

# Technology of Power Decoupling and Noise Countermeasure For Complex Wounded Coil Shape Filter.

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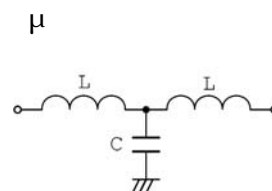


Fig. 1: Schematics of T- filters

Discrete

Discrete ,

コイフィル™

Hz

Hz

Agilent

Hz  
D

Agilent E A Hz Hz

## 2.1 テストフィクスチャ

High Frequency

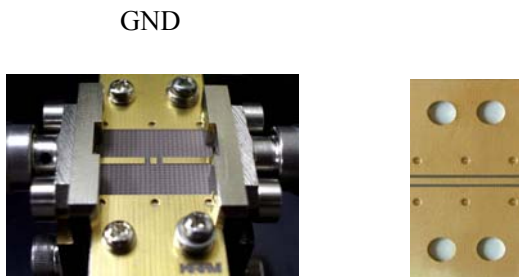


Photo : View of Test Fixture and Substrate

Hz  
Discrete  
 $\mu$

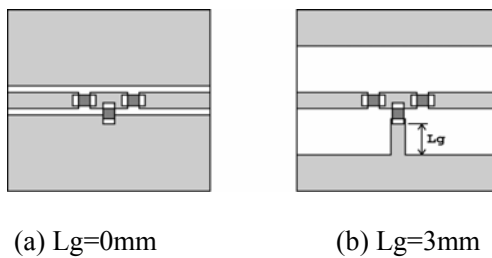


Fig.2: Elements Layout of T-Filter

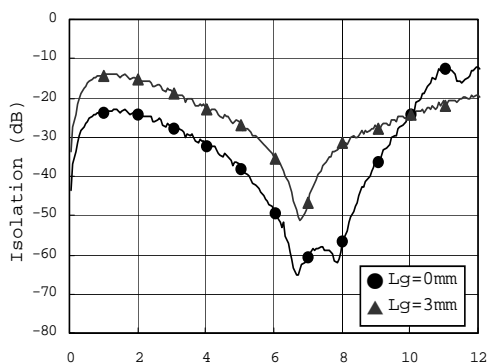


Fig.3: Frequency Characteristics of T- Filter, Made with Discrete Ls and Cs

## 2.2 市販部品を用いた T 型フィルタ特性

mm

## 2.3 実装基板のアイソレーション

Hz

=

Hz

Hz

B

Hz

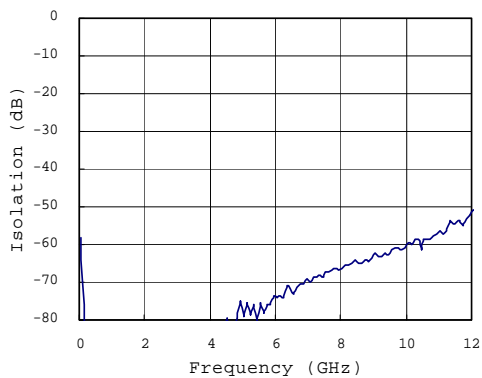


Fig.4: Frequency Characteristics of Substrate Isolation

## コイフィルによるフィルタ試作

コイフィル

コイフィ

ル

B

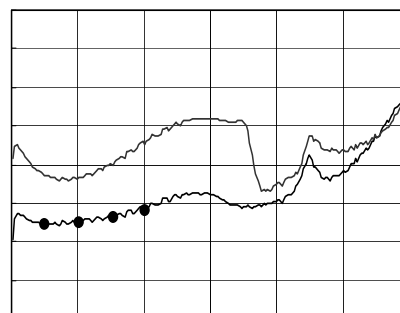
### 3.1 コイフィルを用いたT型フィルタの周波数特性

コイフィル

GHz

B

## 2.4 市販のインダクタ部品を用いたフィルタ試作の結果と考察



コイフィル

Fig.5: Frequency Characteristics of T-Filter, Made with COILFILS

Hz

Hz

discrete

コイフィル

コイフィル

Hz

Hz

Hz

Hz

GHz

コイフィル

Hz

Hz

コイフィル

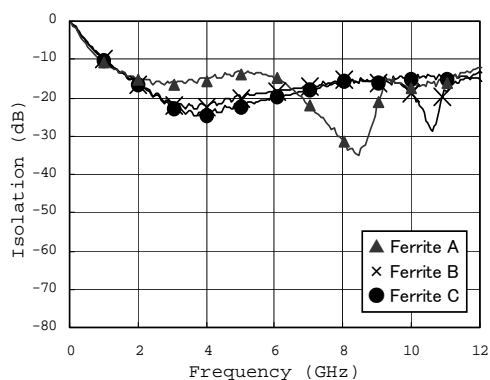
#### 4.2 フィルタ特性の改良

コイフィル

### 4. コイフィルの特性改善

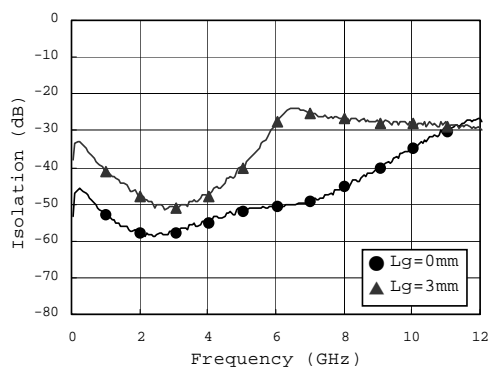
#### 4.1 コア材の改良

コイフィル



コイフィル

Fig.6: Frequency Responses of COIFILs with Differently Renovated Core Materials



コイフィル

Fig.7: Frequency Responses of COIFIL T-Filter with Renovated Ferrite C

コイフィル

Hz

Hz

Hz

## 5. モジュール構造への改良

### 5.1 製品化の検討

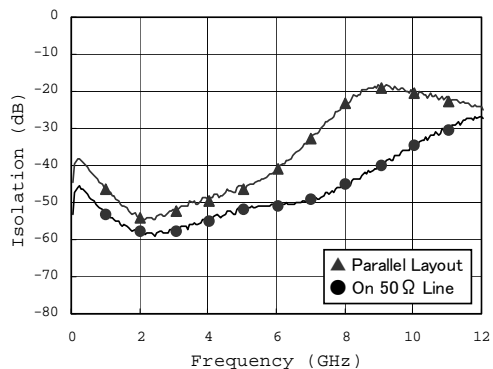


Fig.9: Characteristic of Filter Module

### 5.3 樹脂封止と金属筐体封止

### 5.2 製品の構造検討

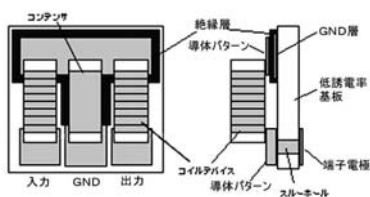


Fig.8: Element Layouts of Filter Module

Hz

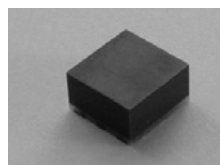


Photo 2: Resin PKG      Photo 3: Metal PKG

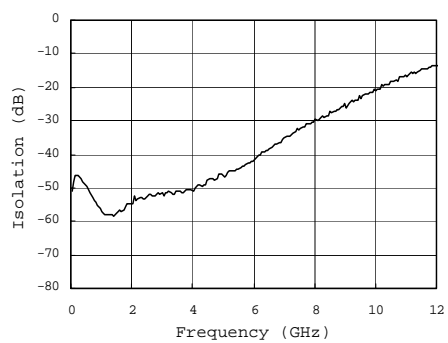
. × . × .

Hz

Hz

Hz

コイフィル



コイフィル

Fig.10: Frequency Characteristics of Modified Resin Mold Filter

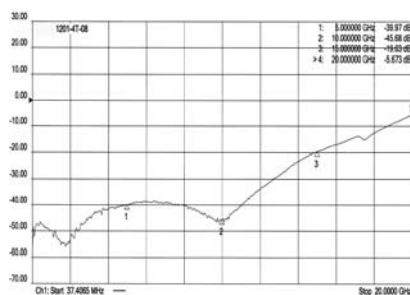


Fig.11: Frequency Characteristics of Coaxial Connector Filter

コイフィル

<連絡先>

## 6. まとめ

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