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(54) **FILTER MODULE WITH ENHANCED  
TEMPERATURE RUGGEDNESS IN  
SMALLER SIZE**

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(57) **ABSTRACT**

A filter module comprises a first terminal, a second terminal,  
and a filter disposed along each signal path extending from  
the first terminal to the second terminal, the filter including  
a plurality of series resonators and a plurality of shunt  
resonators disposed between the series resonators and a  
ground, at least one resonator among the plurality of series  
resonators and the plurality of shunt resonators being a first  
type of resonator with a temperature compensating layer for  
better temperature coefficient of frequency, at least one  
resonator among the plurality of series resonators and the  
plurality of shunt resonators being a second type of resonator  
without a temperature compensating layer.

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