

Version:  
January 12, 2017



# TOKEN

## (LTT MA)

# High-Selectivity Band-Pass Filters

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## ▶ Product Introduction

### Ceramic High-Selectivity Band-Pass Filter for TV/VCR Stage Compatible Murata SFT.

Token high-selectivity filters for TV/VCR stage (LTT MA) series is 4 element devices that offer more selectivity than the conventional LT series (Murata SFE). The improved spurious suppression of these filters eliminates the need for cascading multiple filtering devices; therefore, it is possible to design a more compact circuit board configuration.

Token High-Selectivity (LTT MA) Band-Pass Filter conforms to the RoHS directive. This high-selectivity device can be customized designs and tighter tolerances available on request.



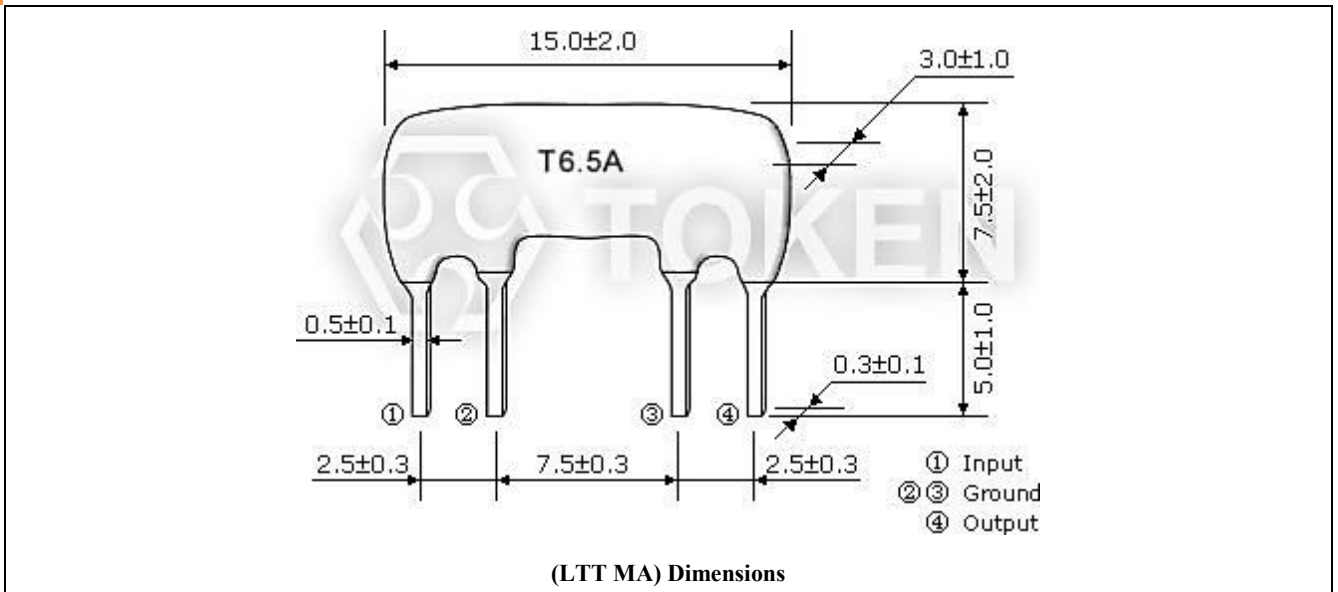
Application of ceramic filter specific designs also available including different piezo band-pass devices and Q specifications adjusted to frequency requirements. Token ceramic filters can supply you high performance, high quality and stability.

With dimensions ( $15\pm 2.0 \times 7.5\pm 2.0 \times 3.0\pm 1.0$  mm), Insert Loss max 9dB and 10dB, Spurious Attenuation min 40dB and 50 dB, and Input/Output Impedance  $470\Omega$ ,  $600\Omega$ ,  $1000\Omega$ , Nominal Center Frequency ( $f_0$ ) (MHz) of LTT MA series is available 4.500MHz, 4.724MHz, 5.500MHz, 5.742MHz, 6.000MHz, 6.250MHz, 6.500MHz, and 6.742MHz.

Custom parts are available on request. Token will also produce devices outside these specifications to meet specific customer requirements, please contact our sales or link to Token official website "[Ceramic Filters](#)" for more information.

► Dimensions

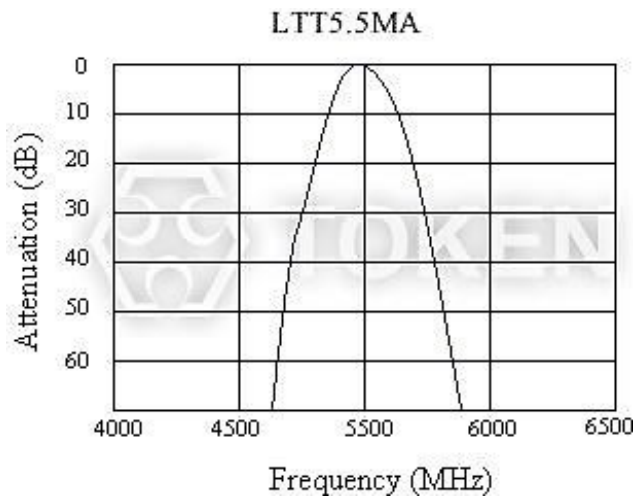
Dimensions (Unit: mm) (LTT MA)



► **Technical Characteristics**

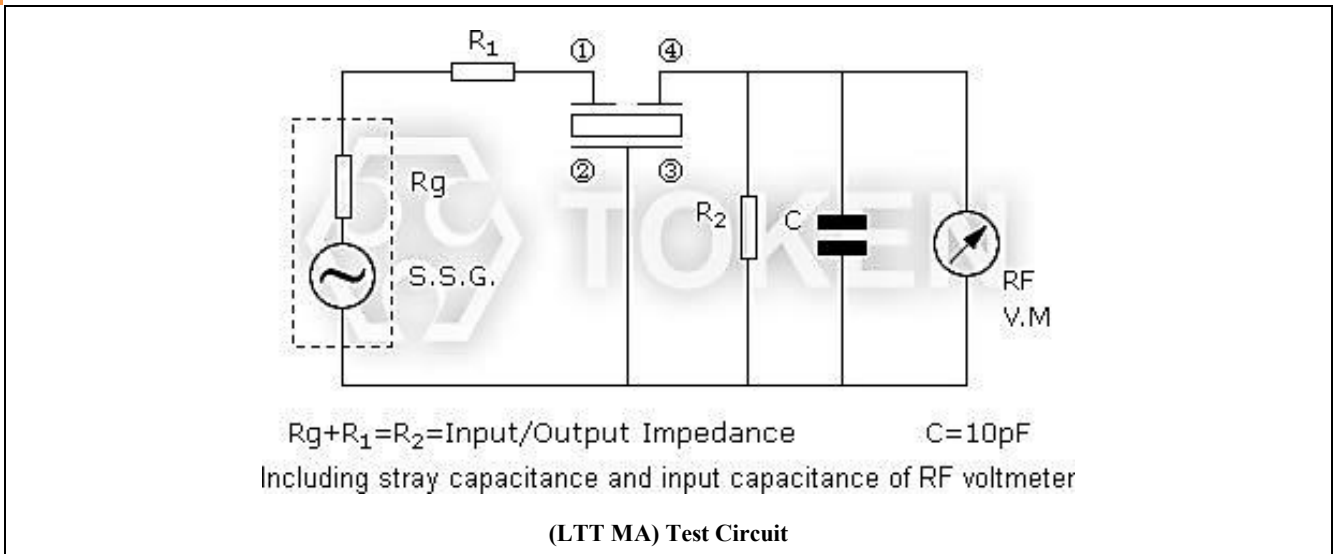
**Technical Characteristics (LTT MA)**

| Part Number | Nominal Center Frequency (fo) (MHz) | 3dB Band Width (kHz) min | 20dB Band Width (kHz) max | Insert Loss (dB) max | Spurious Attenuation (dB) min                | Input/Output Impedance (Ω) |
|-------------|-------------------------------------|--------------------------|---------------------------|----------------------|--|----------------------------|
| LTT4.5MA    | 4.500                               | fo±40                    | 370                       | 10.0                 | 40(4.5 <sup>+0.8</sup> <sub>-1.0</sub> MHz)  | 1000                       |
| LTT4.72MA   | 4.724                               | fo±40                    | 370                       | 10.0                 | 40(4.72 <sup>+0.8</sup> <sub>-1.0</sub> MHz) | 1000                       |
| LTT5.5MA    | 5.500                               | fo±50                    | 350                       | 9.0                  | 40(5.5±1MHz)                                 | 600                        |
| LTT5.74MA   | 5.742                               | fo±50                    | 350                       | 9.0                  | 50(5.74±1MHz)                                | 600                        |
| LTT6.0MA    | 6.000                               | fo±50                    | 400                       | 9.0                  | 50(6.0±1MHz)                                 | 470                        |
| LTT6.25MA   | 6.250                               | fo±50                    | 400                       | 9.0                  | 50(6.25±1MHz)                                | 470                        |
| LTT6.5MA    | 6.500                               | fo±50                    | 400                       | 9.0                  | 50(6.5±1MHz)                                 | 470                        |
| LTT6.74MA   | 6.742                               | fo±50                    | 400                       | 9.0                  | 50(6.74±1MHz)                                | 470                        |



▶ **Test Circuit**

**Test Circuit (LTT MA)**



▶ **Order Codes**

**Order Codes (LTT MA)**

|                 |          |
|-----------------|----------|
| <b>LTT4.5MA</b> | <b>P</b> |
| Part Number     | Package  |

## ▶ General Information

### Introduction of Filters

For more than two decades, piezo technology has been instrumental in the proliferation of solid state electronics. A view of the future reveals that even greater expectations will be placed on piezoelectric material in the area of new applications and for more stringent performance criteria in modern products.

Token sophisticated ceramics technology has greatly increased selectivity and wide-band characteristics, and has stabilized the characteristics of ceramic filters. The series covers a wide range of attenuation and bandwidths to allow selection of the most optimum filter characteristics for each application.

Token filters are band pass filters consisting of one or more ceramic resonators connected in a ladder network configuration. Pass band characteristics are determined by the relative resonant and anti-resonant frequencies of the resonators. Both narrow and wide pass band configurations are manufactured by adjusting the resonator frequency characteristics.

The IC (Integrated Circuit) has found wide use in the field of commercial equipment, such as automotive radios, stereo systems, 2-way communications, TV sets, etc. Thus, new miniature integrated filters, with high performance, are extremely desirable for use in IF circuits.

Furthermore, radio wave disturbance due to rapid progress of data transmitting rate and remarkable sophistication of communication network have become significant traffic conflicts. Accordingly, the demand for filters with high selectivity and wide pass band width has boosted.

The IC application of the active elements will continue its progress, and there will be a growing demand for highly selective, non-adjustable, miniature and wide pass band width IF circuit.

### Advantage of Token Piezoelectric Filters

Token Electronics had been able to develop specialized piezo materials which when combined with an advance design have resulted in a complete line of practical, inexpensive piezo devices for entertainment and communications applications.

Token reliably deliver high-quality components according to the each customer special needs with respect to performance, costs, and technology modifications.

For marketing discontinuations or sourcing activities concerning Piezoelectric Filter products, you are encouraged to contact our Sales Department so the request can be properly directed within Token.

