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# DIRECT

## Electronics Tech.

### (LTCS10.7M) Ceramic Chip Filters

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**▶ Product Introduction****LTCS10.7M Low Profile Ceramic Chip Filter is Murata SF ECS10M7 Compatible.****Features :**

- Various bandwidths are available. Select a suitable type in accordance with the desired selectivity.
- Slim at only 1.4 mm max. thickness, and have a small mounting area enabling flexible PCB design.
- Operating temperature range: -20 to +80 ( °C ).
- Storage temperature range: -40 to +85 ( °C ).
- Mountable by automatic placers.

**Applications :**

- Small, thin radios.
- Headphone stereos.

Direct LTCS10.7M Chip Ceramic Filter for FM-receiver utilizes the latest piezoelectric ceramic technology enabling the most cost-effective designs. The LTCS10.7M constructs with piezoelectric element which is connected in the sandwich shape by ceramics substrate. With a small mounting area ( $3.45 \pm 0.2 \times 3.1 \pm 0.2$  mm) and super thin profile (1.4 mm max.) enables flexible PCB design. Products conform to the RoHS directive.



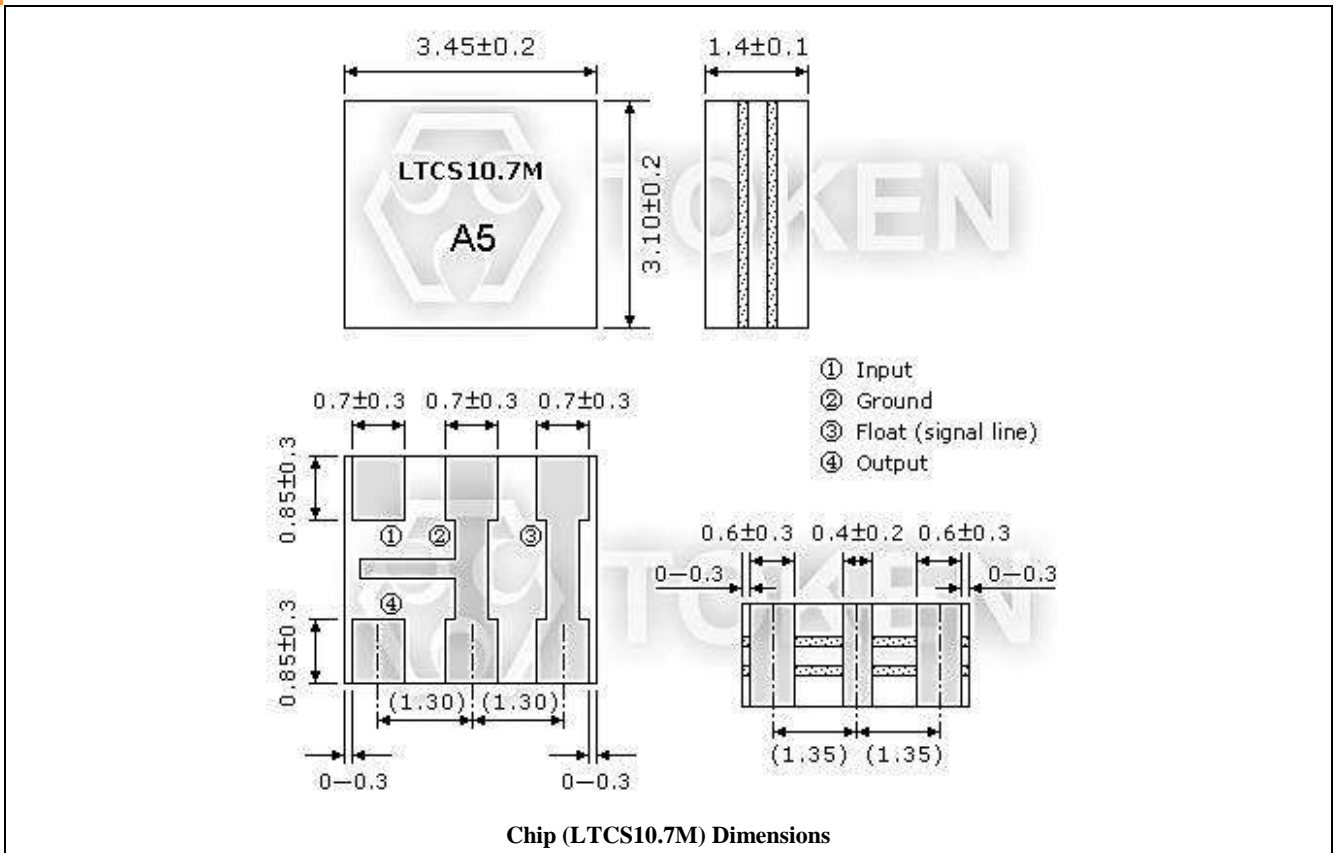
Various bandwidths are available including standard and custom bandwidth on request with 30 dB Minimum Spurious Attenuation at (9-12MHz). Maximum Insertion Loss (dB)  $3.5 \pm 2.0$  dB ~  $4.5 \pm 2.0$  dB and Input/output Impedance  $330 \Omega$  provide customers select a suitable type in accordance with the desired selectivity.

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



**► Dimensions**

**Dimensions (Unit: mm) (LTCS10.7M)**



**► Technical Characteristics**

**Technical Characteristics (LTCS10.7M)**

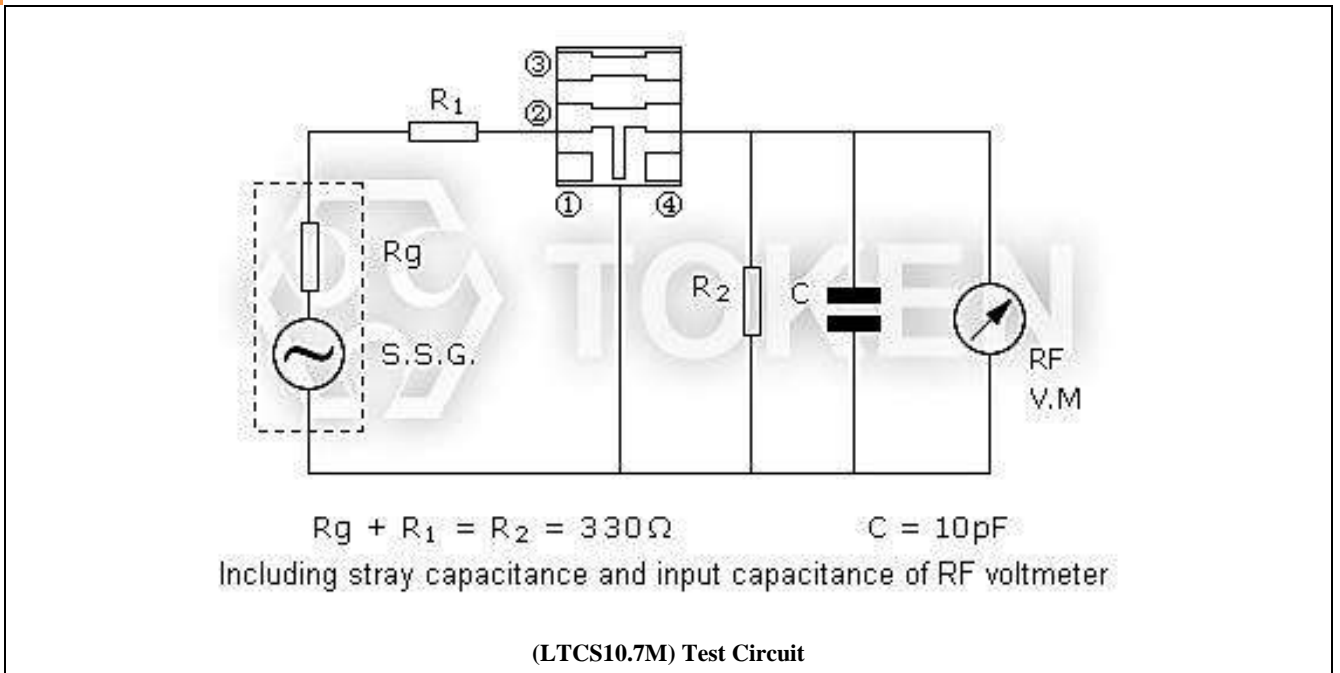
Part Number	3dB Band Width (kHz)	20dB Band Width (kHz)max	Insertion Loss (dB)max	Spurious Attenuation (9-12MHz)(dB)min
LTCS10.7MS2	230±50	510	3.5±2.0	30
LTCS10.7MS3	180±40	470	4.5±2.0	30
LTCS10.7MA5	280±50	590	3.0±2.0	30
LTCS10.7MA20	330±50	700	3.0±2.0	30

● **Input/Output Impedance: 330Ω**



▶ **Test Circuit**

**Test Circuit (LTCS10.7M)**



▶ **Order Codes**

**Order Codes (LTCS10.7M)**

<b>LTCS10.7MS2</b>	<b>TR</b>
Part Number	Package (TR: Taping Reel)

## ▶ 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.

Direct 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.

Direct 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 Direct Piezoelectric Filters

Direct 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.

Direct 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 Direct.

