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(54) **TRANSFORMER POWER AMPLIFIER**

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See application file for complete search history.

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USPC 330/307, 190, 276

(57) **ABSTRACT**

The present disclosure relates, according to some embodiments, to a transformer power amplifier that allows for improved Q values and increased efficiency by reducing the capacitance coupling effect between metal layers and/or side-walls of the same layer through carefully designed conductor structures in primary and secondary loops. A transformer power amplifier comprises a substrate, a conductor, a circular coil, a first amplifier, and a second amplifier. The conductor and the circular coil disposed on the substrate. A circular coil has a first input terminal and a second input terminal, in which the first input terminal and the second input terminal are spaced apart and opposite each other to form an opening. A first amplifier is connected to a first input terminal for receiving a first signal and a second amplifier is connected to a second input terminal for receiving a second signal, wherein the first signal and the second signal are differential signals.

20 Claims, 9 Drawing Sheets

