realization of temperature compensated TPS correction magnet power supply

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This report discusses the design of a current feedback component for a TPS correction magnet power supply. The component utilizes a low-cost and small-sized TI INA253 resistor combined with a temperature compensation control circuit to improve the output current thermal equilibrium time. With these measures, the system achieves thermal equilibrium quickly, resulting in improved performance. Ultimately, we successfully developed a TPS correction magnet power supply with temperature compensation control. The system is compatible with the existing TPS control interface, reduces the cost of current feedback elements, and achieves a better thermal equilibrium time, which is highly beneficial to power supply development teams.

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Footnotes

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Yes

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